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CANADA

**REVIEW OF THE CANADIAN TRANSPORTATION
SAFETY REGIME: TRANSPORTATION OF
DANGEROUS GOODS AND SAFETY
MANAGEMENT SYSTEMS**

**Report of the Standing Committee on
Transport, Infrastructure and Communities**

**Larry Miller
Chair**

MARCH 2015

41st PARLIAMENT, SECOND SESSION

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THE STANDING COMMITTEE ON TRANSPORT, INFRASTRUCTURE AND COMMUNITIES

has the honour to present its

FOURTH REPORT

Pursuant to its mandate under Standing Order 108(2), the Committee has studied the Canadian transportation safety regime: transportation of dangerous goods and safety management systems and has agreed to report the following:

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INTRODUCTION

In Canada, the transportation system is generally considered to be very safe. Even for shipments of toxic or flammable products, Transport Canada estimates that 99.997% of the tens of millions of these shipments carried every year arrive at their destination without incident.¹ Nonetheless, the devastation wreaked in Lac-Mégantic, Quebec in 2013 by a runaway train hauling crude oil drew worldwide attention to the potential consequences of accidents involving dangerous goods, however unlikely they may be. The accident in Lac-Mégantic and subsequent rail accidents in Canada raised awareness of the need for further and immediate changes in the safety requirements and practices in the rail industry.²

On 18 November 2013, the House of Commons Standing Committee on Transportation, Infrastructure and Communities (“the Committee”) received a request from the Minister of Transport to review and report on the Canadian regime for the safe transportation of dangerous goods and the role of safety management systems (SMSs) across the transportation system. At the Minister’s request, the Committee prepared an interim report focussed on rail transportation, which was tabled without recommendations in the House of Commons in June 2014.³

This final report contains the Committee’s findings and recommendations to the Government of Canada concerning Transport Canada’s legislative framework for, and oversight and enforcement of, the transportation of dangerous goods regime and SMS requirements for the Canadian transportation system. In formulating its recommendations, the Committee considered testimony and written submissions from rail, air, marine and road transportation industry stakeholders. Witnesses who came before the Committee included representatives of the federal and municipal governments, industry operators from across the transportation system, and organized labour.⁴

TRANSPORTATION OF DANGEROUS GOODS

The transportation of dangerous goods regime in Canada encompasses the entire supply chain for products identified as dangerous goods. This supply chain includes the producers and consumers of the regulated products, the transportation services and transfer points between them, as well as the organizations that are involved in the production of the standardized means of containment used. According to Transport Canada, there are 40,000 dangerous goods sites in Canada.⁵

A representative of Transport Canada told the Committee that the safe transportation of dangerous goods relies upon “properly classifying a dangerous good while ensuring the dangerous good is transported in the required means of containment, along with other safety measures such as emergency response assistance plans, documentation, safety marks, reporting, and training.”⁶ Transport Canada (as the regulator), the shippers of dangerous goods and the carriers each have areas of responsibility for the safety of dangerous goods shipments.

According to *Transportation in Canada, 2013*, approximately 70% of all dangerous goods were transported by road, 24% by rail, 6% by vessel and less than 1% by air in 2011.⁷ The Minister of Transport and representatives from various transportation sectors, including rail,⁸ assured the Committee that 99.997% of dangerous goods shipments in Canada arrive safely without any incidents.⁹ In fact, over 72% of all reportable dangerous goods accidents across all modes of transportation since 2008 happened at the facilities where the goods were prepared for transport, unloaded, or stored (e.g. transload facilities).¹⁰ According to Transport Canada, 65% of accidents involving dangerous goods in 2013 involved Class 3, Flammable Liquids while Class 8, Corrosives and Class 2, Gases accounted for 14% and 12% respectively. At 56%, human error was the main underlying factor contributing to these accidents followed by equipment problems (34%), which includes issues with gauges, valves, vents, closures and hoses.¹¹

Over the last year, the federal government has been very active and has implemented a series of new rules, regulations and standards to strengthen the transportation of dangerous goods regime. Despite the limited amount of testimony the Committee received on some of these measures, it has opted to discuss them in this final report to ensure that the recommendations made are timely and relevant.

A. Multi-modal legislative framework, enforcement and emergency response

As discussed in the Committee's interim report,¹² the *Transportation of Dangerous Goods Act, 1992* regulates the transportation of dangerous goods by all federally regulated modes of transportation, including rail, air and marine, as well as interprovincial and international trucking. The *Transportation of Dangerous Goods Regulations* (TDG Regulations) under this Act require that anyone who imports, handles or transports a dangerous good respect a certain set of safety standards, which include the following requirements:

- that the dangerous goods carrier have in their possession a shipping document with information about the dangerous goods being carried;
- that the containers used for dangerous goods and specifications with respect to their identification and the identification of vehicles meet certain standards;
- that persons handling dangerous goods or transporting them have the appropriate qualifications; and
- that an emergency response assistance plan (ERAP) for the transportation of certain substances and/or certain quantities of substances be approved by Transport Canada.

The Act allows the Minister of Transport to issue Protective Directions to industry if they are deemed necessary to deal with an emergency that involves a danger to public safety. Criminal penalties, such as jail terms, may be imposed on anyone who contravenes the rules set out in the Act or its regulations.¹³ In order to ensure the

consistent implementation and oversight of the transportation of dangerous goods regime, agreements have been signed between the federal government and each province and territory.¹⁴

Transport Canada's Transportation of Dangerous Goods Directorate ensures that shippers, carriers and companies that make the means of containment for dangerous goods comply with the TDG Regulations through planned and random inspections, investigation and enforcement programs. As a Transport Canada official explained to the Committee, the department prepares a risk-based inspection plan every year to identify and remedy potentially "non-compliant" manufacturers, producers, shippers and means of containment facilities. Particular attention is given to areas that pose the highest risk such as transloading facilities.¹⁵ Should someone be found in non-compliance with the regulations, Transport Canada inspectors have different enforcement tools at their disposal, varying from education to fines and prosecution, to ensure future compliance.¹⁶ The Directorate is also responsible for reviewing some 900 ERAPs that shippers or importers of dangerous goods must file with the department in accordance with the Act.¹⁷

A representative from Transport Canada informed the Committee that the department has 35 dangerous goods field inspectors who conduct approximately 3,000 inspections of the 40,000 dangerous goods sites across all modes per year.¹⁸ Inspections consist of examining the documentation related to the shipment, its classification, safety marks, means of containment, training and ERAP (if applicable).¹⁹ The Transport Canada official also told the Committee that approximately 60% of the dangerous goods sites inspected were found to be compliant.²⁰ Non-compliance refers to a wide range of infractions ranging from minor violations (e.g., information missing from a shipping document), for which the department might issue directions or a ticket, to major violations (e.g., using the wrong means of containment for a dangerous good) that might result in prosecution.

In the event of an accident, the Committee heard that Transport Canada's Canadian Transport Emergency Centre (CANUTEC) is responsible for helping first responders at the accident scene. This centre, which is staffed by professional scientists specializing in emergency response and in interpreting technical information, operates 24 hours a day and handles approximately 30,000 inquiries per year.²¹ Over the last 10 years, CANUTEC has consistently fielded a higher proportion of calls related to road (approx. 56%) and rail (approx. 36%) emergencies than all other federally regulated modes of transportation.²²

B. Rail transportation

Mainline accident rates for the federally regulated railways²³ have declined considerably since the *Canada Transportation Act* came into force in 1996, despite substantial growth in traffic.²⁴ One of the drivers of railway traffic growth is shipments of crude oil, which increased from 500 carloads in 2009 to 160,000 carloads in 2013.²⁵ Oil by rail traffic, including light and heavy crude oil, declined to an estimated 110,000 tank cars in 2014 and no forecast has been prepared for crude oil traffic in future years at this time.²⁶

Canadians remember the human, property and environmental devastation caused by the runaway train hauling Bakken oil in Lac-Mégantic, Quebec in July 2013. While a number of new safety measures have been put in place since this tragic event, the federal government has a number of initiatives in progress that are intended to strengthen the transportation of dangerous goods regime even further when completed.

1. Legislative framework

In addition to the *Transportation of Dangerous Goods Act, 1992* and the TDG Regulations, the *Railway Safety Act* is the other main safety legislation governing the operations of federally regulated railways. It authorizes the Minister of Transport to issue regulations, rules and Emergency Directives to improve the safety of all aspects of rail operations, including the transportation of dangerous goods.²⁷ The Act also authorizes railway companies to develop safety and operating rules, which must be approved by the Minister of Transport.²⁸ Approved rules have the same force and effect as regulations, but regulations take precedence over rules.

Some union representatives expressed concerns about the rule-making process in place under the *Railway Safety Act*. All unions who appeared before the Committee (i.e., Unifor, the United Steelworkers and Teamsters Canada) recommended that the rules be the same for all railways.²⁹ The Committee notes that Transport Canada signalled its intention to foster more collaborative rule-making in its response to the interim report on rail safety.

Since the Committee began its study in the fall of 2013, the Government of Canada has implemented various measures, mostly Protective Directions under the *Transportation of Goods Act, 1992* and Emergency Directives under the *Railway Safety Act*, in order to immediately increase the safety of transporting dangerous goods by rail, specifically:

- Following the Lac-Mégantic accident, an Emergency Directive was issued on 23 July 2013 requiring railway companies to take additional safety measures for trains hauling dangerous goods. This Emergency Directive required railway companies to use two-person crews for these trains, to not leave them unattended on the main track and to secure locomotives from unauthorized entry.³⁰ Updated railway operating rules for members of the Railway Association of Canada, which encompasses all major Canadian railways, came into effect on 26 December 2013 to permanently address these safety gaps.³¹ A second Emergency Directive was issued on 1 January 2014 to ensure that railways that are not members of the Railway Association of Canada continue to comply with the enhanced safety standards until permanent rules are established.³²
- Protective Direction 31 was issued on 17 October 2013 and required that persons importing crude oil, or offering it for transport, conduct classification testing and sampling as well as make these test results available to Transport Canada.³³ New regulations concerning proof of

classification, including test results and lab reports, were implemented by the federal government and have been in effect since 15 July 2014.³⁴

- Protective Direction 32, which was issued on 20 November 2013, required that principal freight railway companies provide municipalities with annual totals reflecting the nature and volume of dangerous goods transported by rail through their communities in each quarter. This measure is scheduled to remain in place for three years unless new regulations addressing this issue are adopted in the interim.³⁵
- In response to the initial recommendations from the Transportation Safety Board's (TSB) investigation into the Lac-Mégantic accident, two additional Protective Directions were issued on 23 April 2014. Protective Direction 33 introduced ERAP requirements for crude oil, gasoline, diesel, aviation fuel and ethanol.³⁶ As of 20 September 2014, Transport Canada had approved new ERAPs and had established a task force comprised of municipal representatives, first responders, railways and shippers to strengthen emergency response capacity across the country.³⁷ The ERAP requirements from Protective Direction 33 were then made permanent with amendments to the TDG Regulations that came into effect 1 January 2015.³⁸
- The second Protective Direction issued on 23 April 2014, Protective Direction 34, imposed an immediate ban on using the least crash-resistant DOT-111 tank cars for the transportation of Class 3 flammable liquids (e.g., crude oil and ethanol).³⁹ At the same time, the Minister of Transport also announced that industry would need to phase-out the older tank cars that do not meet the current industry standards within three years. As of 23 May 2014, the least crash-resistant DOT-111 tank cars had all been taken out of service.⁴⁰ On 15 July 2014, new federal regulations upgrading the design standards for various means of containment used to transport dangerous goods, including tank cars, came into effect.⁴¹ Since then, Transport Canada has been working towards the development of a regulatory proposal that would see the phase-out of the DOT-111 tank car in favour of a new type of tank car (i.e., the TC-140) specifically designed for flammable liquids.⁴²
- Other measures implemented in response to the TSB's initial recommendations with respect to the Lac-Mégantic accident include slowing the speed of "Key Trains" carrying dangerous goods along "Key Routes" to a maximum of 50 mph (80 km/h) with a further speed restriction to 40 mph (64 km/h) for those carrying one or more tank cars containing certain flammable liquids including, but not limited to, ethanol, diesel fuel, petroleum crude oil, aviation fuel. Railways are also required to conduct proper route planning and risk assessment for these routes.⁴³ A Ministerial Order (MO 14-01), in addition to an Emergency Directive to cover the interim period, was issued to ensure that railways had operating rules in

place to address this by October 2014.⁴⁴ Transport Canada's safety experts will be reviewing these risk assessments over the course of the winter and identify any additional safety measures that may help increase rail safety.⁴⁵

- In order to ensure that Transport Canada has the most up-to-date data possible when developing regulations, policies and programs or allocating its inspection and audit resources, amendments to the *Transportation Information Regulations* were proposed in July 2014. These regulatory amendments, which were finalized in November 2014 and will come into force on 1 April 2015,⁴⁶ will improve rail safety by improving the information that Transport Canada has at its disposal when conducting its oversight activities.
- The safety mark (e.g., placards) requirements under the TDG Regulations were amended in 2014. The update, which came into force on 14 July 2014, provides more clarity on the safety marks that must be displayed on means of containment used to transport dangerous goods.⁴⁷
- In response to the TSB's final report on the Lac-Mégantic accident,⁴⁸ a Ministerial Order (MO 14-05) was issued on 29 October 2014 which compelled railway companies to conduct an assessment of safety and security risks and incorporate the use of a standardized number of handbrakes, effective testing and additional physical measures into their operating rules in order to secure all railway equipment which may be left unattended on main tracks, sidings or in any other locations assessed to be high risk.⁴⁹ An Emergency Directive which ordered the immediate implementation of these measures was also issued by Transport Canada on the same date to cover the interim period.⁵⁰
- The quality of training that some short-line railway employees were receiving was also called into question in the TSB's final report on the Lac-Mégantic accident.⁵¹ On 29 October 2014, a Ministerial Order was issued requiring all railways, including but not limited to short-line railways, to submit their training plans to Transport Canada by 12 November 2014.⁵² The department has committed to performing targeted audits of short-line railway companies in early 2015 to determine if there are any gaps related to employee training.⁵³
- The *Railway Operating Certificate Regulations* were finalized on 7 November 2014. These new regulations establish baseline safety requirements that companies must meet prior to obtaining the authorization to operate on federally regulated railways. A two-year grace period was built in to allow existing companies to obtain their certificates.⁵⁴
- With the finalization of the *Railway Safety Administrative Monetary Penalties Regulations* on 10 October 2014, the Minister of Transport will

have, effective 1 April 2015, additional rail safety enforcement tools in the form of administrative monetary penalties.⁵⁵

The Committee learned that Transport Canada had 116 rail safety inspectors who conducted 32,000 field inspections of railway operations to verify compliance with the legislative requirements in 2013.⁵⁶ Departmental officials told the Committee at that time that Transport Canada has trained some rail safety inspectors to also conduct dangerous goods inspections in order to integrate the inspection functions.⁵⁷ In addition to the administrative monetary penalties that will be in place as of 1 April 2015, Transport Canada has a range of tools to enforce requirements under the *Railway Safety Act*, varying from citations to judicial penalties for major violations.

The Committee recommends:

That Transport Canada ensure that it has an adequate number of transportation of dangerous goods and rail safety inspectors to fulfill its oversight function.

2. Means of containment

The Committee heard that Transport Canada is responsible for registering and certifying all companies that design, manufacture, repair, test or requalify various means of dangerous goods containment such as tank cars. Whenever possible, the Canadian standards are aligned with those for dangerous goods in the United States to facilitate the seamless movement of goods between both countries.⁵⁸ There are currently over 334,000 tank cars of all types (i.e., pressurized, non-pressurized, jacketed, non-jacketed, insulated and non-insulated) in service on North American railways.⁵⁹

The Committee heard that, as railcars are generally engineered to be in service for 50 years, many of those in circulation today do not have all the protective features required by the latest design standards. This was the case for the DOT-111s involved in the Lac-Mégantic accident. To this effect, the Chair of the TSB told the Committee that the TSB has noticed issues with the older DOT-111s in its investigations for the past 20 years. She also noted that the TSB has identified issues with the DOT-111 tank cars built to the sturdier design standards adopted in 2011. For this reason, the TSB suggested that Transport Canada consider new, higher standards for the tank cars used to transport dangerous goods.⁶⁰

Since the TSB appeared before the Committee, the federal government has taken the least crash-resistant DOT-111s out of circulation for the transportation of dangerous goods, implemented new regulations to increase the safety and design standards of new tank cars and committed to phase-out all DOT-111s that do not meet these new standards within three years.

Following the federal government's announcement to phase-out older tank cars within three years, representatives from the Chemistry Industry Association of Canada and the Canadian Fertilizer Institute expressed doubts regarding the feasibility of this plan in

their appearances before the Committee. These groups are particularly concerned with the rail industry's existing capacity to produce or retrofit affected railcars within the time frame specified.⁶¹ Various stakeholders, including tank car manufacturers and the TSB, also suggested to the Committee that unilateral action by Canada would be a challenge, given that the railway system in North America is highly integrated and the tank cars cross the border constantly.⁶² To this effect, the Canadian Propane Association, the Canadian Association of Petroleum Producers and OmniTRAX Canada all expressed the need to ensure that any future amendments to Canadian TDG Regulations are harmonized with those in the United States.⁶³ In its response to the Committee's interim report, Transport Canada explained that it works closely with the United States through the Regulatory Cooperation Council and the United Nations Sub-Committee on the Transportation of Dangerous Goods to align and harmonise dangerous goods regulations across North America. In addition, collaborative research projects with the United States have also been initiated.⁶⁴

The Committee notes that the United States Department of Transportation released in July 2014 a Notice of Proposed Rulemaking to phase-out the use of older DOT-111 for the shipment of dangerous goods.⁶⁵ If adopted, the timelines in this proposal would be consistent with those announced by the Government of Canada. Transport Canada, for its part, appears to be developing a regulatory proposal that would see the DOT-111 replaced with the TC-140, a new type of tank car specifically designed for flammable liquids.⁶⁶ According to the TSB's 2014 Watchlist, tank car standards for flammable liquids remain one of the greatest risks to safety in Canadian transportation.⁶⁷

The Committee recommends:

That Transport Canada ensure that all Class 111 tank cars used to transport flammable liquids meet enhanced protection standards that significantly reduce the risk of product loss when these cars are involved in accidents.

That, to the greatest extent possible, Transport Canada ensure that any actions taken by Canada regarding the retro-fit or replacement of Class 111 tank cars are harmonized across the Canada-US border, due to the North American character of the railway system.

3. Route planning

As mentioned in a previous section, the *Railway Safety Act* allows railway companies to formulate rules for ministerial approval of their own initiative or the Minister of Transport to order rule changes. The rules cover a broad range of topics having an impact on railway safety, including, but not limited to, the maintenance of railway tracks and rolling stock and most aspects of operations. Under the *Railway Safety Act*, Canadian railways are required to undertake risk assessments when there are significant changes in the operation of their routes. These assessments are then submitted to Transport Canada as part of the SMS requirements in the railway industry, which are discussed later in this report. During their appearance before the Committee, representatives of CN Railway offered to provide the company's risk assessment for Ontario to the Committee but ultimately submitted only a description of the risk assessment process.

Many witnesses, including representatives from the TSB and the Chemistry Industry Association of Canada,⁶⁸ explained that there are fewer alternative routes for rail shipments in Canada than in the United States. At the same time, the Auditor General of Canada told the Committee that Transport Canada does not have enough route information to conduct risk assessments for its inspection program.⁶⁹ The Auditor General recommended that Transport Canada: obtain better access to the railways' own risk assessments; more information about the sections of track being used to transport dangerous goods; and, information about the condition of bridges along routes.⁷⁰ Similarly, the Chair of the TSB, in her appearance before the Committee, recommended that Transport Canada require railways to conduct route planning with risk assessments for trains carrying dangerous goods.⁷¹ Route planning and risks assessments continue to be one priority area that the TSB has called upon the federal government to address as part of its 2014 Watchlist.⁷²

Consistent with the recommendations of the Chair of the TSB and the Auditor General, the Minister of Transport ordered all railways to conduct risk assessments of key routes and file them with Transport Canada by 23 October 2014. The department has indicated that it intends to complete a full review of these risk assessments over the course of the 2015 winter period. Transport Canada told the Committee that it could share the railways' risk assessments only with the companies' permission because third-party information is protected under the *Access to Information Act*.⁷³ Transport Canada has also finalized amendments to the *Transportation Information Regulations*, which were proposed in July 2014, that require the railways to provide more information to the department respecting track and other rail infrastructure.⁷⁴

4. Train speed

Train speeds along certain routes also garnered attention from Committee members and witnesses alike. Speed limits are determined according to the class of track on which a train is travelling. The class of track is determined based on the geometry, alignment and structure of the track itself. The class of track will also determine the frequency and scope of regular inspections by railway companies; these inspections may vary from twice a week to annually and may include walking inspections all the way to

electronic geometry inspections. According to the Rules Respecting Track Safety,⁷⁵ the maximum allowable speed for a freight train varies between 10 and 80 mph (16.0 to 128.7 km/h) depending on the class of track. As mentioned previously, the Minister of Transport ordered on 23 April 2014 that railways operate Key Trains on Key Routes at a maximum speed of 50 mph (80 km/h) with a further speed restriction to 40 mph (64 km/h) for those carrying one or more tank cars containing certain flammable liquids including, but not limited to, ethanol, diesel fuel, petroleum crude oil and aviation fuel.⁷⁶ This restriction applies regardless of the class of track on which a train is travelling.

During his testimony in May 2014, the Mayor from the Municipalité de Sainte-Catherine-de-Hatley expressed concerns about railways' practice of repeatedly reducing the maximum allowable speed on sections of railways to meet minimum regulatory requirements instead of making the investments necessary to improve the safety of the infrastructure.⁷⁷ The Mayor's statement appears to agree with the information provided by Transport Canada in its response to the Committee's interim report, namely: "If a specific track does not meet requirements for its class, companies must immediately bring the track back into compliance, halt operations, or lower speed to a lower class of track. Companies generally lower operating speeds until repairs are completed, but those with fewer resources sometimes opt for a permanent speed reduction."⁷⁸ To ensure that railway companies do not use speed reductions as a replacement for track maintenance, the federal government is currently conducting research on track conditions which it hopes to use to encourage industry to be more proactive in upgrading railway infrastructure.⁷⁹ The amendments to the *Transportation Information Regulations* that will come into force on 1 April 2015 will also improve the information that Transport Canada has regarding the condition of railway infrastructure across the country.

5. Liability regime

In accordance with the *Canada Transportation Act*, Canadian railways are required to purchase third-party liability coverage to pay for any damages caused by their operations. The Canadian Transportation Agency, the economic regulator for the federal transportation system, determines the adequacy of third-party liability insurance coverage before issuing a Certificate of Fitness to the railway that permits it to operate. The Agency determines the adequacy of each federal railway's third-party liability insurance coverage according to factors contained in the *Railway Third Party Liability Insurance Coverage Regulations*.⁸⁰ The Agency also makes this determination on a case-by-case basis and there is no minimum amount set out in the regulations. The Committee was informed that railway companies must inform the Agency if any changes occur to their operations that could render their insurance coverage inadequate. The Act also provides the Agency with the power to suspend or cancel a certificate if the Agency does not deem the liability insurance coverage to be adequate.⁸¹

Unlike other modes of transportation in Canada, railway companies do not have the right to refuse transportation solely based on the type of goods being shipped. A representative from Canadian Pacific Railway told the Committee that railway companies have already secured as much liability insurance as is available to them and that the regulatory framework should be amended to increase the liability of shippers for

the products they ship.⁸² Under the current regime, shippers are only liable if an accident is found to be caused by factors under their control. The President of the Freight Management Association of Canada expressed his belief that “whoever has the care and responsibility of the goods, at any stage in the whole process, is the one who should be liable.”⁸³ This position was shared by all of the shippers who appeared before Committee. Some representatives of chemical shippers told the Committee that they pay the railways a substantial rate premium to haul their dangerous goods, which should compensate the railways for the additional risk relative to transporting other commodities.⁸⁴ Other shippers went so far as to say that they oppose transferring any of the railway liability for accidents involving dangerous goods to the chemical shippers because that might reduce the railways’ incentive to minimize the risks of their operations.⁸⁵ For these reasons, dangerous goods shippers were largely opposed to any suggestion that they take on a larger role in the liability regime.⁸⁶

While the railways and shippers expressed differing opinions to the Committee as to who should bear responsibility in case of an accident, both parties agreed that the pool of liability insurance available is limited and it has mostly been exhausted.⁸⁷ Representatives from the Canadian Transportation Agency informed the Committee that Class 1 railways (e.g., Canadian National Railway, Canadian Pacific Railway) generally carry in excess of \$1 billion in insurance each, which they considered to be quite sufficient. However, they also suggested that short-line railways’ access to liability insurance is limited given that the majority of the available third-party liability insurance is purchased by the Class I operators.⁸⁸

Another liability issue that was raised during the Committee’s hearings was the need to establish a mechanism which guarantees that public authorities (e.g., municipalities) have immediate access to the funds required to provide emergency response services in the event of a catastrophe. The Committee agrees with the Federation of Canadian Municipalities’ assertion that the cost of rail accidents should be borne by industry and not downloaded onto taxpayers. Another witness suggested that it is important that the liability regime provide comprehensive coverage for all types of losses, including environmental damages, while recognizing the essential role of railways in supporting economic activity throughout Canada.⁸⁹

Various proposals for improving the third-party liability regime were presented to the Committee by witnesses such as shippers, the Federation of Canadian Municipalities, and Professor Daniel Gardner (expert in third-party liability).⁹⁰ These proposals all consisted of a two-tiered solution whereby the first tier would generally consist of the current market-based system that is overseen by the Canadian Transportation Agency, and a second tier which would consist of a pooled fund, in one form or another, to deal with catastrophic events. A two-tiered liability regime of this nature would allow smaller rail carriers to access a collective fund to ensure that they have access to funding for compensation that is comparable to the liability insurance that larger railways are able to secure.⁹¹ To this effect, the pooled emergency funds already in place in the federally regulated marine and aviation sectors were cited as examples of how a pooled fund could be structured and capitalized to provide additional liability coverage for railway accidents.⁹²

As for the extent to which the liability regime should involve the participation of all stakeholders who play a role in the dangerous goods supply chain, the Federation of Canadian Municipalities explained to the Committee that “the risk is created by the entire sector, not just by those carrying the goods. In fact, those carrying the goods [...] can’t be 100% sure that the shipper or the importer broker is telling them the truth [...] It makes sense, from a policy perspective, to have everybody who contributes to the risk — on the polluter pay or risk pay principle — to contribute to [a] fund in some fashion or to recognize that they have a role to play”.⁹³ A commitment was made by the federal government to require shippers and railways to carry additional insurance in the 2013 Speech from the Throne.⁹⁴

The Federation of Canadian Municipalities also provided a few proposals to improve the existing market-based system that is overseen by the Canadian Transportation Agency. It recommended expanding the list of factors that is currently used to determine whether or not a railway company’s coverage is appropriate by: incorporating geography, topography and environmental risks related to its operations; strengthening the Agency’s transparency process as it relates to the adequacy and the disclosure of insurance amounts; and, eliminating contractual deficiencies in order to allow third parties to recover damages from insurance companies when insolvency or bankruptcy occurs.⁹⁵

The Committee notes that the Canadian Transportation Agency is currently reviewing the *Railway Third Party liability Insurance Coverage Regulations* in order to ensure that the method for determining the required third-party insurance results in adequate coverage for each federal railway.⁹⁶ Transport Canada, for its part, launched a review of the liability and compensation regime for railways in January 2014. This led to the development of a framework to improve the regime.⁹⁷ A second round of consultations on this framework began in August 2014.⁹⁸

The Committee recommends:

That Transport Canada implement a comprehensive reform of the liability and compensation regime for rail to ensure that victims and their families obtain the compensation they deserve, that the polluter-pays principle is upheld, and that taxpayers are not forced to pay for compensation, remediation, and reconstruction costs in the event of a rail disaster.

The Committee notes that the Minister of Transport has recently introduced a new bill that would strengthen the liability and compensation regime for federally regulated railway companies. Bill C-52, An Act to amend the Canada Transportation Act and the Railway Safety Act (Safe and Accountable Rail Act), aims to establish minimum insurance levels for railway companies as well as a supplementary, shipper-financed compensation fund to cover damages resulting from railway accidents involving the transportation of dangerous goods.⁹⁹

6. Other issues related to the transportation of dangerous goods by rail

According to the testimony of witnesses, it appears that many of the issues identified in the Committee's interim report have been addressed.¹⁰⁰ For example, the Federation of Canadian Municipalities, the Canadian Association of Fire Chiefs and the Railway Association of Canada all expressed support for Protective Direction 32 (i.e., information-sharing) and its focus on historical information as long as the responsible authorities continue to be informed immediately when there is a significant change in the type or volume of product being transported through their jurisdictions.¹⁰¹ Similarly, witnesses were also supportive of the new ERAP requirements for additional types of flammable liquids.¹⁰²

Nevertheless, there are a few witness recommendations highlighted in the Committee's interim report that witnesses believe could potentially contribute to increasing the safety of the transportation of dangerous goods by rail. First, the Canadian Association of Fire Chiefs recommended the implementation of a scalable national incident command system in Canada and the provision of more resources to CANUTEC so that it can better fulfil its role.¹⁰³ The Association also told the Committee that CANUTEC is a critical resource for first responders, especially in rural areas, but is sometimes unable to provide firefighters with information about the location and type of dangerous goods on the train. While a train manifest is available in the cab of each locomotive, it is vital that CANUTEC receive all the information it needs to assist first responders during emergencies.

Union representatives of railway employees who inspect and repair railcars and locomotives also presented a number of suggestions for the Committee to consider including: increasing the frequency of required inspections; licensing railcar mechanics and technicians as TDG inspectors; ensuring that a qualified rail mechanic inspect trains before they are left unattended; and, granting the authority to rail mechanics to cancel trips for railcars they determine to be unsafe.¹⁰⁴ The latter is similar to the authority that is granted to mechanics in the airline industry.

In regards to transload facilities, the Committee learned that some witnesses have concerns about the construction and regulation of these facilities. Transport Canada told the Committee that transload facility inspections have increased since the summer of 2013 and that they "are carried out every one to three years for higher risk crude oil loading facilities, with intensive follow-up at non-compliant operations".¹⁰⁵ That said, the Canadian Association of Fire Chiefs and the Chemistry Industry Association of Canada both noted the apparent lack of standards (e.g., fire code, building code, and zoning requirements) for the construction of transload facilities.¹⁰⁶ Moreover, the Canadian Propane Association suggested that the regulatory requirements for different types of dangerous goods transfers should be reviewed to ensure there is adequate coverage and consistency.¹⁰⁷ Transfers between rail cars and trucks were identified by this association as one possible regulatory gap.¹⁰⁸

C. Air Transportation

Air transportation plays a limited role in the overall multi-modal transportation of dangerous goods regime. As described earlier in this report, the transportation of dangerous goods by air represents less than 1% of the total tonnage of all dangerous goods shipped in Canada.¹⁰⁹ This small role may, in part, explain why air transportation was involved in less than 0.8% of all reportable accidents involving dangerous goods over the last five years.¹¹⁰ Dangerous goods carried on aircraft can range from very small items, such as lithium batteries, to large items, such as machines with internal combustion engines.

1. Legislative framework

The TDG Regulations incorporate, by reference, technical instructions from the International Civil Aviation Organization (ICAO) for the transportation of dangerous goods by air. These instructions establish the rules for the safe transport of dangerous goods, both within Canada and abroad.

The international TDG framework was characterized by officials representing both large and small Canadian airlines as being very robust and sophisticated.¹¹¹ The technical instructions impose training requirements for individuals involved in consigning, handling or carrying dangerous goods in the aviation sector. The instructions also contain a comprehensive set of requirements pertaining to: testing and classifying dangerous goods; packaging standards which include labelling and means of containment; inspection standards; loading restrictions; and the sharing of information among operators, ground crew, pilots and States.¹¹² In its brief to the Committee, the Canadian Union of Public Employees (CUPE) recommended that information about dangerous goods on board a flight be provided to cabin crew.¹¹³ CUPE reports that flight attendants do not have information about dangerous cargo and would be unable to respond appropriately in the event of an emergency situation.

Air carriers are free to choose whether or not they want to transport dangerous goods. However, an official from WestJet told the Committee that Transport Canada still requires airlines that opt not to carry dangerous goods to provide dangerous goods training to their front-line employees in order to ensure that there are no holes in the system.¹¹⁴

2. Consolidation of exempted dangerous goods

The consolidation of lithium batteries aboard aircraft was raised as a potential safety hazard by representatives of the Air Line Pilots Association of Canada. Lithium batteries can catch fire when defective, damaged or improperly packaged. However, given that the risk posed by a single lithium battery is very low, the Committee learned that these batteries were traditionally exempted from many of the requirements of the ICAO technical instructions, and by extension the TDG Regulations, when packaged in quantities of approximately eight or less.¹¹⁵

The Air Line Pilots Association told the Committee that after they have been accepted for shipment under this exemption, there is nothing to prevent carriers from consolidating numerous packages of lithium batteries aboard an aircraft or even loading an entire aircraft with them. According to the Association, the risks associated with a single battery catching fire are much higher if it is in proximity to other battery packages. In such a scenario, the pilot would likely be unaware of these risks due to the exemptions in effect. The Association therefore suggested that Transport Canada take steps beyond ICAO to address these potential safety risks.¹¹⁶

Although similar exemption and consolidation issues may exist with other types of dangerous goods, lithium batteries were the only example brought forward by witnesses during the Committee's hearings. The Committee also notes that recent amendments to the TDG Regulations have effectively banned the transportation of lithium metal batteries as cargo on passenger flights as of 1 January 2015.¹¹⁷ Shippers of lithium metal batteries to remote locations (with no road access) served only by aircraft carrying passengers can apply for an Equivalency Certificate, which would exempt them from the new ban.¹¹⁸

3. Self-declaration and screening in the North

The Executive Director of the Northern Air Transport Association told the Committee that, on a per-flight basis, northern carriers likely carry far more dangerous goods than their counterparts operating in southern Canada because air transportation is often the only means of year-round access for many remote communities. Businesses who supply these communities generally comply with the TDG regulations. However, the Committee learned that the same cannot always be said about individual passengers from remote communities who inadvertently package dangerous goods improperly from time to time. This situation presents a significant challenge for northern carriers, especially those operating where security screening is limited.¹¹⁹

The Northern Air Transport Association representative told the Committee that efforts have been made to increase passenger awareness concerning the transportation of dangerous goods but that more should be done in this regard. The Association also suggested that simplifying the system to make it easier for passengers to comply with requirements would likely pay larger dividends than introducing other types of measures, such as increasing the use of optical scanners and other technology.¹²⁰

D. Marine Transportation

Marine transportation underpins the global economy. In fact, the Committee heard that 90% of everything bought or sold travels by ship.¹²¹ As the volume of dangerous goods being transported by vessels is likely to rise in line with expanded trade over the next decade,¹²² it is important that the systems in place to oversee and assist these shipments continues to be effective. The Committee was told that between 2006 and 2013, there have not been any in-transit dangerous goods marine accidents.¹²³

1. Legislative framework

Domestic vessels carrying dangerous goods must comply with the *Transportation of Dangerous Goods Act, 1992*, the *Canada Shipping Act, 2001* as well as their regulations.¹²⁴ For all international shipments of packaged dangerous goods travelling to and from Canada, the aforementioned legislation incorporates the International Maritime Organization's (IMO) *International Maritime Dangerous Goods Code* (IMDG Code) by reference. The Committee heard that the IMDG Code is an internationally recognized code for the transport of dangerous goods by sea and covers matters such as packaging, container traffic and stowage, with specific references to the segregation of incompatible substances.¹²⁵ The Code also requires that shippers provide port managers with the appropriate dangerous goods documentation prior to a vessel's arrival.

An official from Transport Canada informed the Committee that ERAPs are required for loading and unloading dangerous goods from domestic vessels. However, these requirements do not apply to international vessels, as they comply with the IMDG Code, or vessels transiting in Canadian waters.¹²⁶

The Committee was told that, similar to other modes of transport under federal jurisdiction, federal inspections are conducted aboard both domestic and foreign vessels in Canadian ports. Inspectors ensure that shippers comply with the means of containment, shipping documentation and classification prescribed in the TDG Regulations. An official from Transport Canada confirmed that "in cases where non-compliance is found, [inspectors] do not hesitate to take appropriate enforcement action."¹²⁷ The TDG Regulations also compel shippers to contact CANUTEC and the Canadian Coast Guard in the event of a dangerous goods release.

The Committee notes that the *Safeguarding Canada's Seas and Skies Act* received Royal Assent on 9 December 2014.¹²⁸ Among other things, this Act amends the *Marine Liability Act* to implement the *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 2010*. The *Safeguarding Canada's Seas and Skies Act* also adds new types of violations and enforcement measures under the *Canada Shipping Act, 2001* in order to better manage the risk of accidental discharges of petroleum products in Canadian waters. Midway through the Committee's study, the Government of Canada also announced plans to implement various measures that were recommended by the Tanker Safety Expert Panel.¹²⁹

The TDG Act does not apply to petroleum products transported in tankers.¹³⁰ The safe conduct of tankers is governed by the *Canada Shipping Act, 2001* and the *Pilotage Act*. Under the latter, four regional maritime pilotage authorities (Atlantic, Laurentian, Great Lakes, and Pacific) are responsible for providing vessels with pilots who have the skills, experience, and knowledge necessary to navigate safely in Canadian waters.¹³¹ The *Pilotage Act* authorizes each pilotage authority to establish, with approval from the Governor in Council, the regulations for its own jurisdiction including the circumstances under which pilotage is compulsory. The Chief Executive Officer of the Pacific Pilotage Authority told the Committee that "[b]y placing a pilot on the vessel, you

are ensuring that at least one member of the bridge team has an in-depth knowledge of the local dangers, is not fatigued, and is a knowledgeable resource in the event that something does occur.”¹³²

2. Liability regime

The Committee was told that there are three layers of marine liability coverage in the event of an oil spill. First, shipowners are required to have insurance for each vessel in their fleet. If the cost associated with an accident goes above and beyond the amount covered by their insurance, shipowners may access an international fund that could support approximately \$1.14 billion in additional damages. If these two sources are insufficient, shipowners also have access to up to \$162 million per-incident through a domestic fund, the Ship-source Oil Pollution Fund.¹³³ As a whole, the Committee heard that between \$1.5 billion and \$2.5 billion is available per incident depending on the size of the spill and the party involved.¹³⁴

In May 2014, the federal government announced that it would remove the per-incident liability limit on the Ship-source Oil Pollution Fund in order to make the entire fund available for a single accident, if needed.¹³⁵ Witnesses who appeared before the Committee, such as the Western Canada Marine Response Corporation, expressed a high degree of support for the federal government’s plan.¹³⁶ Yet, the Committee notes that amendments to the *Marine Liability Act* have yet to be tabled in Parliament.¹³⁷

The Committee recommends:

That the *Marine Liability Act* be amended to remove the per incident liability limit on the Ship-source Oil Pollution Fund.

3. Memberships with response organizations

The Committee learned that all vessels of a certain size, including but not limited to those transporting oil products, calling on Canadian ports are required to be members of one of the four oil spill response organizations certified by Transport Canada. In the event of a spill, these organizations are responsible for helping the shipowner clean up the spill. The Canadian Coast Guard, for its part, is responsible for monitoring the entire operation and may take command of the cleanup if a shipowner refuses or is unable to respond.¹³⁸

A representative from the Western Canada Marine Response Corporation informed the Committee that vessels transiting in Canadian water are not required to be members of one of these response organizations.¹³⁹ The witness suggested that this is an area that the federal government could look into given that a significant amount of vessels that transit in Canadian waters are not currently members of certified response organizations.¹⁴⁰ Conversely, witnesses with international shipping experience told the Committee that imposing any requirements above and beyond those put in place by the IMO would be problematic for shipowners, especially from a logistical standpoint.¹⁴¹

4. National risk-based response planning and exercise regime

Witnesses informed the Committee that employees involved in all aspects of the marine transportation of dangerous goods receive a significant amount of training and partake in various types of exercises.¹⁴² Nevertheless, a representative of the Shipping Federation of Canada told the Committee that a comprehensive national planning and exercise framework that involves all key stakeholders could strengthen ship-source oil preparedness and response in Canada. The Federation explained that various stakeholders currently carry out their own programs independently from one another and that the exercises conducted by response organizations are not prioritized based on defined risk scenarios.¹⁴³ The Western Canada Marine Response Corporation also expressed its support for the development of a comprehensive risk-based response planning and exercise regime. In doing so, the Corporation clarified that each region has specific baseline requirements in terms of response capacity and that a move towards risk-based planning is unlikely to result in resources being shifted away from lower risk areas. Instead, the witness suggested, risk-based planning would probably result in additional resources being positioned to help respond to a few areas that may be underserved.¹⁴⁴

In its first report, published in November 2013, the Tanker Safety Expert Panel recommended the establishment of a multi-jurisdictional risk-based response planning and exercise program.¹⁴⁵ The federal government subsequently announced that it would work with response organizations and other key stakeholders to develop tailored response plans for four regions with a high degree of tanker traffic, namely: the southern portion of British Columbia; Saint John and the Bay of Fundy (New Brunswick); Port Hawkesbury (Nova Scotia); and the Gulf of St. Lawrence (Quebec).¹⁴⁶ Witnesses who appeared before the Committee did not clarify when these new risk-based response plans will be completed and whether or not they will include multi-jurisdictional exercise programs.

The Committee recommends:

That Transport Canada report to the Committee with detailed timelines for the Area Response Plan project implementation by December 2015.

5. Arctic navigation charts

The adequacy of navigation charts for the Arctic was raised as an area of concern by the Shipping Federation of Canada. The Federation asserted that existing charts are outdated and do not reflect modern standards.¹⁴⁷

While witnesses representing the Canadian Hydrographic Service who appeared before the Committee did not comment on this particular issue,¹⁴⁸ the federal government has committed to start addressing this issue in September 2016.¹⁴⁹ The quality of Arctic navigation charts may also be examined as part of the Tanker Safety Expert Panel's upcoming review of oil tanker safety in the Arctic.¹⁵⁰

6. Clarity of regulations

In general, witnesses representing the different sectors of marine transportation appeared to be pleased with the existing regulatory framework. Some stakeholders did, however, highlight a few areas to the Committee where the regulations could be clarified. A representative from the Canadian Ferry Operators Association told the Committee that an inconsistency regarding the definition of short-run ferries, “in the federal regulations it’s three kilometres and in the marine safety regulations it’s five kilometres,¹⁵¹ makes it harder for the Association’s members to properly implement the regulations. The Committee also heard that, based on the current regulations, liquid oxygen tanks for individuals with breathing issues are not allowed on ships unless they are in use (i.e., no spare tanks). According to witnesses, restrictions of this nature apply to the contents of ambulances who board ferries as well.¹⁵²

7. Voluntary declarations

The Canadian Ferry Operators Association representative informed the Committee that the Association often has to rely on voluntary declarations from truck drivers to know what they are carrying on to their ships. Ferry operators often conduct their own dangerous goods inspections of truck cargo in addition to those that are conducted by government agencies. Nevertheless, it becomes harder for ferry operators to react in emergency situations if certain things are disclosed only once a truck is already on board. As such, the Canadian Ferry Operators Association suggested that the transportation of dangerous goods regime could be strengthened by increasing the level of government inspection trucks undergo before they embark on ferries.¹⁵³

E. Transportation of Dangerous Goods by Truck

Trucking plays a vital role in the dangerous goods supply chain, especially when it comes to bringing these products to local markets. According to *Transportation in Canada 2013*, approximately 70% of all dangerous goods (by weight) were transported by road in 2011, 77% of which involved shipments of crude petroleum, oil, gasoline and fuel oils.¹⁵⁴ However, the Committee heard that the economics of trucking are such that it will never be able to displace pipelines or railways for large volume shipments of petroleum products.¹⁵⁵

1. Legislative framework

The federal, provincial and territorial governments share responsibility for the safety of road transportation. The federal government is responsible for the safety of all new and imported vehicles.¹⁵⁶ The federal government also has the power to regulate extra-provincial trucking but delegated this authority to the provinces under the *Motor Vehicle Transport Act*.¹⁵⁷ Provincial and territorial governments have jurisdiction over driver licensing, vehicle registration, commercial vehicle inspections, road infrastructure and traffic signage, as well as traffic laws and enforcement.

Shippers of dangerous goods by road, whether intra-provincial or interprovincial, must comply with the *Transportation of Dangerous Goods Act, 1992* and the TDG

Regulations. In order to ensure the consistent implementation and oversight of this regime across Canada, agreements have been signed between the federal government and each province and territory. As a result, “the level of enforcement, on-road real-time enforcement, that exists in trucking is different from that in any other mode.”¹⁵⁸

2. Driver training

Under the current TDG Regulations, carriers are compelled to ensure that their drivers receive the training they need to transport and handle dangerous goods. For example, RTL-Westcan told the Committee that its drivers undergo both virtual driving simulations and in-cab training to ensure that they have the skills required to deal with changing road conditions as well as a variety of scenarios related to loading and unloading dangerous goods. E-learning modules are also used for recurring courses and other training required for the transportation of dangerous goods.¹⁵⁹

Despite the fact that driver training is based on national standards, witnesses told the Committee that the actual requirements vary from one province to another.¹⁶⁰ The Committee also heard that industry’s experience with new Class 1 drivers points to a lack of training or minimal requirements in obtaining their operator’s license.¹⁶¹ To this effect, the Canadian Trucking Alliance, the Alberta Motor Transport Association and the Atlantic Provinces Trucking Association all proposed that mandatory entry-level training consistent with the national industry standards be introduced to harmonize training across Canada.¹⁶² The Canadian Trucking Alliance and Teamsters Canada also suggested that the trainers should be receiving their own training based on a standardized model as well.¹⁶³

The Committee notes that the testimony provided did little to differentiate between any training deficiencies that relate to general driver training and those that relate exclusively to the training provided for the transportation of dangerous goods. Furthermore, driver training falls under provincial jurisdiction. However, it is clear that improved driver training could benefit overall road safety as well as any shipment of dangerous goods that is transported under these conditions.

3. Electronic logbooks and other technology

Industry and organized labour representatives alike told the Committee that the transportation of dangerous goods regime could be improved by mandating the use of electronic recording devices under the *Commercial Drivers Hours of Service Regulations*.¹⁶⁴ The Canadian Trucking Alliance suggested that the current “paper systems are easier to fudge” and that the 5% to 10% of the industry do not respect the regulations.¹⁶⁵ Replacing paper log books with electronic systems would ensure that all companies comply with the regulations, thus reducing fatigue and the potential for accidents. The Canadian Trucking Alliance also told the Committee that the United States is set to publish a rule mandating the use of electronic recording devices by September 2015 and that these systems have been in use in Europe for the past 20 years.¹⁶⁶

The widespread adoption of speed limiters and stability control technology were two additional areas that representatives from the trucking industry identified as potential avenues to strengthen safety overall and, by extension, the transportation of dangerous goods. The Committee heard that trucks travelling at speeds in excess of 100 km/h unnecessarily augment risks by increasing braking distances.¹⁶⁷ While some provinces, such as Ontario and Quebec, have mandated the use of speed limiters, they remain optional in other jurisdictions.¹⁶⁸

Finally, stability control technology improves the safety of trucks by automatically applying brakes when a loss of traction is detected. The Committee heard that this technology is currently part of the standard vehicle packages offered by two of the seven major truck manufacturers in Canada and that it is quite inexpensive relative to the cost of a new vehicle.¹⁶⁹ Representatives from the trucking industry who appeared before the Committee expressed unilateral support for a new manufacturing standard similar to the one in the United States that would see all new heavy trucks equipped with stability control technology.

The Committee recommends:

That Transport Canada implement regulations to require the use of Electronic Logging Devices.

That Transport Canada implement regulations to require Electronic Stability Control on new trucks.

4. Shipper responsibility

A number of witnesses from the trucking industry expressed concerns regarding the oversight and enforcement of shippers' responsibilities. These witnesses told the Committee that sometimes the documentation that shippers provide to carriers is inaccurate or incomplete. As a result, the President and Chief Executive of the Canadian Trucking Alliance stated that "when there are violations, even for things that may be the shipper's responsibility, particularly, say, documentation, it's the trucking company and the driver who end up getting fined, even though the shipper has provided them with the paperwork."¹⁷⁰ The Canadian Trucking Alliance suggested that Transport Canada could be doing more to ensure that shippers respect the federal regulations.¹⁷¹

The use of all-encompassing indemnity clauses by some shippers was another area of concern for witnesses who appeared before the Committee. These indemnity clauses, which are added to freight contracts, are structured in a manner that removes any potential shipper liability for trucking accidents involving their goods even if shippers are found to be negligent.¹⁷² Witnesses explained that larger companies generally do not sign these contracts but that some smaller carriers that are desperate for the business do so.¹⁷³ The testimony the Committee received did not yield any definitive answers in regards to the enforceability of these indemnity clauses.

SAFETY MANAGEMENT SYSTEMS

Transport Canada officials told the Committee that experience and research have shown that an organization can comply with all regulated safety requirements yet its operations may still pose a risk to safety.¹⁷⁴ As such, simply making more regulations that address specific issues or events would not necessarily bring about improvements in transportation safety.

Therefore, Transport Canada decided that — in addition to complying with all specific safety regulations — the transportation sector must also be accountable for proactively and systematically addressing risks within its operations.¹⁷⁵ The primary tool used by organizations to minimize risk in their operations, where possible and practicable, would be safety management systems (SMSs). SMSs are essentially quality assurance processes that provide for: responsibility and accountability for safety at all levels in an organization; the monitoring of measurable safety indicators; internal auditing; and, means for continuous improvement. Quality assurance/management processes have been standard practices in most high-risk industries whose accidents can pose considerable danger to the public, including the transportation system, for a long time. Transport Canada officials told the Committee that an “SMS builds on the principles of quality management that are already embraced by most of our transportation industries and provides them with a systematic way to identify hazards, control risks, and continually improve.”¹⁷⁶

It is important to note that the SMS approach has been adopted by international organizations including ICAO and the IMO.¹⁷⁷ The TSB has publicly endorsed *properly implemented* SMSs, acknowledging that regulatory requirements alone cannot anticipate all risks.¹⁷⁸ At the same time, the TSB included safety management and oversight on its 2014 Watchlist, an annual list of issues that pose the greatest risk to Canada’s transportation system, noting that “some transportation companies are not effectively managing their safety risks, and Transport Canada oversight and intervention has not always proven effective at changing companies’ unsafe operating practices.”¹⁷⁹ This chapter of the Committee’s final report describes the challenges experienced by the transport sector and the regulator in implementing and overseeing effective SMSs in transportation, as well as the Committee’s recommendations for improvements to the SMS regime.

A. Rail Transportation

Transport Canada reports that freight and passenger train accidents have decreased by 23% and 19% respectively since 2007.¹⁸⁰ Statistical analysis conducted by the department indicates that the decline in rail accident rates is at least partially explained by the introduction of SMSs in the federal rail industry as well as by increased interaction between the railway companies and the regulator, and other new safety initiatives.¹⁸¹

As mentioned in the previous chapter concerning the transportation of dangerous goods, since the tragic rail accident in Lac-Mégantic in July 2013, the Government of Canada has brought forth many legislative and other initiatives to address the risk in the

rail industry as a result of the dramatic increase in the volume of oil carried by the railways. The recent federal initiatives directly related to the railway's SMSs, as well as those that contribute to overall railway safety are described in the following sections concerning the legislative framework, oversight and enforcement, and safety culture.

1. Legislative framework

Transport Canada administers the *Railway Safety Act*, which is the main safety legislation governing the operations of federally regulated railways.¹⁸² The *Railway Safety Management System Regulations* were introduced under the Act in 2001 and require railway companies to have formal plans for assessing and managing risks in their operations and to be accountable for them.¹⁸³ The regulations require, among other things, a railway company to have processes for: hazard identification; incident reporting; performance measurement; employee involvement in the development and implementation of the SMS; and, mechanisms for continuous improvement in safety performance.¹⁸⁴

The *Railway Safety Act* was amended in 2013 to incorporate recommendations contained in the reports from the *Railway Safety Act Review* (2007) and from this committee (2008).¹⁸⁵ Among other things, the *Safer Railways Act* created new regulation-making powers with respect to the railway companies' SMSs.¹⁸⁶ In July 2014, Transport Canada exercised the new regulation-making authorities and published new *Railway Safety Management System Regulations* in Part 1 of the *Canada Gazette*.¹⁸⁷ The new regulations include: whistle-blower protection for employees who raise safety concerns; requirements for continuous monitoring and assessment of the level of safety achieved by railway companies; and, a requirement that railway companies appoint an executive legally responsible for safety. Furthermore, based on more than a decade of experience with rail SMSs, the department also included a number of additional requirements for railway companies in the new regulations to allow for more effective implementation and enforcement of the SMS requirements. For example, the new regulations will require railway companies to: take remedial actions following risk assessments; continuously monitor and assess the level of safety achieved; increase the involvement of employees and their bargaining agents in the operation of their SMSs; and, include the principles of fatigue science in scheduling employees' working hours. The new regulations, which will come into force on 1 April 2015, will also apply to local railway companies operating on federally regulated track.

The *Railway Safety Management System Regulations* are intended to allow the railways' SMSs to vary in size and complexity, depending on the nature of their operations. A representative of Transport Action Canada told the Committee that his organization is concerned about whether smaller rail companies, such as the short-lines or local railway companies, have the resources to implement SMSs.¹⁸⁸ In order to assist railways of all sizes with the transition to the SMS regime, the department has provided guidance documents on its website.¹⁸⁹

All unions representing railway employees recommended that it would be in the interest of Canadians for railway companies' SMSs to be publicly available.¹⁹⁰

Transport Canada explained to the Committee that it can share the railways' SMSs with the public only with the companies' permission because third-party information is protected under the *Access to Information Act*.¹⁹¹

2. Oversight and enforcement

Transport Canada is responsible for ensuring that 28 federal railways comply with the entire regulatory framework for rail safety, including taking enforcement action when required. When the new *Railway Safety Management System Regulations* come into effect, another 35 local railways will come under Transport Canada's jurisdiction with respect to SMS requirements.¹⁹² Transport Canada must periodically audit the railway companies' SMSs to verify that all components are in place, review corporate processes and documents, and conduct safety inspections in the field.¹⁹³ When Transport Canada finds non-compliance with the SMS regulations, it requests a corrective action plan from the organization that also identifies the root cause of the failure.¹⁹⁴ If non-compliance with the regulations continues, Transport Canada may begin enhanced monitoring of the organization and/or employ other enforcement tools.

According to Transport Canada's *2013-14 Departmental Performance Report*, 131 of the 142 total positions in rail safety oversight are filled.¹⁹⁵ It is important to note that inspections, audits and other oversight duties are performed by Transport Canada employees in many different occupational groups, not just inspector positions. The Committee learned that the department aims to complete 9 to 12 SMS audits per year and conducted 32,000 traditional inspections in 2013.¹⁹⁶ With respect to traditional inspections, Transport Canada told the Committee that the railways' SMSs "allow the department to prioritize and target its resources towards areas that pose the greatest risk and require the most attention."¹⁹⁷

In his audit covering the 2011-2012 fiscal year, the Auditor General of Canada identified significant weaknesses in Transport Canada's oversight and enforcement of SMSs in the rail industry, even though the regulatory framework has been operational since 2001. While reviewing Transport Canada's oversight of rail safety for his *2013 Fall Report*, the Auditor General determined that Transport Canada had completed only 26% of its planned audits of the railways' SMSs over a three-year period and those that were completed were too narrowly focussed.¹⁹⁸ Furthermore, Transport Canada was unable to demonstrate that the necessary follow-up inspections had been conducted when its audits revealed problems in the railways' SMSs.¹⁹⁹ The Auditor General told the Committee that "based on what we saw we felt [Transport Canada had] not yet put in place a system that is sufficiently robust to give them the level of assurance they need to know that those safety systems are operating safely."²⁰⁰ The Auditor General also found that approximately 40% of Transport Canada rail inspectors had yet to undergo the training required to perform audits, and that the department lacked risk data to properly target higher-risk operations as well as the most significant safety risks.²⁰¹ The independence and objectivity of Transport Canada's inspectors, many of whom have links to the rail industry, was also highlighted as an area of concern.²⁰² An official from the Office of the Auditor General suggested that rail safety and SMSs could be strengthened if the railways were required to provide Transport Canada with information on their financial performance, the conditions

of the tracks used to transport dangerous goods, as well as their internal risk assessments.²⁰³ The Auditor General recommended that Transport Canada better define the SMS audit methodology and undertake analysis to gain a better understanding of its resource requirements to provide adequate rail safety oversight.²⁰⁴

Noting that Transport Canada will soon be responsible for overseeing 35 local railway companies' SMSs, the Auditor General observed that "the challenge isn't getting smaller. The challenge is getting bigger."²⁰⁵ The Auditor General declined to comment on whether the department has enough resources to do its job, but he did note that "they haven't done the analysis themselves to know how many resources they need to complete the work."²⁰⁶

In response to the Auditor General of Canada's findings, Transport Canada prepared a detailed Management Action Plan that set out how the department intended to address the Auditor General's recommendations over the subsequent two years and submitted it to the Committee. Transport Canada's action plan included fully implementing the department's Rail Safety Integrated Data collection system by the fall of 2014 and updating Transport Canada's audit and self-assessment procedures by the spring of 2015. At a subsequent appearance, Transport Canada officials explained that the most qualified rail safety inspectors come from the industry and confirmed that they all sign conflict of interest statements as a condition of employment.²⁰⁷ Furthermore, at the time of the officials' second appearance, all rail safety inspectors had been trained to conduct SMS audits.²⁰⁸ In her response to the Committee's interim report on this study, the Minister of Transport confirmed that the department will be able to fully implement the Management Action Plan by the 2016 deadline.²⁰⁹ This Committee intends to monitor Transport Canada's progress on its Management Action Plan until its full implementation.

The Committee notes that a number of initiatives mentioned in the previous chapter concerning the transportation of dangerous goods address other aspects of the Auditor General's recommendations.

- The amended *Transportation Information Regulations* require the railways to report annually on measurable factors that Transport Canada could use proactively to identify areas of risk. For example, the railway companies have to report on the results of personnel proficiency tests, the condition and maintenance of equipment, and information on the use and condition of fixed infrastructure.²¹⁰ These amendments were finalized in November 2014 and come into force in April 2015.
- The new *Railway Safety Management System Regulations* coming into force in April 2015 will require railway companies to submit their risk assessments of significant changes to their operations to Transport Canada.
- Transport Canada has also introduced legislative measures to strengthen its enforcement of the railway safety regulations. New *Railway Safety Administrative Monetary Penalties Regulations* that provide for fines of up

to \$125,000 per violation were finalized in October 2014 and take effect in April 2015.²¹¹ New *Railway Operating Certificate Regulations*, which would require a railway company to meet baseline safety standards in order to operate, authorize the Minister to suspend or cancel the certificate if the conditions are no longer met or for other contraventions to the Act.²¹² These regulations came into force when they were published in Part II of the *Canada Gazette* in November 2014.

The Chair of the TSB told the Committee that she agrees with the Auditor General's assessment of the importance of strong SMS oversight and enforcement to ensure compliance and that the railways "are netting all of the safety benefits they should."²¹³ In its final report on the investigation into the Lac-Mégantic rail accident, which was published after the appearance of TSB officials before the Committee, one of the TSB's recommendations was that "Transport Canada must take a more hands-on role when it comes to railways' safety management systems — making sure not just that they exist, but that they are working and that they are effective."²¹⁴ On its 2014 Watchlist, the TSB reiterated that rail companies must demonstrate that their SMSs are effective, i.e., identify hazards and require risk mitigation measures, and that Transport Canada must be able to correct unsafe operating practices.

Transport Canada responded to the TSB and reports that it is addressing these recommendations by:²¹⁵

- fully implementing the Management Action Plan prepared to address the Auditor General's recommendations concerning SMS oversight;
- developing an SMS Compliance Tool to be completed in February 2015;
- publishing the new *Railway Safety Management System Regulations* that require railway companies to submit risk assessments to the department;
- revising the risk-based method for planning railway SMS audits; and
- auditing railway SMSs on a three- to five-year cycle, increasing the rigour of audits, following up on a timely basis and applying the new penalties for non-compliance.

Transport Canada also indicated that it will receive additional funding to increase its audit capacity.²¹⁶

The Committee recommends:

That Transport Canada implement all of the recommendations in Chapter 7 (Oversight of Rail Safety – Transport Canada) of the Auditor General's 2013 Fall Report.²¹⁷

3. Safety culture

The Committee learned that culture of safety throughout an organization is critical and necessary for its SMS to be effective. According to the *Railway Safety Act Review Panel*, a safety culture “is one in which safety values are firmly entrenched in the minds of managers and employees at all operational levels, and respected on a daily basis in the performance of their duties.”²¹⁸ One, if not the most, important outcome of a strong safety culture is that it leads to ongoing improvements in safety. In an organization with a well-entrenched safety culture, front-line employees will not hesitate to report any hazards they observe and their reports are forwarded to the highest levels of management.

The representatives of the railway companies who met with the Committee described the ways in which their leaders are working on the safety culture in their organizations. They each described how railway executives participate regularly in safety activities, from reviewing daily safety reports to attending frequent safety committee meetings.

Although the railways' representatives told the Committee that unionized employees are involved in the development and implementation of their SMSs, the employees' bargaining agents provided testimony to the contrary. A representative of Teamsters Canada told the Committee that its members are not involved in SMS development at railways where its members work, and do not know what is in the SMSs or how SMSs manage safety.²¹⁹ A representative of Unifor mentioned that its members participate in risk assessments and sit on policy committees, but have no real influence.²²⁰ The United Steelworkers recommended that there be stronger collaboration between railway companies and their workers in the development of SMSs.²²¹

The representative of Teamsters Canada told the Committee that interviews with, and surveys of, rail employees about their perceptions of safety should be mandatory.²²² Another representative of Teamsters Canada told the Committee that a strong safety culture is impossible to achieve at the railways because of the “disciplinary nature of the industry.”²²³

In her response to the Committee's interim report, the Minister of Transport said that the department is collaborating with industry on a perception survey to measure the safety culture at railway companies and to share best practices. The Committee notes that the new *Railway Safety Management System Regulations* include whistle-blower protection for employees who raise safety concerns and require increased involvement of employees and their bargaining agents in the operation of SMSs.²²⁴

4. On-board voice and video recordings

The Committee learned that railway companies want to collect data using on-board voice and video recordings from locomotives to analyze trends proactively for safety management purposes, but are not able to do so without their employees' permission because legislation prohibits it. The President of Canadian Pacific Railway told the Committee that using recordings from the locomotive as part of SMSs would be "the most important step that can be taken at the immediate time to further improve safety."²²⁵ While VIA Rail is working with its unions to use on-board recordings on a voluntary basis,²²⁶ Canadian Pacific Railway has recommended making amendments to the sections of the *Canadian Accident Investigation and Transportation Safety Board Act* that prohibit the use of on-board recordings for anything but accident investigation to allow them to use the recordings in their SMSs.²²⁷ Conversely, representatives of the railway unions who met with the Committee indicated that they do not support using voice and video recordings for anything but accident investigations.²²⁸

The Committee notes that Transport Canada established a working group to study the use of on-board voice and video recorders in locomotives in 2013.²²⁹ The working group's recommendation, which the Minister of Transport accepted, was to encourage railways to make the investments on a voluntary basis. In her response to the Committee's interim report, however, the Minister of Transport signalled that Transport Canada now intends to develop new requirements to make locomotive video and voice recorders mandatory in collaboration with stakeholders.

The TSB included on-board voice and video recorders in locomotives on its 2014 Watchlist.²³⁰ The TSB has stated that using recorded data on a proactive and non-punitive basis may be useful in rail SMSs and that the agency is committed to cooperating with other stakeholders to remove the legislative barrier.²³¹

The Committee recommends:

That Transport Canada require the use by railways of on-board voice and video recordings as part of a company's safety management system, consistent with the Transportation Safety Board's recommendation.

5. Grade Crossings

Collisions at railway grade crossings caused an average of 27 injuries and 25 fatalities annually in Canada between 2006 and 2010.²³² In regards to railway grade crossing safety, the Auditor General of Canada suggested that the role and responsibilities of railways for maintaining grade crossings still needs to be clarified.²³³ The representative of Transport Action Canada also told the Committee that grade crossing safety should be a major concern for the federal government.²³⁴

Following the Committee appearances of the Auditor General and Transport Action Canada, Transport Canada registered new *Grade Crossings Regulations* in Part II of the

Canada Gazette in November 2014.²³⁵ The regulations are intended to improve the safety at grade crossings by: establishing enforceable safety standards for crossings; clarifying the respective roles and responsibilities of railway companies and other parties; and, promoting collaboration between the railway companies and road authorities.

B. Air Transportation

The ICAO first recommended that member states adopt SMSs for aviation in 2000. With the expectation that SMSs would be the most promising means of preventing accidents caused by human or organizational factors — which are the leading factors in air accidents today — Transport Canada was the first civil aviation authority in the world to introduce regulations requiring aviation companies to use SMSs.²³⁶

The Committee heard that Canada is considered to have the best and safest aviation system in the world; the system's SMS regime is used as an exemplar internationally as well as for other high-risk industries in Canada.²³⁷ Transport Canada officials told the Committee that “the total number of accidents declined to the lowest recorded figure in modern aviation history” in 2012.²³⁸ Furthermore, the long-term average accident rate per 100,000 flying hours improved from 7 to 5.7 between 2002 and 2011 and continues to decline.²³⁹ The representative of the Canadian Federal Pilots Association directed the Committee's attention to statistics published by Transport Canada that seem to indicate that the department expected the average accident rate to increase between 2011 and 2014.²⁴⁰ The Director General of Aviation from Transport Canada explained, however, that “there are fluctuations, as there are with any statistics, but the numbers are not actually increasing.”²⁴¹ While the use of SMSs is a proactive approach aimed at preventing future air accidents, it is important to note that investigations into past air accidents have also driven improvements in aircraft design, maintenance practices and aviation safety.²⁴²

The Committee heard from a wide range of stakeholders from the air transport industry, including Transport Canada, representatives from small and large air operators, airport managers, airline pilots, pilot inspectors and other air transport inspectors about the SMS regime for aviation. All of these groups told the Committee that a properly implemented SMS was good for aviation safety, and many went on to commend the resulting advances in aviation safety and recommended important, but relatively minor, changes to improve the regime.²⁴³ Conversely, the witnesses representing aviation inspectors expressed grave concerns about the implementation and oversight of SMSs in aviation and recommended that Transport Canada return to traditional methods of oversight that existed prior to the implementation of SMSs.²⁴⁴

1. Legislative framework

The SMS requirements for air transport are contained in the *Canadian Aviation Regulations* (CARs) under the *Aeronautics Act*.²⁴⁵ Section 107.3 of the CARs lists the outcome-based components of an SMS required for certain air operators, maintenance organizations, airports and air navigation service providers. Among other things, the SMS components include a quality assurance program, as well as processes for the internal

reporting and analysing of hazards, incidents and accidents and for taking corrective actions to prevent their recurrence.

The representative of the Air Canada Pilots Association (ACPA) noted that the SMS requirements for air operators in Canada do not set out an “acceptable level of safety,” as is recommended by ICAO. ACPA told the Committee that Transport Canada currently leaves establishing an acceptable standard up to the operator whereas following ICAO’s recommendations more closely could improve safety.²⁴⁶

If an employee of any of the organizations with mandated SMSs is not satisfied with the outcome after reporting a safety concern internally through the SMS, there are two other programs external to the organizations that collect the reports. Employees, and even the public, can report a safety concern through the Civil Aviation Issues Reporting System (CAIRS) at Transport Canada.²⁴⁷ Also, the air navigation service provider will report any air traffic incidents to the Civil Aviation Daily Occurrence Reporting System. Some stakeholders suggested to the Committee that employees who had filed safety concerns with Transport Canada through CAIRS had experienced reprisals from their employers.²⁴⁸ One of these witnesses recommended taking the CAIRS program outside Transport Canada to protect employees from reprisal or job loss.²⁴⁹

Canadian passenger air carriers that carry more than 20 passengers (and companies that maintain their aircraft) were required to start operating with SMS policies, processes and procedures in place in 2005 with full compliance by 2008. SMS regulations for airports and providers of air navigation services came into force in 2008 and 2009, respectively.²⁵⁰ The SMS requirements for airports were also phased in; all of Canada’s largest airports and most of the smaller airports with mandated SMSs have now implemented them.²⁵¹ The Committee heard that Canadian airports have taken a coordinated approach to implementing SMSs, including sharing best practices and establishing a common reporting system.²⁵² A representative of the Canadian Airports Council told the Committee that the SMSs have resulted in more communication of safety information between air operators and airports.²⁵³ According to Transport Canada, the implementation of SMS requirements for aviation operations covers 90% of the fare-paying passenger kilometres in Canada.²⁵⁴

The parts of the aviation industry where there are still no SMS requirements are operations covered under sections 702, 703 and 704 of the CARs such as:

- airplane and helicopter flight training units;
- small operators (including air taxi and commuter operators) and companies that maintain their aircraft;
- companies delegated by Transport Canada to certify aircraft; and
- aircraft manufacturers, heliports and water airports.

Transport Canada told the Committee that it has delayed implementation in these operations in order to assess the industries' capacity to meet the requirements and the department's capacity to provide adequate oversight, among other things.²⁵⁵ The Air Line Pilots Association (ALPA) told the Committee that it supports the delay in implementing SMS requirements for the 703 and 704 operators (air taxis and commuter operations) in order to nurture the organizational culture required for SMSs through education and mentoring.²⁵⁶

Both the Air Transport Association of Canada (ATAC) and the Northern Air Transport Association (NATA), which represent smaller air operators, support the implementation of SMSs for all commercial operators in Canada. ATAC told the Committee that, although an SMS is a substantial investment for any air carrier, "SMS yields both a safety and financial return."²⁵⁷ The representative from ATAC reminded Committee members that smaller carriers tend to have employees with fewer years of experience on average and operate older equipment that flies into smaller, less technologically advanced airports than do large carriers. ATAC has developed an SMS Toolkit and Guide that it makes available to its members to assist smaller operators develop, implement and maintain an effective SMS appropriate for the size and complexity of their operations.²⁵⁸ NATA believes that, to be effective, SMS requirements must be "appropriately tailored to the size and complexity of the operation such that they are not a burden and the organization can truly embrace them as a positive."²⁵⁹ NATA told the Committee that its members would like Transport Canada to announce its intentions with respect to SMSs for smaller carriers soon in order to have an opportunity to comment.

For its part, the TSB recommends that Transport Canada implement regulations requiring all operators in the air industry to have formal safety management processes and that Transport Canada oversee them.²⁶⁰

Representatives of pilots who came before the Committee emphasized that data are required for airlines to proactively address safety issues in their SMSs. Internal programs for reporting errors, deficiencies and hazards are important sources of such data.²⁶¹

The representative from ALPA suggested that the internal reporting processes would be more effective if they were also confidential and provided immunity from discipline, except in cases where there was deliberate action, gross negligence or criminal intent. The representative from ACPA told the Committee that information from air safety reports filed by pilots or other airline employees help identify systemic risks and would be written in much more detail if they were confidential and protected by regulation.²⁶² In its brief to the Committee, CUPE expressed concern that its flight attendant members' occupational health and safety committees do not have access to safety reports submitted to the airline SMS that contain information about workplace hazards.²⁶³

The Committee learned from witnesses that some air carriers have established non-punitive internal reporting systems even in the absence of legislation, but some have not. For example, Air Transat has a confidential voluntary reporting system that

protects the employee from disciplinary action after making a report.²⁶⁴ Also, Air Canada and ACPA have a voluntary agreement that allows the airline to receive and analyze information from the on-board flight data monitoring system, which collects real-time data on more than 2,000 flight parameters.²⁶⁵ Under the agreement, the information flow is controlled by ACPA to protect its pilots. The ALPA representative told the Committee that he had been involved in a number of cases where pilots working at other airlines had been disciplined for reporting safety incidents or concerns to their employers.²⁶⁶

ACPA recommended to the Committee that there should be measures to ensure that data collected through the SMS at all airlines, such as air safety reports or flight data, are protected and confidential.²⁶⁷ He told the Committee that “when we can't agree as stakeholders and an operator, the regulator should help us provide a mechanism for fixing those problems. That's the closed loop as simply as I can state it.”²⁶⁸ ALPA and ATAC noted that amendments proposed to the *Aeronautics Act* in 2006 and 2007, which had broad industry support but died on the *Order Paper*, would still be welcomed by the industry today.²⁶⁹ Specifically the provisions respecting confidential and non-punitive reporting should be reintroduced and passed in order for the internal reporting component of SMSs to be most effective. The pilot representatives added that the SMS data should also be protected from Access to Information requests so that the information could not be used in court proceedings.²⁷⁰

2. Oversight and enforcement

Transport Canada, through the Civil Aviation Directorate, is responsible for developing and administering the policies, regulations and standards required for the safe conduct of civil aviation within Canada's borders. The department is also responsible for overseeing whether aviation companies, such as air carriers, aircraft maintenance organizations, airports and air navigation service providers, comply with this safety framework, and for taking appropriate enforcement action where necessary.²⁷¹ Transport Canada told the Committee that it has adopted risk-based surveillance planning so that resources could be allocated to manage the greatest risks while providing the greatest benefits.

According to the department's *2013-2014 Departmental Performance Report*, there were 1,026 full-time aviation safety oversight positions filled of the 1,137 total planned positions.²⁷² While the representative of the Canadian Federal Pilots Association, which represents the pilot inspectors at Transport Canada, claims that the number of pilot inspectors today is lower than ever before,²⁷³ Transport Canada maintains that the trend in oversight positions remains stable.²⁷⁴ Departmental officials told the Committee that apparent reductions in the number of inspectors are because individuals have been reclassified according to their positions in the organization rather than their roles.²⁷⁵

The Office of the Auditor General of Canada (OAG) has conducted two separate audits of Transport Canada's oversight of aviation safety and the SMS regime. The OAG's first audit (2008) focussed on Transport Canada's transition to the SMS regime and the second (2012) concerned the department's management of the risks associated with overseeing safety in civil aviation.²⁷⁶ In its 2008 audit, the OAG reported that Transport

Canada had underestimated the risks of the transition as well as the impact of moving resources away from traditional oversight activities. In 2012, the OAG reported that the department was behind on inspections, was not sure how many inspectors and engineers were needed, and had not yet established a minimum acceptable level of surveillance. While the OAG's 2012 report noted that Canada's safety record compares favourably with that of other countries, it also highlighted a number of weaknesses related to data quality as well as the level of surveillance established by Transport Canada.

The TSB recently stated that Transport Canada has failed to identify companies with ineffective SMS processes and has not found the right balance between auditing processes and traditional inspection functions.²⁷⁷ One representative of transportation inspectors who testified before the Committee recommended that time limits be imposed on implementing TSB's recommendations generally and that aviation inspectors should be involved in assessing whether Transport Canada's response is satisfactory.²⁷⁸

Transport Canada told the Committee that it has addressed 18 of the 19 total recommendations from the Auditor General's 2008 and 2012 reports on aviation oversight. The final recommendation from the 2008 audit was to integrate all aviation safety data, a task that Transport Canada says is near completion.²⁷⁹ Departmental officials also told Committee members that research on how to best cross-validate between inspections and audits is underway.²⁸⁰

The Committee learned that Transport Canada has three main types of surveillance activities for the air transport industry.

- "Program validation inspections" (PVIs) are cyclical and the main tool for inspections under an SMS.²⁸¹ PVIs are broad and comprehensive inspections of one or more regulated area of a company to verify that the requirements are documented, implemented and effective. PVIs are scheduled and planned, and are conducted by a team that looks at the most critical areas of an organization over several days.²⁸² PVIs incorporate the National Audit Program for aviation that existed before the transition to SMSs.
- "Process inspections" (PIs) are an in-depth review of the methods by which an organization carries out specific components of its activities. Transport Canada officials told the Committee that this activity is most similar to the type of inspection that took place before the SMS regime was introduced, but with more rigorous reporting requirements.
- "Assessments" evaluate the effectiveness of an organization's SMS and its level of compliance with the CARs.

In a written submission to the Committee, Transport Canada provided a summary of the total PVIs, PIs and assessments that occurred between April 2013 and June 2014. According to Transport Canada's document, various air operators, airports, aircraft manufacturers, air navigation service providers and maintenance organizations were the

subjects of 178 PIs, 62 assessments, and 536 PVIs during that time period. The Committee also learned that inspections are part of the process of certifying a company to extend its operations or to introduce new technology, which happens frequently.²⁸³

A number of witnesses representing, or affiliated with, inspectors claim that all aviation companies are being evaluated using the methods used to verify SMS compliance, even if they are not required to have an SMS. According to Pacific Airworthiness Consulting, “PVIs have totally replaced audits on non-CAR 705 SMS companies or organizations.”²⁸⁴ Similarly, the Canadian Federal Pilots Association said that they do not do the traditional inspections that they used to do anymore because “everything, including for companies that are non-SMS, is being done in accordance with [Staff Instruction] SUR-001, which speaks solely to SMS.”²⁸⁵ The spokesperson for the Union of Canadian Transportation Employees (UCTE), which represents most of the federal transportation inspectors at Transport Canada and other federal departments and agencies, told the Committee that Transport Canada “has turned many inspectors into program auditors” who check corporate paperwork.²⁸⁶ According to the UCTE, its inspectors have filed 1,000 grievances as a result of the changes to their jobs that have taken place since the SMS regime was implemented. Conversely, departmental officials told the Committee that Transport Canada staff conducts thousands of on-site inspections each year and that inspectors continue to oversee and enforce aviation regulations directed at specific safety issues, other than SMSs.²⁸⁷ Still, the representative of the pilot inspectors union claimed that “SMS is pretty much the sole safety program, Transport Canada has all but abandoned direct operational oversight of airlines.”²⁸⁸

The airlines presented a positive view of the effectiveness of the changes in oversight that have taken place since the implementation of the SMS regime. The Committee learned that, unlike the situation prior to SMSs, an airline must now demonstrate to Transport Canada that it has identified the root-cause of a deficiency, taken remedial measures and then verified the effectiveness of those measures. The airline and airport representatives consistently told the Committee that they continue to see direct surveillance and inspection activity, and that it has become more rigorous and in-depth.²⁸⁹

It is important to note that aviation companies also have a responsibility to oversee aviation safety. Aviation companies with an SMS, which is essentially a quality assurance process, perform their own inspections and audits of their entire operation. In the case of the airlines, the Committee received testimony that internal inspections happen “hundreds of times a day.”²⁹⁰ The National Airline Council of Canada (NACC) told the Committee that its member air carriers collect and analyze data to understand hazards, prevent negative outcomes and promote continuous improvement in the state of safety. The representative from ACPA concurred that the air carriers with an SMS “have as much experience as and do way more inspections of our own carrier than Transport Canada ever will. We do them on a daily basis.”²⁹¹

Transport Canada officials told the Committee that its inspectors take enforcement action based on the results of surveillance activity, historical records and their

own judgement.²⁹² Specifically, the Committee learned that inspectors can file administrative penalties, require corrective actions to be put in place and, when the circumstances justify it, subject companies to enhanced monitoring.²⁹³ Conversely, the representative of the pilot inspectors told the Committee that enforcement action almost never takes place anymore.²⁹⁴ The representative from ATAC suggested that the proposed amendments to the *Aeronautics Act* in 2006 and 2007 would provide additional tools for the Minister of Transport to ensure compliance and provide increased penalties for contraventions.²⁹⁵

The Committee received conflicting testimony about whether unannounced inspections continue to occur in civil aviation. According to Transport Canada officials, the department carries out unannounced inspections in situations where there is evidence showing them to be effective.²⁹⁶ In addition, certain business conditions at an aviation company, such as labour unrest or financial troubles, would trigger unannounced surveillance activities. Furthermore, the oversight Transport Canada conducts on behalf of the European Aviation Safety Agency is unannounced in accordance with the agreement between the two agencies.²⁹⁷ The Committee learned that it is a challenge for Transport Canada to quantify the amount of unannounced inspections that take place because the department's oversight database currently does not distinguish between announced and unannounced inspections. The representative from ATAC confirmed that "unannounced inspections occur whenever Transport Canada decides they are needed" for example to follow up on previous findings.²⁹⁸

Contrary to Transport Canada's testimony, the UCTE representative claimed that there have been no unannounced inspections of aviation companies since before 2005.²⁹⁹ She explained that aviation companies receive anywhere from a few days to several weeks of notice prior to an inspection "and they can make sure that they have the right things in the right place prior to the inspection."³⁰⁰

The Committee also heard contradictory testimony from industry stakeholders on the frequency at which commercial air operators are the subject of surveillance activity. The Canadian Federal Pilots Association representative, an association representing 500-600 pilot inspectors at Transport Canada, suggested that as many as five years could lapse between a commercial operator's last assessment or PVI.³⁰¹ This allegation was refuted by NACC which told the Committee that "the suggestion that airlines go uninspected for a year, or three, or five, is false and inaccurate."³⁰² NACC told the Committee that the marketing arrangements between international air carriers require a complete operational safety audit bi-annually under the auspices of the International Air Transport Association.³⁰³

The representative from ACPA suggested that Transport Canada's oversight of SMSs does not consistently meet ICAO requirements.³⁰⁴ ACPA told the Committee that ICAO requires that audits and inspections be carried out annually at a minimum. On this point, Transport Canada officials confirmed that its overall oversight effort, including PVIs, PIs and other types of inspections of varying detail and intensity, does in fact fully comply with the ICAO standards.³⁰⁵

The Canadian Federal Pilots Association presented the Committee with results of a survey of the pilot inspectors' views respecting the effectiveness of SMS oversight in aviation. Most notably, the Committee heard that 90% of inspectors surveyed believe that SMSs prevent hazards from being corrected in a timely manner.³⁰⁶ According to the Association, "[v]irtually the entire aviation inspectorate thinks SMS is better at hiding safety problems than solving them."³⁰⁷ Therefore, the Association recommends that Transport Canada restructure civil aviation oversight by removing the SMS verification activities from the inspection method. Instead, after an initial year of more frequent inspections with and without notice, annual inspections looking strictly for regulatory non-compliance should take place.³⁰⁸ It is the Association's view that, while SMSs can continue to exist at aviation companies, Transport Canada's role in SMS oversight should be only to send SMS experts to visit the organizations to validate and assess implementation and to provide assistance. The UCTE also recommended to the Committee that SMS oversight be completely separate from the inspection function.³⁰⁹

The President of Pacific Airworthiness Consulting Inc., and former Transport Canada inspector, suggested that Transport Canada conduct a survey of the aviation inspectorate about their views on the long-term impact of implementing SMS requirements in Canada.³¹⁰

3. Safety culture

The representative of NACC confirmed the advancement of safety culture at all levels of its member airlines. "From the front-line employees to management to the most senior ranks our members are fully engaged."³¹¹ For example, the Committee learned that at Jazz Aviation, front-line employees as well as subject matter experts participate in the risk assessments that are performed to identify potential hazards in advance of changes to the operation.³¹² Conversely, in its brief to the Committee, CUPE stated that "SMS does not generally include non-managerial employees in the process of determine (sic) the level of risk, nor determining how hazards should be controlled."³¹³

An official from WestJet described the safety campaign directed at all employees in the workplace: "There isn't a moment that they can't show up in the workplace and not see some sort of safety information in front of them encouraging feedback."³¹⁴ This suggestion was reaffirmed by an official from Air Transat who said, "From the top to the bottom, there is an overall focus on maintaining safety, as we all realize that this is really what ensures the viability of the company."³¹⁵

4. Flight attendant ratio

The question of what is the appropriate ratio of flight attendants to passengers was raised during the discussion of aviation safety. Canada is reportedly one of only two regulatory jurisdictions in the world — the other being Australia — that requires a higher attendant to passenger ratio than the ICAO standard of 1:50, although both provide exemptions to the rule.³¹⁶ For example, a representative of WestJet told the Committee that his company was able to provide equivalent safety with the reduced ratio and received an exemption from Transport Canada to operate with the 1:50 ratio in October 2013.³¹⁷

Other airline representatives supported moving to the 1:50 ratio, given that new aircraft are designed and built to meet the ICAO standard and most airlines around the world operate with that ratio of flight attendants to passengers. On Transport Canada's deliberations to change the ratio in the regulations, a representative from NACC said "the matter of flight attendants is simply a harmonization of regulations that already exist across Europe and the United States."³¹⁸

Transport Canada is currently in the process of considering changes to the regulatory regime, but did not have the opportunity to comment on the issue during their meetings with the Committee.³¹⁹

In its brief to the Committee, CUPE stated that "a regulatory change introducing the ratio of one flight attendant for every 50 passenger seats would reduce the current level of safety and security and is not in the public interest."³²⁰ CUPE recommended that the Committee conduct an enquiry to study the question and allow all stakeholders the opportunity to present evidence to substantiate their views.

C. Marine Transportation

During the course of its study, Committee members had the opportunity to discuss SMS requirements, oversight and enforcement in Canadian marine transportation with a variety of stakeholders, including Transport Canada officials, representatives of the international and domestic shipping industries, and the managers and operators of Canada's ports.

1. Legislative framework

The Committee learned that the SMS requirements for commercial marine shipping have been in place longer than those for other transportation industries in Canada. The IMO introduced the International Safety Management Code (ISM Code) into the International Convention for the Safety of Life at Sea (SOLAS) in 1998. As a signatory to SOLAS, Canada implemented the ISM Code by incorporating them by reference into SMS regulations for international vessels over 500 tons gross tonnage in 1998, which are now under the *Canada Shipping Act, 2001*.³²¹ The SMS regulations are supplementary to the existing statutory requirements for the certification and inspection of marine vessels. The ISM Code requires commercial vessel owner/operators to assign responsibilities for safety, establish formal safety procedures, document planned maintenance, identify potential risks and perform internal audits and management reviews.³²² Currently, there are no SMS requirements for the owners/operators of domestic commercial vessels but Transport Canada officials told the Committee that many domestic operators have voluntarily adopted SMSs in order to realize the safety benefits.

The TSB recommended that Transport Canada impose and oversee SMS requirements for all Canadian operators in the marine industry on its 2014 Watchlist. A representative from the Council of Marine Carriers told the Committee that it supports the TSB recommendation. Based on its experience with an SMS pilot project undertaken

with Transport Canada, the Council told the Committee that an SMS that is not monitored by Transport Canada would not be as effective as one that is.³²³

Transport Canada told the Committee that it has consulted marine stakeholders at length and considered the TSB's recommendation.³²⁴ Still, the department is planning to introduce amendments to the SMS regulations to mandate SMSs only for some, but not all, Canadian domestic commercial vessels. The department is proposing to amend the SMS regulations so that they apply to Canadian domestic vessels that carry more than 50 passengers and/or are larger than 500 tons gross tonnage. The operators of these larger passenger and cargo vessels would be required to have their SMSs audited and certified. For vessels larger than 24 metres in length but less than 500 tons gross tonnage, the department is proposing to mandate SMSs but not audit or certification requirements. Transport Canada told the Committee that it encourages smaller vessels to implement voluntary SMSs by providing manuals and guidelines online.³²⁵ A representative of the Canadian Passenger Vessel Association confirmed that Transport Canada has been helping its members to establish voluntary SMSs.³²⁶

According to Transport Canada, the proposed amendments to the SMS regulations would achieve significant safety benefits in the industry by requiring a large portion of the domestic commercial fleet to “put these potentially life-saving measures into practice.”³²⁷ Departmental officials acknowledged that the proposed amendments fall short of the TSB's recommendation but maintained that the proposed amendments are “a workable solution that will meet our safety objectives by placing achievable, affordable requirements on industry.”³²⁸

A representative from Canadian Shipowners Association, which represents larger domestic commercial vessels, told the Committee that its members have put voluntary SMSs in place, or are in the process of doing so. This Association does not believe that mandatory SMSs are required for domestic commercial vessels.³²⁹

The *Canada Marine Act* governs the Canada Port Authorities, which are the managers and operators of the 18 ports deemed essential for domestic and international trade. According to a representative of the Association of Canadian Port Authorities, the Act requires the authorities to put in place a framework to ensure order and safety.³³⁰ The Committee learned that, in order to meet this requirement, all of the Canada Port Authorities have established their own SMSs.³³¹ The Association's representative told the Committee that “the current safety regimes and safety management systems in place are appropriate to the risks presented. We do not believe that additional regulations are required.”³³²

2. Oversight and enforcement

According to its *2013-14 Departmental Performance Report*, Transport Canada has filled 417 positions of the total 438 planned positions to conduct marine safety oversight activities.³³³ These activities include statutory inspections and certification programs for domestic vessels as well as inspections of foreign vessels under the Port

State Control Program, which verifies their compliance with international SMS requirements, among other things.

Transport Canada staff conducted 4,710 inspections of domestic vessels across Canada in 2012, which was several hundred fewer inspections than had been conducted in the previous year. In a submission to the Committee, Transport Canada explained that the number of domestic vessel inspections had declined because a new dispatch and tracking system had allowed the vessel owners and the department to complete multiple inspections in a single visit. When Transport Canada inspectors find domestic operators in violation of statutory requirements, they may suspend certificates and impose administrative monetary penalties in addition to taking other enforcement actions.³³⁴

A representative of Seaspan, which operates a fleet of tugs and barges along the coast of British Columbia, suggested to the Committee that Transport Canada is having trouble monitoring and enforcing the safety of smaller marine operators on the north coast of the province. He noted that “Transport Canada does not have any boats to actually go out to do surveys, audits, and checks of vessels.”³³⁵ The Seaspan representative recommended to the Committee that Transport Canada establish a risk-based unannounced inspection regime for marine operators on the north coast of British Columbia.

Transport Canada staff conducted 1,318 inspections of foreign vessels in 2012, which was approximately 300 more than had occurred in the previous year. As foreign vessels carry international trade in goods, it is not surprising that the number of vessels, and hence the number of inspections, increased between 2011 and 2012 as the global economy continued to recover from the slowdown experienced in 2008. Upon inspecting a foreign vessel, Transport Canada’s inspectors can order deficiencies to be fixed, apply administrative monetary penalties and even detain vessels found to be in violation of the SMS or other statutory requirements.³³⁶

International vessels covered by the SMS regulations under the *Canada Shipping Act, 2001* must have their SMSs audited and certified.³³⁷ Transport Canada has delegated the authority to certify and audit the SMSs of Canadian-owned international vessels to international classification societies, such as Lloyd’s Register and the American Bureau of Shipping. The classification societies inspect these vessels in order to certify them with respect to all international standards, including those for SMSs.³³⁸ The Committee learned that classification societies are able to enforce the provisions of the international conventions, including SOLAS and the ISM Code, by withholding a certificate of compliance from deficient vessels. Without a certificate, vessels cannot be insured or put into service, which, according to Transport Canada officials, is a very expensive penalty for a shipping company.³³⁹

The voluntary SMSs implemented by domestic vessel operators are also supposed to be audited by classification societies. For example, a representative of the Canadian Ferry Operators Association told the Committee that its operators’ voluntary SMSs are audited by classification societies.³⁴⁰ The Committee heard, however, that the classification societies will not audit older vessels and vessels not built to certain

standards. In these cases, Transport Canada inspectors conduct the SMS oversight activities.³⁴¹ According to the Canadian Passenger Vessel Association, however, “there are not any Transport Canada marine safety inspectors capable of fulfilling the audit of an SMS aboard a Canadian flagged vessel.”³⁴² The Association recommended to the Committee that marine safety inspectors should be trained to audit SMSs.

Some Committee members expressed concern that Transport Canada’s budget for marine safety has declined considerably in the past five years. On this point, officials from the department said that some of the reduction was the result of more efficient operations and that an internal reallocation of resources also explained the apparent decline. For example, Transport Canada officials reported that some of the marine budget was transferred to the Transportation of Dangerous Goods Directorate.³⁴³

D. Road Transportation

The Committee convened meetings with stakeholders from the Canadian trucking industry, including representatives of the Canadian Trucking Alliance, a number of provincial and regional trucking associations, as well as private trucking companies and organized labour to learn about how the trucking industry manages the risks inherent in its operations.

The Committee heard that the Canadian trucking industry operates safely. According to a representative from the Canadian Trucking Alliance, the industry has achieved a low accident rate of 0.27 accidents per 10,000 shipments on Canada’s highways, and aims for continuous improvement.³⁴⁴ Transport Canada also reports that commercial vehicle safety is continually improving, citing a 12% decline in both casualties and fatalities between 2008 and 2009, the most recent year for which statistics are available.³⁴⁵

1. Legislative framework and enforcement

As mentioned in the chapter concerning the transportation of dangerous goods, the federal, provincial and territorial governments share responsibility for the safety of road transportation. Through the *Motor Vehicle Safety Act*, the federal government is responsible for the safety standards of all new and imported vehicles.³⁴⁶ The federal government also has the power to regulate extra-provincial trucking and bussing, but delegated this authority to the provinces under the *Motor Vehicle Transport Act*.³⁴⁷ Provincial and territorial governments have jurisdiction over driver licensing, vehicle registration, commercial vehicle inspections, road infrastructure and traffic signage, as well as traffic laws and enforcement. The Committee heard that safety enforcement is very rigorous in the trucking industry, most of which takes place at roadside inspection stations, but may also take place at a trucking company’s place of business.³⁴⁸

There are no specific SMS requirements for companies that engage in the federally regulated aspects of trucking (i.e., international or interprovincial movements). According to Transport Canada, SMS principles are incorporated in a number of the performance criteria set out in the *National Safety Code*.³⁴⁹ The *National Safety Code*,

which is incorporated by reference in the *Motor Vehicle Transport Act*, is a comprehensive set of 15 standards developed by the federal, provincial and territorial governments that address all aspects of commercial vehicle, driver and motor carrier safety in Canada.³⁵⁰ Provincial and territorial governments are responsible for the enforcement of the *National Safety Code* as they have jurisdiction over driver licensing, vehicle registration, and commercial vehicle inspections.

2. Trucking industry initiatives

The Committee heard that 71% of trucking companies already have some form of voluntary SMS in place.³⁵¹ Representatives from many segments of the trucking industry claimed that SMSs are good for business.³⁵² For example, the Atlantic Provinces Trucking Association explained that some insurance companies are beginning to recognize the value of SMSs for companies' safety records and insurance rates are starting to reflect the existence of SMSs.³⁵³ The representative of a trucking company involved in the transport of crude oil told the Committee that its customers demand that formal SMSs be in place.³⁵⁴

According to the representative of the Canadian Trucking Alliance, trucking SMSs cover the safe operations of a vehicle, driver training, vehicle maintenance, fatigue management and product-specific information.³⁵⁵ An executive from the RTL-Westcan Group of Companies provided details regarding the quality assurance procedures, route risk assessments, fatigue management processes and data collection and monitoring that are part of his company's SMS.³⁵⁶ He also described how the company fosters a commitment to safety across all employees and commissions external third-party audits of its SMS on an annual basis.³⁵⁷

One of the key messages stakeholders delivered to the Committee was that the regulatory regime for safety in trucking is very effective.³⁵⁸ A representative of the Manitoba Trucking Association told the Committee that the most recent results from the North American roadside safety inspection program showed a positive trend in the overall rate of regulatory compliance in Canada over the past 12 years.³⁵⁹ That said, the Canadian Trucking Alliance estimates that 5%-10% of the industry is not compliant with the safety regulations.³⁶⁰

The Committee heard little support for a proposal to mandate the implementation of SMSs in the trucking industry. The representative of RTL-Westcan suggested that SMS could be a prerequisite for companies of a certain size, and that the *National Safety Code* was probably the best avenue to implement this type of change.³⁶¹ Witnesses opposed to mandatory SMSs highlighted the success of the current regulatory regime for trucking safety which, in their opinion, has more sanctions and a higher degree of enforcement than the safety regimes for other modes of transportation.³⁶²

The Committee notes that Transport Canada commissioned a study in 2006 to assess the feasibility of introducing SMSs in the interprovincial motor carrier industry. This study found that SMS would be more challenging to implement in trucking than in other transportation industries because the organizational structure of most trucking

companies is generally smaller (e.g., owner-operators) than in other transportation industries.³⁶³

3. Other risk management tools

The previous chapter concerning the transportation of dangerous goods contained recommendations from trucking industry stakeholders concerning driver training and vehicle technologies that could help trucking companies manage safety risks.

- The Canadian Trucking Alliance, the Alberta Motor Transport Association and the Atlantic Provinces Trucking Association all proposed that mandatory entry-level training consistent with the national industry standards be introduced to harmonize training across Canada.³⁶⁴ The Canadian Trucking Alliance and Teamsters Canada also suggested that the trainers should also receive standardized training.³⁶⁵
- All trucking stakeholders strongly recommended new requirements for electronic systems to replace the paper records currently used by truck drivers to track their duty time.³⁶⁶ Electronic systems would ensure that all companies comply with the *Commercial Vehicle Drivers Hours of Service Regulations*, thus reducing driver fatigue and the potential for accidents.
- Representatives from the trucking industry who appeared before the Committee also expressed support for a new manufacturing standard similar to the one in the United States that would see all new heavy trucks equipped with stability control technology.

As previously mentioned, the Committee recommends:

That Transport Canada implement regulations to require the use of Electronic Logging Devices.

That Transport Canada implement regulations to require Electronic Stability Control on new trucks.

LIST OF RECOMMENDATIONS

Recommendation 1:

That Transport Canada ensure that it has an adequate number of transportation of dangerous goods and rail safety inspectors to fulfill its oversight function. 7

Recommendation 2:

That Transport Canada ensure that all Class 111 tank cars used to transport flammable liquids meet enhanced protection standards that significantly reduce the risk of product loss when these cars are involved in accidents. 8

Recommendation 3:

That, to the greatest extent possible, Transport Canada ensure that any actions taken by Canada regarding the retro-fit or replacement of Class 111 tank cars are harmonized across the Canada-US border, due to the North American character of the railway system. 8

Recommendation 4:

That Transport Canada implement a comprehensive reform of the liability and compensation regime for rail to ensure that victims and their families obtain the compensation they deserve, that the polluter-pays principle is upheld, and that taxpayers are not forced to pay for compensation, remediation, and reconstruction costs in the event of a rail disaster. 12

Recommendation 5:

That the *Marine Liability Act* be amended to remove the per incident liability limit on the Ship-source Oil Pollution Fund. 17

Recommendation 6:

That Transport Canada report to the Committee with detailed timelines for the Area Response Plan project implementation by December 2015. 18

Recommendation 7:

That Transport Canada implement regulations to require the use of Electronic Logging Devices. 21

Recommendation 8:

That Transport Canada implement regulations to require Electronic Stability Control on new trucks. 21

Recommendation 9:

That Transport Canada implement all of the recommendations in Chapter 7 (Oversight of Rail Safety – Transport Canada) of the Auditor General’s 2013 Fall Report. 27

Recommendation 10:

That Transport Canada require the use by railways of on-board voice and video recordings as part of a company’s safety management system, consistent with the Transportation Safety Board’s recommendation. 28

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- 31 Transport Canada, "[New definition used in the application of new Rule 62 and revised Rule 112 in the Canadian Rail Operating Rules](#)", Updated Canadian Rail Operating Rule (CROR), 27 January 2014.
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- 34 [Regulations Amending the Transportation of Dangerous Goods Regulations \(Update of Standards\)](#), *Canada Gazette*, Part II, SOR/2014-152, 2 July 2014.
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- 37 Transport Canada, [2014 TSB Recommendations & TC Responses](#), 29 October 2014.
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- 42 Transport Canada, [Consultations on proposed amendments to the Transportation of Dangerous Goods Regulations \(New Class TC140 Tank Cars for the Transport of Dangerous Goods\)](#), Regulatory proposals under development, 18 July 2014.
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- 161 Ibid, 1100 (Grant Mitchell).
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APPENDIX A

RECOMMENDATIONS FROM THE 2013 FALL REPORT OF THE AUDITOR GENERAL OF CANADA – CHAPTER 7 – OVERSIGHT OF RAIL SAFETY – TRANSPORT CANADA¹

Regulatory framework

1. Transport Canada should complete the implementation of the recommendations raised in the *Railway Safety Act* review and relevant recommendations of the rail safety review conducted by the House of Commons Standing Committee on Transport, Infrastructure and Communities. It should integrate the changes into the regulatory framework for federal railways to comply with and for the Department to oversee.
2. Transport Canada should accelerate the resolution of important and long-standing safety issues. The Department should establish a formal process with clear timelines to monitor significant safety issues, from the time they are identified until they are mitigated to an acceptable level.

Planning for oversight activities

3. To oversee the safety management systems implemented by federal railways, including their compliance with the regulatory framework, Transport Canada should:
 - review its methodology to identify key safety risk and performance indicators, and the safety performance information it needs from railway companies, in order to make risk-based planning decisions;
 - collect the relevant risk and safety performance information from federal railways and assess its completeness and reliability; and
 - develop an approach to make better use of the information on federal railways' safety risks and performance when preparing annual oversight plans.
4. Transport Canada should reassess the number of its planned audits and inspections so that it takes into account the new safety management system environment. It should review how it allocates resources, with the aim of conducting the minimum level of oversight necessary to obtain assurance that federal railways have implemented adequate and effective safety management systems to comply with the regulatory framework. The Department should conduct this minimum level of oversight.

¹ Office of the Auditor General of Canada, "[Appendix – List of recommendations](#)," *Chapter 7 – Oversight of Rail Safety – Transport Canada*, 2013 Fall Report of the Auditor General of Canada.

Conducting oversight activities

5. Transport Canada should:

- provide better documentation tools to inspectors to carry out their oversight activities, so that they can better document and communicate to federal railways what they assessed and what they found;
- improve its oversight of federal railways' safety management systems by having inspectors assess their quality and effectiveness;
- require federal railways to make the necessary changes to correct deficiencies affecting the safety of their operations; and
- conduct timely follow-up on deficiencies affecting the safety of federal railways' operations, to assess whether they have been corrected.

6. Transport Canada should set a clear expectation for management review and approval in the planning, conducting, and reporting of oversight activities, with the aim of ensuring that inspectors comply with the methodology and that their reports are accurate. Transport Canada should provide guidance to management on how to document the timing and extent of management involvement.

7. Transport Canada should improve its methodology to set clear expectations for planning and conducting audits and inspections, and for drafting and communicating findings to the federal railways.

Human resource planning

8. Transport Canada should identify and develop a strategy to ensure that it has the needed number of inspectors with the necessary skills and competencies required to plan and conduct the oversight of federal railways, including oversight of safety management systems.

9. Transport Canada should ensure that inspectors and managers receive in a timely manner training to carry out their responsibilities.

10. The Department should put a process in place to monitor whether inspectors maintain their independence and objectivity when conducting audits and inspections of federal railways.

Quality Assurance

11. Transport Canada should develop a detailed quality assurance plan to assess its oversight methodology against best practices and to regularly evaluate audits and inspections against its methodology, with the goal of promoting continuous improvement.

APPENDIX B LIST OF WITNESSES

Organizations and Individuals	Date	Meeting
Department of Transport Luc Bourdon, Director General, Rail Safety Marie-France Dagenais, Director General, Transportation of Dangerous Goods Martin J. Eley, Director General, Civil Aviation Gerard McDonald, Assistant Deputy Minister, Safety and Security Donald Roussel, Director General, Marine Safety and Security	2013/11/25	3
Department of Transport Luc Bourdon, Director General, Rail Safety Marie-France Dagenais, Director General, Transportation of Dangerous Goods Scott Kennedy, Executive Director, Navigation Safety and Environmental Programs Gerard McDonald, Assistant Deputy Minister, Safety and Security	2013/11/27	4
Office of the Auditor General of Canada Régent Chouinard, Principal Michael Ferguson, Auditor General of Canada Maurice Laplante, Assistant Auditor General	2013/12/04	6
National Steel Car Limited Jamal Hematian, Vice-President, Product Engineering Max Vanderby, Director, Production Engineering	2014/03/27	18
United Steelworkers Richard Boudreault, Area Coordinator, District 5 (Québec)		
As an individual Daniel Gardner, Professor, Law Faculty, Université Laval	2014/04/01	19
Transport Action Canada David Jeanes, President		

Organizations and Individuals	Date	Meeting
Transportation Safety Board of Canada		
Kathy Fox, Board Member		
Kirby Jang, Director, Investigations Rail and Pipeline		
Jean L. Laporte, Chief Operating Officer		
Wendy A. Tadros, Chair		
Canadian National Railway Company	2014/04/03	20
Michael Farkouh, Vice-President, Safety and Sustainability		
Jim Vena, Executive Vice-President and Chief Operating Officer		
Canadian Pacific Railway		
Keith E. Creel, President and Chief Operating Officer		
Keith Shearer, General Manager, Safety, Regulatory and Training		
Glen Wilson, Special Assistant to the President and Chief of Operations		
Railway Association of Canada		
Michael Bourque, President and Chief Executive Officer		
As an individual	2014/04/08	21
Mark Fleming, Professor, Department of Psychology, Saint Mary's University		
Unifor		
Jerry Dias, National President		
Brian Stevens, Director, Rail		
VIA Rail Canada Inc.		
Steve Del Bosco, Interim President and Chief Executive Officer		
Denis Pinsonneault, Chief, Customer Experience and Operating Officer		
Jean Tierney, Senior Director, Safety and Corporate Security		
Canadian Association of Petroleum Producers	2014/04/10	22
Bob Bleaney, Vice-President, External Relations		
David Pryce, Vice-President, Operations		
Greg Stringham, Vice-President, Oil Sands and Markets		
Canadian Fuels Association		
Brian Ahearn, Vice-President, Western Division		
Peter Boag, President and Chief Executive Officer		

Organizations and Individuals	Date	Meeting
<p>Canadian Propane Association Andy Bite, Chief Development Officer, SLEEGERS Engineered Products Inc. Andrea Labelle, General Manager Guy Marchand, President and Chief Executive Officer, Budget Propane 1998 Inc.</p>		
<p>Canadian Association of Fire Chiefs Paul Boissonneault, First Vice-President and Fire Chief, County of Brant Fire Department Chris Powers, Retired Fire Chief</p>	2014/04/29	23
<p>Freight Management Association of Canada Robert Ballantyne, President</p>		
<p>Teamsters Canada Rex Beatty, President, Teamsters Canada Rail Conference Phil Benson, Lobbyist</p>		
<p>As individuals Jacques Demers, Mayor, Municipalité de Sainte-Catherine-de-Hatley Emile J. Therien, Past President, Canada Safety Council</p>	2014/05/01	24
<p>OmniTRAX Canada Mervin Tweed, President</p>		
<p>Saskatchewan Association of Rural Municipalities David Marit, President</p>		
<p>Canadian Association of Chemical Distributors Jim Bird, Environmental Health and Safety Manager, Univar Canada Limited</p>	2014/05/06	25
<p>Canadian Fertilizer Institute Roger Larson, President</p>		
<p>Chemistry Industry Association of Canada Fiona Cook, Director, Business and Economics Marty Cove, Manager, Logistics, Canexus Corporation</p>		
<p>Canadian Transportation Agency Liz Barker, General Counsel, Legal Services Branch Nina Frid, Director General, Dispute Resolution Branch</p>	2014/05/15	27

Organizations and Individuals	Date	Meeting
Federation of Canadian Municipalities		
Stéphane Émard-Chabot, Legal Advisor		
Pauline Quinlan, Co-Chair, National Municipal Rail Safety Working Group, Mayor, City of Bromont		
Daniel Rubinstein, Senior Policy Advisor		
National Airlines Council of Canada	2014/06/03	30
David Deveau, Vice President, Safety, Quality and Environment, Jazz Aviation		
Samuel Elfassy, Senior Director, Corporate Safety and Environment, Air Canada		
Jacques Mignault, Senior Director, Safety, Quality and Security, Air Transat		
Marc-André O'Rourke, Executive Director		
Scott Wilson, Vice President, Safety, Security and Quality, WestJet		
Canadian Federal Pilots Association	2014/06/05	31
Daniel Slunder, National Chair		
Pacific Airworthiness Consulting Inc.		
Norman Chalmers, President		
Union of Canadian Transportation Employees		
Christine Collins, National President		
Karen Houlahan, Technical Advisor		
Michael Teeter, Political Advisor		
Mike Wing, Policy Advisor		
Air Canada Pilots Association	2014/06/10	32
Craig Blandford, President		
Ed Bunoza, Chair, Flight Safety Division		
Air Line Pilots Association, International		
Dan Adamus, President, Canada Board		
Mark Rogers, Director, Dangerous Goods Program		
Air Transport Association of Canada		
John McKenna, President and Chief Executive Officer		
Michael Skrobica, Senior Vice-President and Chief Financial Officer		

Organizations and Individuals	Date	Meeting
<p>Department of Transport</p> <p>Luc Bourdon, Director General, Rail Safety Martin J. Eley, Director General, Civil Aviation Nicole Girard, Associate Director General, Transport Dangerous Goods Laureen Kinney, Assistant Deputy Minister, Safety and Security</p>	2014/06/12	33
<p>Canadian Airports Council</p> <p>Gordon Duke, Director of Operations, Halifax International Airport Authority Chris Farmer, Director of Operations, Greater Moncton International Airport Authority Daniel-Robert Gooch, President Michael Rantala, Manager, Safety and Environment, Halifax International Airport Authority</p>	2014/06/17	34
<p>Northern Air Transport Association</p> <p>Stephen Nourse, Executive Director</p>		
<p>Canadian Ferry Operators Association</p> <p>Kristin Baldwin, Director of Communications Serge Buy, Chief Executive Officer</p>	2014/10/07	35
<p>Shipping Federation of Canada</p> <p>Anne Legars, Vice-President</p>		
<p>Canadian Passenger Vessel Association</p> <p>John Chomniak, President Dan Duhamel, President, Paul's Boat Lines</p>	2014/10/28	36
<p>Canadian Shipowners Association</p> <p>Robert Lewis-Manning, President Debbie Murray, Director, Policy and Regulatory Affairs</p>		
<p>Council of Marine Carriers</p> <p>Phillip J. Nelson, President</p>		
<p>Canadian Trucking Alliance</p> <p>Rodney Bantle, Senior Vice President, Truck Transportation, Gibson Energy Inc. David Bradley, President and Chief Executive Officer Geoffrey Wood, Vice-President, Operations and Safety</p>	2014/10/30	37
<p>Manitoba Trucking Association</p> <p>Terry Shaw, Executive Director</p>		
<p>Teamsters Canada</p> <p>Phil Benson, Lobbyist</p>		

Organizations and Individuals	Date	Meeting
<p>Alberta Motor Transport Association Richard Warnock, President and Chief Executive Officer, Head Office</p>	2014/11/04	38
<p>Atlantic Provinces Trucking Association Jean-Marc Picard, Executive Director</p>		
<p>RTL-Westcan Group of Companies Grant Mitchell, President and Chief Executive Officer Michael Royer, Vice President, Fleet Services</p>		
<p>Department of Fisheries and Oceans Denis Hains, Director General, Canadian Hydrographic Service Jeffery Hutchinson, Director General, National Strategies, Canadian Coast Guard Mario Pelletier, Assistant Commissioner, Quebec Region, Canadian Coast Guard</p>	2014/11/27	39
<p>Department of Transport Nicole Girard, Director General, Transport Dangerous Goods Sylvain Lachance, Executive Director, Legislative, Regulatory and International Affairs</p>		
<p>Pacific Pilotage Authority Canada Kevin Obermeyer, Chief Executive Officer</p>		
<p>Association of Canadian Port Authorities Yoss Leclerc, Vice-President and Chief of Marine Operations, Québec Port Authority Wendy Zatylny, President</p>	2014/12/02	40
<p>Seaspan Jonathan Whitworth, Chief Executive Officer, Seaspan ULC Western Canada Marine Response Corporation Michael Lowry, External Relations</p>		

APPENDIX C LIST OF BRIEFS

Organizations and Individuals

Air Line Pilots Association, International

Canadian Association of Petroleum Producers

Canadian National Railway Company

Canadian Propane Association

Canadian Renewable Fuels Association

Canadian Trucking Alliance

Canadian Union of Public Employees

Manitoba Trucking Association

Pacific Airworthiness Consulting Inc.

Saskatchewan Association of Rural Municipalities

Union of Canadian Transportation Employees

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the Committee requests that the government table a comprehensive response to this Report.

A copy of the relevant *Minutes of Proceedings* ([Meeting N^{os} 3, 4, 6, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 45 and 46](#)) is tabled.

Respectfully submitted,

Larry Miller

Chair

**SUPPLEMENTARY OPINION OF THE OFFICIAL OPPOSITION,
THE NEW DEMOCRATIC PARTY OF CANADA**

Standing Committee on Transport, Infrastructure and Communities

***Review of the Canadian Transportation Safety Regime:
Transportation of Dangerous Goods and Safety Management Systems***

Hoang Mai, Brossard—La Prairie; Isabelle Morin, Notre-Dame-de-Grâce—Lachine; and Mike Sullivan, York South—Weston

Introduction

On July 6th, 2013, a 74-car runaway freight train carrying a deadly mixture of misclassified crude oil and volatile gases derailed, caught fire and exploded in Lac-Mégantic, Quebec – 47 lives were lost forever, 30 buildings were annihilated, a river and lake contaminated, and a town burned beyond recognition. The tragedy that struck Lac-Mégantic unfolded in a matter of hours. Unfortunately, the conditions that led to this devastation were much longer in the making, and entirely preventable.

Protecting the public is a core responsibility of government. The New Democratic Party of Canada believes that we must do everything in our power to ensure that tragedies, such as the one that occurred in Lac-Mégantic, Quebec, never happen again. It is for this very reason that the Official Opposition requested that the Standing Committee on Transport, Infrastructure and Communities (the Committee) undertake this essential study.

The NDP members of the Committee generally support the recommendations in the final report on the *Review of the Canadian Transportation Safety Regime: Transportation of Dangerous Goods and Safety Management Systems*. The members are appreciative of all the witnesses who took the time to share their perspectives and expertise to improve the safety of our transportation sector.

However, the NDP members are disappointed that essential recommendations have been omitted from the final report and feel compelled to issue a supplementary opinion to add key recommendations, raised by witnesses but not included in the report, in order to immediately improve the safety of Canadians. It is essential that the federal government heed their advice.

Better Transparency, Oversight, Enforcement and Emergency Preparedness

On February 5th, 2015, the Chair of the Transportation Safety Board of Canada (TSB), Kathy Fox, issued a stark reminder for us all:

“Who is the guardian of public safety?” And the answer is that, clearly, the regulator has a crucial role to play. Ideally, a government would implement regulations requiring all transportation companies to have formal safety management processes. And ideally, a government would oversee these processes in a balanced way, using a combination of inspections for compliance, and audits for effectiveness. What we found in Lac-Mégantic, however, was that Transport Canada did not provide adequate regulatory oversight to ensure the associated risks were addressed.”

Kathy Fox, Chair of the TSB¹

If the aftermath of the tragedy of Lac Mégantic, Canadians were heartbroken, they were angered that more was not done to prevent such a tragedy, and they remain fearful that it may happen again. It is the duty of this government to do everything in its power to identify the risks that remain in the transportation system, and uphold the highest standards to encourage a culture of safety across all modes of transportation.

This means the government must immediately implement necessary changes including a comprehensive review of existing legislation; it must strengthen regulations, increase inspections of companies and improve audits of safety-management systems.

Canadians expect their government to pursue justice, not just for the victims of this senseless disaster, but through their enforcement of standards across the entire transportation system, through their dedication to transparency and accountability of their own actions, and by bringing the full extent of the law upon those who violate safety regulations and who put Canadians at risk.

The Official Opposition recommends that:

1. the government establish an independent public inquiry into the transportation of dangerous goods by rail, to address unanswered questions and to better understand the causes leading to the disaster of Lac-Mégantic, so as to prevent any further tragedies;
2. the government pursue a comprehensive review and update of transportation safety legislation including the *Canada Transportation Act*, and the *Railway Safety Act*;
3. the government provide the necessary resources to Transport Canada so that it has the needed number of inspectors and auditors to fulfill its oversight function;

4. the government ensure that companies are not solely responsible for their own safety inspections, and that it treat SMS as an additional layer of safety, rather than a replacement for Transport Canada's oversight, regulations, inspections and audits;
5. Transport Canada identify and develop a strategy to ensure that it has the needed number of inspectors and auditors with the necessary skills and competences required to plan and conduct oversight;
6. Transport Canada perform unannounced, routine and risk-based inspections and oversight;
7. Transport Canada ensure that stiff penalties and fines are enforced upon companies contravening to safety and security regulations, and that such fines be published;
8. Transport Canada disclose publicly when exemptions are granted to transportation companies for safety and security regulations, along with the department's justification for granting the exemption;
9. the government work with municipalities and first responders to ensure they have the information, training and resources they need to protect the public in case of an emergency; and
10. the government reduce the length of time to act on TSB recommendations, including:

“In all transportation modes, those companies that do have SMS must, in turn, demonstrate that it is working—that hazards are being identified and effective risk mitigation measures are being implemented.

Finally, when companies are unable to effectively manage safety, Transport Canada must not only intervene, but do so in a manner that succeeds in changing unsafe operating practices.”ⁱⁱ

Rail Transportation

Twelve years after deregulating rail safety through the safety management regime, the federal government cannot ensure the safety of Canada's railways. This has been confirmed by the Auditor General in 2013 and by numerous witnesses during this study.

"We've made it very clear today that the safety management system doesn't exist. There is no safety culture. It is not safe."

Mr. Phil Benson, Lobbyist, Teamsters Canada

"Concerns have also been expressed that SMS allows companies to regulate themselves, in the process removing the government's ability to protect Canadians and their environment and making it possible for the industry to hide critical safety information from the government and the public."

Mr. Emile Therien, Past President, Canada Safety Council, As an Individual

The Official Opposition expects the government to give regular updates to the public on its progress in implementing the commitments it has made to improve legislation, regulations, and oversight. Making legislative and regulatory changes has little effect in terms of protecting the public unless the announced safety standards are actually implemented and enforced.

To this end, it is recommended that:

1. the government expedite the introduction of enhanced protection standards for rail tank cars used for the transportation of flammable liquids that adequately address the proven safety deficiencies with DOT-111 tank cars and the CPC-1232 standard;ⁱⁱⁱ
2. the government set stringent criteria for the operation of trains carrying dangerous goods, and require railway companies to conduct route planning and analysis, and perform risk assessments, and that such risk assessments be made public, to ensure that risk-control measures are effective;
3. Transport Canada require railway companies carrying dangerous goods to use routing that provides greater safety to a greater number of people, and where risk can be mitigated by reductions in speed, railway companies be required to operate at speeds which provide the greatest safety;
4. the government ensure the application of policies and procedures allowing employees to report safety contraventions and hazards to the railway company without fear of reprisal;
5. the government ensure that railway companies apply the principles of fatigue science to their employee scheduling processes;

6. the government ensure a more robust CANUTEC service and require railway companies to provide product and shipper information to CANUTEC or local responders directly upon request without delay;
7. on-board voice and video recordings are to be used only in the event of an accident and not for disciplinary purposes; and
8. Transport Canada implement new grade crossing regulations, develop enhanced standards or guidelines for certain types of crossing signs, and assess crossing safety and funding improvements. A comprehensive solution must also include consultation with provincial and municipal authorities and further public driver education on the dangers at railway crossings.

Air Transportation

It is recommended that:

1. Transport Canada implement regulations requiring all operators in the air industry to have formal safety management processes, and that Transport Canada oversee these processes;^{iv} and
2. before Transport Canada adopts a regulatory change on the ratio of one flight attendant for every 40 passenger seats, the Committee conduct a study and allow all stakeholders the opportunity to present evidence to substantiate their views, in order to ensure that passenger safety is not compromised.

Marine Transportation

It is recommended that:

1. the government review whether more stations are required to respond to current threats to ensure that the St. Lawrence estuary has sufficient coast guard service capacity to respond to emergencies;
2. the government ensure that the federal agencies are better prepared to coordinate and respond to a dangerous good spill; and
3. Transport Canada implement regulations requiring all operators in the marine industry to have formal safety management processes, and that Transport Canada oversee these processes.^v

Conclusion

The New Democratic Party of Canada would like to thank all of the witnesses who provided their expertise, knowledge, and insight into how to improve the Canadian transportation safety regime. Their testimony is invaluable and the Official Opposition will continue to push the federal government to implement the recommendations heard.

Upon conclusion of this study, the NDP knows that the reforms needed to ensure the safe transportation of dangerous goods in Canada have not all been implemented. There is more we can do to continually improve safety management systems, oversight and enforcement. This will remain a top priority for the New Democratic Party of Canada.

Canadians have the right to the highest level of protection, and deserve assurances that our entire transportation network is safe. When it comes to the safety of our communities and our families, we should expect nothing less.

ⁱ Kathy Fox, Chair of the Transportation Safety Board of Canada (TSB), <http://www.tsb.gc.ca/eng/medias-media/discours-speeches/2015/02/20150205.asp>

ⁱⁱ TSB 2014 Watchlist, <http://www.tsb.gc.ca/eng/surveillance-watchlist/multi-modal/2014/multimodal.pdf>

ⁱⁱⁱ TSB News Release (Date modified: 2015-02-23), <http://www.tsb.gc.ca/eng/medias-media/communiques/rail/2015/r15h0013-20150223.asp>.

^{iv} TSB 2014 Watchlist, <http://www.tsb.gc.ca/eng/surveillance-watchlist/multi-modal/2014/multimodal.pdf>

^v TSB 2014 Watchlist, <http://www.tsb.gc.ca/eng/surveillance-watchlist/multi-modal/2014/multimodal.pdf>