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**The Lac- Mégantic Disaster and Transport Canada’s Safety  
Management System (SMS) Model: Implications for Reflexive  
Regulatory Regimes**

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**Introduction**

In the early hours of July 6<sup>th</sup>, 2013, an unattended train of 73 car-loads of crude oil from the Bakken shale formation in North Dakota, operated by the Montreal, Maine and Atlantic (MMA) railway ran away and then derailed, exploded and burned in the heart of the small Quebec town of Lac-Mégantic. Forty-seven of the town’s residents died in the ensuing inferno, making it the deadliest rail accident in Canada of the past century.

The disaster has drawn close attention to Transport Canada’s role as a public safety regulator and the department’s approach to rail safety regulation. Although there has been no public inquiry into the tragedy, reports from the Transportation Safety Board (TS B), Auditor General of Canada (OAG), Canadian Centre for Policy Alternatives (CCPA), and a number of media outlets, particularly the Globe and Mail, Toronto Star, and Radio-Canada, have highlighted gaps in Transport Canada’s oversight of railway operators that are seen to have contributed to the accident. Indeed in eyes of many observers a major disaster in the rail sector was almost inevitable, particularly in the context of the rapid increase in the movement of crude oil by rail in North America from 2010 onwards.<sup>1</sup>

Particular attention has been given to the “safety management system (SMS)” based regulatory model adopted by Transport Canada under 1999 amendments to the *Railway*

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<sup>1</sup> Mark Winfield, “Incubating disaster: The Lac-Mégantic rail tragedy,” *Ottawa Citizen* (24 July 2013).

*Safety Act* (RSA).<sup>2</sup> Under the SMS model the details of establishing and implementing the operating practices required to meet safety requirements for railway operations were placed in the hands of the railways themselves, with Transport Canada overseeing the development and implementation of their plans.

This paper examines the SMS-based dimension of the regulatory regime employed by Transport Canada as an example of the smart, or more specifically, reflexive regulation<sup>3</sup> concept that was widely promoted within the Organization for Economic Cooperation and Development (OECD) in the late 1990s and first half of the past decade. The Department's application of the model was extended to aviation as well as rail safety from 2005 onwards, and is currently in the process of being expanded to encompass marine and road safety.<sup>4</sup>

The paper assesses the railway safety SMS regime through a series of criteria build on the wider literature around smart and reflexive regulatory models, as well as on author's previous work on organizational and regulatory frameworks related to public safety regulation.<sup>5</sup> The paper notes some significant parallels between the current railway regulatory regime and early phases of environmental regulation in Canada, particularly with respect to approaches to enforcement. Drawing on subsequent experience in Canadian environmental law over the past three decades, the paper explores ways in

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<sup>2</sup> RSC 1985, c 32 (4th Supp), s 47.1 [RSA].

<sup>3</sup> N.Gunningham, "Regulatory Reform and Reflexive Regulation: Beyond Command and Control," in E.Brousseau, T.Dedeurwaedre and B.Siebenhuner, *Reflexive Governance for Global Public Goods* (Cambridge MA: MIT Press, 2012) 85-104.

<sup>4</sup> See generally, House of Commons, Standing Committee on Transport, Infrastructure and Communities (SCOTIC), *Review of Canadian Transportation Safety Regime – Transportation of Dangerous Goods and Safety Management Systems* (Ottawa: House of Commons, 2015) (Chair: Larry Miller) (SCOTIC 2015)

<sup>5</sup> Mark Winfield & Hugh Benevides, *Drinking Water Protection in Ontario: A Comparison of Direct and Alternative Delivery Models* (Drayton Valley: Pembina Institute for Appropriate Development, 2001); Mark Winfield, D Whorley & S Kaufman, "Public Safety in Private Hands: A Study of Ontario's Technical Standards and Safety Authority" (2002) 45:1 Can Pub Admin 24; Winfield, M., "Alternative Service Delivery in the Natural Resources Sector: An Examination of Ontario's Forestry Compliance Self-inspection System," *Canadian Public Administration* Vol. 48, No. 4, Winter 2005, 552–574; M Winfield, "Public Safety in Private Hands Re-Examined: The Case of Ontario's Technical Safety and Standards Authority" Can Pub Admin (2015) 58:3.

which effective and reflexive responses can be prompted from regulated entities, while avoiding key problems that have emerged from Transport Canada's SMS model.

### **The SMS regime as reflexive regulation**

The SMS component of the regulatory regime for railway safety was established through 1999 amendments to the RSA. The SMS concept emerged at time of confluence of two major themes around the regulation and management of firms engaged in activities that could pose risks to public safety, health or the environment.

The first of these themes was the application of the smart regulation principles to public goods regulation. Applying new public management<sup>6</sup> themes the regulatory functions of governments, the smart regulation concept emphasized the building of partnerships with regulated entities and other non-state actors in the delivery of regulatory programs, allowing them to act as surrogates for direct governmental regulation.<sup>7</sup> More specifically smart regulation was grounded in arguments that it had become impossible for governments alone to carry out the required levels of standards development, inspection, and oversight, particularly in periods of fiscal restraint, and that the non-state actors, including the regulated firms, needed to be enlisted as partners in the implementation of regulatory systems.<sup>8</sup> Smart regulation models were also intended to reward industry for going beyond compliance with existing regulations.<sup>9</sup>

The concept of smart regulation was explicitly embraced by the Canadian federal government's External Advisory Committee on Smart Regulation,<sup>10</sup> established by the

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<sup>6</sup> Leslie A Pal, "Policy Implementation/The NPM Model and Beyond" in L. Pal, ed, *Beyond Policy Analysis* (Toronto: Thompson-Neilsen, 2014) 195-204.

<sup>7</sup> Gunningham, *supra* note 3 at 94.

<sup>8</sup> See generally, Neil Gunningham & Darren Sinclair, *Designing Smart Regulation* (Paris: OECD Forum on Sustainable Development, December 2004) online <[www.oecd.org/env/outreach/33947759.pdf](http://www.oecd.org/env/outreach/33947759.pdf)>.

<sup>9</sup> Gunningham, *supra* note 3 at 86.

<sup>10</sup> External Advisory Committee on Smart Regulation, *Smart Regulation for Canada* (Ottawa: Privy Council Office, 2004).

Privy Council Office (PCO) in 2003, and in subsequent PCO and Treasury Board Secretariat policies.<sup>11</sup>

The federal government's approach to the implementation of smart regulation principles to public goods regulation drew on a second major emerging theme around the management and regulation of safety, health and environmental risks. From the mid-1980s onwards, firms began to develop internal management systems around these types of activities. These systems were usually required to conform to some form of externally established requirements, as defined by an industry association or other non-governmental third party. The chemical industry's Responsible Care program, launched in the aftermath of the 1984 Bhopal disaster in India, provides a leading example of such an initiative. Formalized non-sector specific systems around quality (ISO 9000 - 1987)<sup>12</sup> and environmental management (ISO 14001 – 1996)<sup>13</sup> have subsequently emerged under the auspices of the International Organization for Standardization. These management systems typically focus on conformity with required management processes, as opposed to requiring the achievement of specific environmental, safety or health outcomes.<sup>14</sup>

In theory these types of internal management systems let firms design their own least cost solutions environmental, health and safety challenges and provide incentives to go beyond compliance with minimum legal standards. Such systems are seen to have the potential to encourage continuous improvement and innovation within organizations,<sup>15</sup> and to engage expertise, knowledge and information beyond that of regulators in

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<sup>11</sup> Treasury Board of Canada Secretariat, *Mid-Term Evaluation of the Implementation of the Cabinet Directive on Streamlining Regulation* (November 2011) online >[www.tbs-sct.gc.ca/report/orp/2011/cdsr-dcrr01-eng.asp](http://www.tbs-sct.gc.ca/report/orp/2011/cdsr-dcrr01-eng.asp)>.

<sup>12</sup> International Organization of Standardization (ISO), *ISO 9000 – 1987 Quality Management and Quality Assurance Standards: Guidelines for Selection and Use*.

<sup>13</sup> ISO, *ISO 14001 – 1996 Environmental Management Systems: Specification with guidance for use*.

<sup>14</sup> Jennifer Clapp, "ISO Environmental Standards: Industry's Gift to a Polluted Globe or the Developed World's Competition-Killing Strategy?" in Olav Schram Stokke & Øystein B. Thommessen, eds, *Yearbook of International Co-operation on Environment and Development 2001/2002* (London: Earthscan, 2000) at 27-34.

<sup>15</sup> Gunningham, *supra* note 3 at 89; see also Orley Lobell "The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought," *Minnesota Law Review* Volume 89, Number 2, December 2004, 393; B. C. Karkkainen, A.Fung, and C. Sabel, "After Backyard Environmentalism: Toward a Performance-Based Regime of Environmental Regulation" *American Behavioral Scientist*, Vol. 44, No.4, December 2000, 693.

addressing health, safety and environmental issues.<sup>16</sup> At the same time, it is argued that they have also been employed as strategies for pre-empting the imposition of more stringent formal regulatory regimes by the state.<sup>17</sup>

The integration of smart regulation and management systems concepts is sometimes referred to as a form of reflexive regulation – regulatory regimes intended to encourage self-reflective and self-critical processes within organizations.<sup>18</sup> Orts describes reflexive regimes as being:

“Focus(ed) on enhancing the self-referential capacities of social systems and institutions outside the legal system, rather than direct intervention through its agencies, highly detailed statutes, or delegation of great powers to the courts... (it) aims to establish self-reflective processes within businesses to encourage creative, critical, and continual thinking about how to minimize...harms and maximize... benefits.”<sup>19</sup>

Reflexive regulatory models are procedurally oriented rather than focussed on achieving prescribed goals. They seek to design self-regulating social systems by establishing organizational and procedural norms.<sup>20</sup> Shifts towards smart and reflexive regulatory models have been propelled in part by a combination of neo-liberal critiques of conventional (a.k.a. command and control) regulation,<sup>21</sup> a more general focus on reducing state intervention in economy,<sup>22</sup> and periods of fiscal restraint.<sup>23</sup>

In Canada’s case the reflexive regulatory model has been strongly pursued by the federal government where it is the front-line safety or health regulator. Food and drug, and rail, air, and marine transportation safety regulation are prominent examples of such situations. Specifically the federal government has sought to formally incorporate the

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<sup>16</sup> Lobell, *supra* note 15 at 373.

<sup>17</sup> Douglas Macdonald, *Business and Environmental Politics in Canada* (Peterborough: Broadview Press, 2007) at 180-187; Karkkainen, Fund and Sabel, *supra* note 15 at 705.

<sup>18</sup> Eric W Orts, “A reflexive model of environmental regulation” (1995) 5:4 *Bus Ethics Q* at 779-794.

<sup>19</sup> E.W. Orts, “Reflexive Environmental Law,” *Northwestern University Law Review* 1995 89 (4), 1232.

<sup>20</sup> Gunningham, *supra* note 3 at 87.

<sup>21</sup> Gunningham, *supra* note 3 at 86.

<sup>22</sup> *Ibid.*

<sup>23</sup> Lobel, *supra* note 15 at 459.

management system concept into its regulatory oversight regimes as a means of achieving reflexive results. Under this model, regulated entities are required to develop their own strategies for protecting public safety and health in their operations and products. These strategies are then subject to approval by the relevant federal regulator. Federal regulatory oversight and inspection efforts are then increasingly focused on overseeing the implementation of these management systems rather than on the actual observation of the regulated firms' activities in the field.<sup>24</sup> The Hazard Analysis and Critical Control Point (HACCP) systems employed in food and drug regulations, and the Safety Management System (SMS) regime adopted by Transport Canada for rail, aviation, road freight and marine safety, are prominent examples of this practice.

The approach being taken by the Canadian federal government in these fields falls within the scope of what has been termed “enforced self-regulation,”<sup>25</sup> “meta-regulation” or “meta-risk management.”<sup>26</sup> Under these models, the role of regulation ceases to be primarily about government inspectors checking compliance with rules and becomes more about encouraging the industry to put in place environmental (and safety) management systems that are then scrutinized by regulators. “Meta-regulation” seeks by law to stimulate models of self-organization within the firm in such a way as to encourage internal self-critical reflection about its safety, health and environmental performance.<sup>27</sup>

The shift towards reflexive meta-regulatory regimes has been a matter of substantial debate within literatures on public administration and regulatory systems over the past two decades. Even before the Lac-Mégantic disaster, there had been considerable criticism of the performance of these types of regimes from governmental accountability and oversight agents, such as Auditor-Generals and Ombudspersons, public interest

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<sup>24</sup> See Auditor General of Canada (OAG), *Report of the Auditor General of Canada to the House of Commons, Chapter 5: Oversight of Civil Aviation – Transport Canada* (Ottawa: Minister of Supply and Services, 2012); OAG, *Report of the Auditor General of Canada to the House of Commons, Chapter 7: Oversight of Rail Safety – Transport Canada*. Ottawa: Minister of Supply and Services, 2013).

<sup>25</sup> I. Ayres and J. Braithwaite, *Responsive Regulation: Transcending the deregulation debate* (New York: Oxford, 1992).

<sup>26</sup> Gunningham *supra* note 3 at 89.

<sup>27</sup> Gunningham *supra* note 3 at 89-90.

oriented non-governmental organizations, the media, opposition politicians, and academics. The concerns over these regimes have been focussed in three areas: governance structures; accountability; and performance.<sup>28</sup>

With respect to governance arrangements, the early literature on new public management emphasized the importance of separating policy formulation functions from administrative activities, such as issuing approvals and conducting compliance inspections. It was seen as essential that elected governments retain control over the content of regulatory policies, as that was where the key choices between public and private interests were seen to be made. Administrative activities, on the other hand, were not seen to involve such choices, and therefore could be carried out by third parties.<sup>29</sup> Many authors have challenged the validity and viability of such politics/administration distinctions.<sup>30</sup>

The potential for conflicts of interest in smart regulatory regimes was highlighted early on, given the potential for regulated entities to be seen to be effectively regulating themselves.<sup>31</sup> There have been ongoing concerns over the potential for such regimes to reinforce the role of already strong non-state (typically industry) actors in the system, as the state comes to rely more heavily on them for information and the implementation

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<sup>28</sup> For an overview of these critiques see Winfield, M., "Public Safety in Private Hands Re-Examined: The Case of Ontario's Technical Safety and Standards Authority," *Canadian Public Administration* Vol.58, No.3 (September 2015).

<sup>29</sup> Mohammed Charih, & L Rouillard, "The New Public Management" in Mohammed Charih & Arthur Daniels, eds, *New Public Management and Public Administration in Canada* (Toronto: Institute for Public Administration in Canada, 1997) 27. See also D.Osborne and T.Gabler, *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector* (New York: Plume Books, 1993).

<sup>30</sup> See, for example, H.Mintzberg and J.Jorgensen, "Emergent Strategy for Public Policy," *Canadian Public Administration* 1987 30:2, 220-2; Peter Aucoin and Donald Savoie "The Politics-Administration Dichotomy: Democracy versus Bureaucracy?" in O.P.Dwivedi, T.A.Mau and B.Sheldrick, eds., *The Evolving Physiology of Government* (Ottawa: University of Ottawa Press, 2009), pp. 97-117.

<sup>31</sup> Herman Bakvis, "Pressure Groups and the New Public Management" in *New Public Management and Public Administration in Canada*, supra note 31, at 239. See also Karkkainen, Fung, and Sabel, supra note 15 at 705.

and enforcement of regulatory requirements.<sup>32</sup> Finally, questions have been raised about the capacity of non-state actors to whom regulatory functions are delegated to actually carry them out.<sup>33</sup>

### Accountability

There have been long-standing concerns regarding the blurring of lines of accountability and responsibility when third parties are brought into regulatory regimes as surrogate regulators.<sup>34</sup> The risks associated with the non-applicability of oversight and control mechanisms, such as auditors-general, ombudspersons, and legislation regarding lobbying activities, that are applicable to government regulators, to non-government actors brought into smart or reflexive regimes, have been consistently highlighted as well.<sup>35</sup>

A number of incidents where non-governmental actors have been involved in the delivery of services and regulatory functions have raised questions about the ability of governments to exercise control and give policy direction to such entities when needed to protect the public interest.<sup>36</sup> Other observers have noted the risks of the erosion of transparency and public oversight in regulatory processes due to the non-applicability of

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<sup>32</sup> Australian Productivity Commission (APC), *Arrangements for Drinking Water Standards* (Canberra: Austinfo, 2000) at 8. Bakis, "Pressure groups and new public management;" Lobel, *supra* note 15 at 462; M.Howlett and J.Rayner, "Covergence and Divergence in New Governance Arrangements: Evidence from European Integrated Natural Resources Strategies," *Journal of Public Policy / Volume 26 / Issue 02 / August 2006*, 184; Gunningham, *supra* note 3 at 100.

<sup>33</sup> APC, *supra* note 32 at 8.

<sup>34</sup> APC, *supra* note 32 at 8, Christopher Politt, "Justification by Works or by Faith: Evaluating the New Public Management" (1995) 1:2 *Evaluation* 133; R.Gregory, "Political Responsibility for Bureaucratic Incompetence: Tragedy at Cave Creek," *Public Administration*, Vol.76, Autumm 1998 522-3; Karkkainen, Fund and Sabel, "After Backyard Environmentalism," 703-706. Mark Winfield, D Whorley & S Kaufman, "Public Safety in Private Hands: A Study of Ontario's Technical Standards and Safety Authority" (2002) 45:1 *Can Pub Admin* 24

<sup>35</sup> Auditor General of Canada, *Involving Others in Governing: Accountability at Risk* (Ottawa: Minister of Supply and Services, November 1999) Chapter 23; APC, *Supra* note 34 at 8; Winfield, *supra* note 30.

<sup>36</sup> Auditor General of Ontario. *Special Report: Ornge Air Ambulance and Related Services*. Toronto: Queen's Printer for Ontario, 2012); Winfield, "Public Safety in Private Hands Revisited."

freedom of information legislation and similar mechanisms to non-state organizations to which regulatory functions have been delegated or transferred.<sup>37</sup>

## Performance

The substantive outcomes achieved in terms of goals of the regulatory regime are a key consideration in the evaluation of the performance of smart or reflexive regulatory approaches.<sup>38</sup> Are, for example, public safety outcomes improved in terms of number and significance of incidents or accidents relative to the situation prior to the implementation of a new regime? Neil Gunningham notes that “reflexivity by no means guarantees success,” and that empirical examinations of efforts at reflexive regulation reveal “very mixed results.”<sup>39</sup> Management system-type approaches like those embedded in Transport Canada’s SMS regime require management commitment,<sup>40</sup> and carry significant risks of implementation deficits, or of paper or token rather than actual implementation of management systems.<sup>41</sup> Gunningham goes on to caution:

“mandatory imposition of process-based requirements – systems, plans and risk management more generally – may only have a limited influence on environmental outcomes...

policy makers are mistaken in their belief that those who are required to jump over various hurdles (developing and implementing plans and systems, adopting a safety case) will necessarily become more reflexive and, as a result, improve both their attitudes and performance.”<sup>42</sup>

Observers of smart regulatory regimes also highlight the risks of decoupling government-based policy-making activities from the operational regulatory functions now being carried out by regulated entities or third parties. Opportunities for policy learning on the basis of operational experience, or to identify emerging systemic

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<sup>37</sup> Winfield, *supra* note 28. Karkkainen, Fund and Sabel, *supra* note 15 at 705.

<sup>38</sup> Christopher Politt, “Justification by Works or by Faith: Evaluating the New Public Management” (1995) 1:2 *Evaluation* 133; APC, *supra* note 32.

<sup>39</sup> Gunningham, *supra* note 3 at 99.

<sup>40</sup> Gunningham, *supra* note 3 at 99.

<sup>41</sup> Gunningham, *supra* note 3 at 103.

<sup>42</sup> Gunningham, *supra* note 3 at 99.

problems before they become crises or disasters, may be lost as a result.<sup>43</sup> Others have noted the risks of reducing opportunities for interagency coordination and reinforcing siloing in the delivery of regulatory functions.<sup>44</sup> Questions have also been raised about whether such regimes are actually cost-effective when the need for meaningful and effective oversight and backstopping by governments is taken fully into account.<sup>45</sup>

The debates over the impacts and performance of smart or reflexive regulatory regimes were used to build context specific criteria for evaluating the Canadian railway safety regime as outlined in **Table 1**.

**Table 1 – Evaluative Criteria Canadian Railway Safety Regime**

Category	Criteria
Governance	<ul style="list-style-type: none"> <li>• Separation of policy and administrative functions between the government and delivery agent</li> <li>• Potential for conflicts of interest in structure</li> <li>• Capacity of delegated agencies to undertake required functions</li> <li>• Impacts on democratic policy discourse and dialogue/power relations among stakeholders</li> </ul>
Accountability	<ul style="list-style-type: none"> <li>• Clarity of lines of responsibility and authority</li> <li>• Oversight and control mechanisms               <ul style="list-style-type: none"> <li>○ Oversight by Transport Canada                   <ul style="list-style-type: none"> <li>▪ Capacity</li> <li>▪ Legal authority to revoke delegations, make orders</li> </ul> </li> <li>○ Oversight by Legislative officers and other agencies                   <ul style="list-style-type: none"> <li>▪ OAG</li> </ul> </li> <li>○ Transparency and public oversight                   <ul style="list-style-type: none"> <li>▪ Access to information</li> </ul> </li> </ul> </li> </ul>
Performance/outcomes	<ul style="list-style-type: none"> <li>• Safety outcomes</li> <li>• Reflexive vs. paper responses</li> <li>• Risks of policy learning/operational experience de-coupling</li> </ul>

<sup>43</sup> Paul Thomas, "Change, Governance and Public Management: Alternative Service Delivery and Information Technology" in David Zussman & Garry Sears, eds, *Change, Governance and Public Management* (Ottawa: KPMG & Public Policy Forum, 2000) 67-68.

<sup>44</sup> Patrick Dunleavy, "New public management is dead: Long live digital era governance" (2005) 16 *J Pub Admin Res & Theory* at 467; Leslie A Pal, "Policy Implementation/The NPM Model and Beyond" in L.Pal, *Beyond Policy Analysis* (Toronto: Thompson-Neilsen, 2014) 202-236.

<sup>45</sup> Pollit, *supra* note 38 at 133; APC, *supra* note 32 at 8; Winfield, *supra* note 28.

	<ul style="list-style-type: none"> <li>• Interagency coordination vs. reinforced siloing</li> <li>• Cost-effectiveness</li> </ul>
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Even proponents of smart or reflexive regimes note that the strengths and weaknesses of traditional regulatory models vary substantially with context. They observe that traditional direct regulatory models work well with relatively non-complex situations (e.g. point source pollution from large industrial sources), but less well in complex governance situations like water pollution from diffuse agricultural sources.<sup>46</sup> They note that there is “no reason to assume that forms of reflexive regulation work best as “stand alone” policy instruments or as substitutes for other forms of regulation and that in fact some forms of reflexive regulation are more likely to succeed if underpinned by direct regulation.”<sup>47</sup>

Much of the literature on reflexive regulatory models focuses on their role in complex, long-term cases where many different actors are involved in the pursuit of multiple goals, such as biodiversity protection on private land.<sup>48</sup> There has been less examination of their roles and effectiveness in situations where there are potentially acute consequences of regulatory failure with respect to public health, safety or environment. Transportation and drinking water safety are examples of activities that fall into such a category. The literature also tends to ignore different potential modalities for achieving reflexive outcomes. Rather it focuses on embedding meta-regulation as part of formal regulatory regimes.

Drawing on Gunningham’s observations regarding the importance of underpinning reflexive elements with direct regulation, this paper explores ways in which reflexive responses might be achieved, while maintaining the core direct regulatory functions in environmental and public safety contexts where there is a high risk of regulatory failure having catastrophic consequences. Noting that the RSA lacks features that have been standard elements of Canadian environmental regulatory statutes, particularly since the

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<sup>46</sup> Gunningham, *supra* note 3 at 87,101.

<sup>47</sup> Gunningham, *supra* note 3 at 102-103.

<sup>48</sup> See, for example, C.Holley,N. Gunningham and C.Shearing, *The New Environmental Governance* (New York: Earthscan, 2012); Lobel, *supra* note 15 at 427.

reformation of environmental law in the direction of more rigorous enforcement regimes from the mid-1980s onwards,<sup>49</sup> the paper specifically draws on experiences in the realm of environmental regulation at the federal and provincial levels in Canada that may provide different pathways to prompting reflexive responses from regulated entities. Differences in provisions around the liability of company officers and directors in the event of offenses, order powers and other oversight structures are particularly noteworthy in this regard.

### **The Railway Safety Regime and SMS**

Canada's railway safety regime is established principally through the *Railway Safety Act*.<sup>50</sup> The legislation underwent significant amendments in 1999, mainly for the purpose of establishing the SMS dimension of the oversight regime. The act was updated with respect to SMS in 2012 and further amendments were adopted in June 2015<sup>51</sup> as part of the then Conservative government's response to the Lac-Mégantic disaster. The federal government has also made a number of changes to specific rules and requirements since the Lac-Mégantic disaster.<sup>52</sup>

Until the late 1980s, safety and economic regulatory functions for railways were integrated through the Canadian Transport Commission (CTC). As part of the process of privatizing Canadian National Railways and de-regulating the sector, these functions were distributed among a number of different agencies. With respect to safety, general rules, regulations and engineering standards for railway operations are set by Transport Canada through such instruments as the Canadian Railway Operating Rules (CROR).<sup>53</sup> Railways are required to have Railway Operating Certificates (ROC) issued by Transport Canada under the *RSA*.<sup>54</sup> These certificates may be subject to such terms

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<sup>49</sup> See e.g. Mark Winfield, *Blue-Green Province: The Environment and the Political Economy of Ontario* (Vancouver: UBC Press, 2012) ch3 at 47-49.

<sup>50</sup> *RSA*, *supra* note 2.

<sup>51</sup> *The Safe and Accountable Rail Act*, S.C. 2015, c-31.

<sup>52</sup> SCOTIC 2015, *supra* note 4 at 4-7.

<sup>53</sup> Transport Canada, *Canadian Railway Operating Rules* (23 December 2013) online: <[www.tc.gc.ca/eng/railsafety/rules-tco167.htm](http://www.tc.gc.ca/eng/railsafety/rules-tco167.htm)>.

<sup>54</sup> *RSA*, *supra* note 2, s 17.4(1).

and conditions as the minister considers appropriate<sup>55</sup> although railways may request variations to these conditions.<sup>56</sup>

Secondly, individual railways are permitted under the RSA<sup>57</sup> to establish their own operating rules, subject to Transport Canada review and approval. These company rules cover such subjects as track and rolling stock maintenance, and most aspects of operations.<sup>58</sup> The approved rules have the same force and effect of regulations, but regulations take precedence over company rules. The RSA provides highly qualified direction to the minister to ensure that the rules are uniform in dealing with like matters among different companies (“the Minister shall, to the extent that it is, in the opinion of the Minister, reasonable and practicable to do so, ensure that those rules are uniform”).<sup>59</sup>

The third component of the system is the SMS requirements for railway safety that flowed from 1999 amendments to the RSA. These were first implemented through the *Safety Management System Regulations* adopted in 2001.<sup>60</sup>

“Safety management systems” were defined in the amendments to the RSA as

“a formal framework for integrating safety into day-to-day railway operations and includes safety goals and performance targets, risk assessments, responsibilities and authorities, rules and procedures, and monitoring and evaluation processes” (RSA s.4).<sup>61</sup>

The components of a SMS are defined through the 2015 SMS regulations<sup>62</sup> as including:

- “(a) a process for accountability;
- (b) a process with respect to a safety policy;
- (c) a process for ensuring compliance with regulations, rules and other instruments;

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<sup>55</sup> *Ibid*, s 17.4(2).

<sup>56</sup> *Ibid*, s 17.4(3).

<sup>57</sup> *Ibid*, ss 19, 20.

<sup>58</sup> SCOTIC 2015, *supra* note 4 at 9.

<sup>59</sup> RSA, *supra* note 2, s 21.

<sup>60</sup> *Railway Safety Management System Regulations*, SOR/2001-37.

<sup>61</sup> RSA, *supra* note 2, s 4.

<sup>62</sup> *Railway Safety Management System Regulations*, SOR/2015-26, s 5 [*SMS Regulations*].

- (d) a process for managing railway occurrences;
- (e) a process for identifying safety concerns;
- (f) a risk assessment process;
- (g) a process for implementing and evaluating remedial action;
- (h) a process for establishing targets and developing initiatives;
- (i) a process for reporting contraventions and safety hazards;
- (j) a process for managing knowledge;
- (k) a process with respect to scheduling; and
- (l) a process for continual improvement of the safety management system.”

Under the SMS regulations, companies were required to collect and submit performance and safety data to minister on request,<sup>63</sup> submit an initial description of their SMS, including the company’s organizational structure, operations and rail network, copies of its safety policy, safety performance targets, risk management and control strategies, training and qualification programs, internal safety audit processes and titles of the documents constituting the SMS.<sup>64</sup> Annual submissions were then required on any changes to this information along with information on safety performance and accident rates.<sup>65</sup> The SMS requirements applied to the 28 federally regulated railways, including the MMA.

Transport Canada described the SMS model as a shift from a “traditional” approach where the department performed inspections of federal railways’ compliance with regulations, rules, and engineering standards, such as the CROR under the *Railway Safety Act*, to a system where Transport Canada focussed on assessing whether railways have implemented effective safety management systems to manage their safety risks in day-to-day operations. The approach was stated to continue to include

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<sup>63</sup> *Railway Safety Management System Regulations*, SOR/2001-37, s 3(2).

<sup>64</sup> *Ibid*, s 4.

<sup>65</sup> *Ibid*, s 5.

inspections of federal railways' compliance with regulations, rules, and engineering standards,<sup>66</sup> although these were now seen to be secondary activities relative to the role of inspectors as safety system evaluators.<sup>67</sup> The railways were supposed to manage rail safety risks and improve safety performance on a continuing basis, while Transport Canada was to ensure that safety management systems were free of deficiencies that might compromise rail safety.<sup>68</sup> Part of the theoretical basis for the SMS concept was that safety research demonstrated that organizations could be compliant with prescriptive regulations, yet still be unsafe. More specifically, it was argued that compliance did not necessarily mean effectively managing risks, and that therefore additional structures were required to ensure safety.<sup>69</sup> As such, the SMS regime provides an almost textbook example of what has been termed "enforced self-regulation" or "meta-regulation," intended to prompt reflexive responses from regulated firms.

Transport Canada has always taken the position that the SMS system was to operate over and above traditional regulations, rather than as a substitute for them.<sup>70</sup> However no additional resources were initially provided to Transport Canada to implement the SMS system over and above the existing traditional regulatory regime when it came into operation in 2001.

In addition to these rules under the *RSA*, specific rules and regulations regarding the transportation of dangerous goods by rail are established under the *Transportation of Dangerous Goods Act, (TDGA)*.<sup>71</sup> The *TDGA* rules are also administered by Transport

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<sup>66</sup> OAG 2013, *supra* note 24, exhibit 7.5.

<sup>67</sup> OAG 2012, *supra* note 24, exhibit 5.3.

<sup>68</sup> OAG 2013, *supra* note 24, para 7.9.

<sup>69</sup> Railway Safety Advisory Panel, *Stronger Ties: A Shared Commitment to Railway Safety* (Ottawa: Transport Canada, 2007), s 5.1.

<sup>70</sup> Bruce Campbell, "Wilful Blindness? Regulatory Failures Behind the Lac-Mégantic Disaster" *Canadian Centre for Policy Alternatives* (18 August 2014) 17-20 online: <[www.policyalternatives.ca/publications/reports/wilful-blindness](http://www.policyalternatives.ca/publications/reports/wilful-blindness)> [Campbell, "Wilful Blindness"]; Railway Safety Management System Regulations: Regulatory Impact Analysis Statement, (5 July 2014) C Gaz 148:27 [RIAS].

<sup>71</sup> *Transportation of Dangerous Goods Act*, 1992, SC 1992, c 34.

Canada.<sup>72</sup> The Canadian Transportation Agency (CTA), the successor to the CTC as the economic regulator of the sector, retains responsibility for economic regulation of the railways, including the establishment of insurance requirements in the event of accidents.<sup>73</sup> The final element of the system is the Transportation Safety Board (TSB). The board is an independent agency which conducts *post-facto* investigations of transportation accidents and occurrences and makes recommendations to the government on the prevention of future accidents. The TSB reports to Parliament through the government house leader in the House of Commons.<sup>74</sup>

The SMS component of the system was subject to significant criticism from the outset. A Canada Safety Council report released in 2007 described the system as one which “allows rail companies to regulate themselves, removing the federal government’s ability to protect Canadians and their environment, and allowing the industry to hide critical safety information from the public.”<sup>75</sup>

A series of high profile rail accidents between 2005 and 2007 led to the establishment of a Railway Safety Act Review Advisory Panel<sup>76</sup> and a study on rail safety by the House of Commons Standing Committee on Transport, Infrastructure and Communities.<sup>77</sup> The panel and standing committee made extensive recommendations regarding rail safety, with both placing a strong emphasis on accelerating and improving implementation of the SMS regime. The standing committee recommended that:

“Transport Canada and the railroad companies develop, within one year of the presentation of this report in the House of Commons, an action plan for the

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<sup>72</sup> Commissioner for Environment and Sustainable Development, “Transportation of Dangerous Products” in *Report of the Commissioner for Environment and Sustainable Development* (Ottawa: Minister of Supply and Services, 2011) ch 1, online: <[www.oag-bvg.gc.ca/internet/English/parl\\_cesd\\_201112\\_01\\_e\\_36029.html](http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201112_01_e_36029.html)>.

<sup>73</sup> SCOTIC 2015, *supra* note 4 at 10.

<sup>74</sup> Transportation Safety Board of Canada, “Mandate” online: <<http://www.bst-tsb.gc.ca/eng/qui-about/mission-mandate.as>>.

<sup>75</sup> Cited in Bruce Campbell, “The Lac-Mégantic Disaster: Where Does the Buck Stop?” *Canadian Centre for Policy Alternatives* (22 October 2013) at 23, online: <[www.policyalternatives.ca/publications/reports/lac-mégantic-disaster](http://www.policyalternatives.ca/publications/reports/lac-megantic-disaster)> [Campbell, “Lac-Mégantic Disaster”].

<sup>76</sup> Railway Safety Advisory Panel 2007, *supra* note 69.

<sup>77</sup> House of Commons, Standing Committee on Transport, Infrastructure and Communities, *Report on Rail Safety in Canada* (May 2008) [SCOTIC 2008].

implementation of SMS, including timelines for full implementation of the system.<sup>78</sup>

The panel, for its part, stated its support for the safety management system approach and recommended that both the railway companies and Transport Canada focus their efforts to improve its implementation.<sup>79</sup> The panel further recommended that:

“Transport Canada, Rail Safety Directorate should be organized so as to better integrate safety management systems as the key focus of its oversight activities.”<sup>80</sup>

In 2009, the Parliament approved \$71 million in funding for Transport Canada, including \$43 million to improve the regulatory framework and the department’s oversight of the federal railways’ safety management systems.<sup>81</sup>

Amendments to the *Railway Safety Act* flowing from the work of the railway safety advisory panel and standing committee were adopted in 2012 and came into force in May 2013, just before the Lac-Mégantic accident. The amendments introduced administrative penalties for certain violations of the act, and required that each SMS plan to name an “accountable executive” responsible for safety, introduced whistleblower protection for railway employees who reported safety violations to their companies and required companies to demonstrate that they continuously manage risks.<sup>82</sup> Subsequent amendments to the SMS regulations announced in July 2014 and adopted in February 2015 added substantial detail to the SMS requirements with the intention of facilitating more effective implementation and enforceability, and required continuous monitoring and regular assessments of safety. The amendments also

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<sup>78</sup> *Ibid*, “Recommendation 4” at 7.

<sup>79</sup> Railway Safety Advisory Panel 2007, *Supra* note 69, “Recommendation 17” at 68.

<sup>80</sup> *Ibid*, “Recommendation 20” at 75.

<sup>81</sup> OAG 2013, *supra* note 24, para 7.21.

<sup>82</sup> See Transport Canada, *Amendments to the Railway Safety Act* (2013), online: <[www.tc.gc.ca/media/documents/railsafety/RSOE-Amendments.pdf](http://www.tc.gc.ca/media/documents/railsafety/RSOE-Amendments.pdf)>.

expanded the application of the SMS regime to 35 “local railway companies” that operated on federal track.<sup>83</sup>

Although always presented by Transport Canada as a supplement to the regulatory regime, the Auditor General’s reports on aviation<sup>84</sup> and railway safety<sup>85</sup> make it clear that SMS implementation and oversight has become foundation of the department’s safety regulation regime. The centrality of the SMS system to the rail safety regime was reinforced significantly by the reports of the RSA review advisory panel and the SCOTIC.<sup>86</sup> In effect, the reviews of the system up to the Lac-Mégantic accident treated the ongoing issues with railway safety as indications of failures on the part of Transport Canada to implement the SMS system properly, rather than as signs of problems in the design of the regime itself as a mechanism for achieving reflexive outcomes on the part of the railways.

### **Evaluation of Transport Canada’s SMS-based Railway Safety Regime.**

The structure of the railway safety oversight regime in Canada is complex, combining a mixture of Transport Canada defined rules, regulations and engineering standards, operating rules developed by the railway companies themselves, and then approved by Transport Canada, and company developed SMS, whose contents and implementation are subject to Transport Canada audits. These requirements are supplemented by regulations related to the transportation of dangerous goods, and the insurance requirements for freight carriers established by the CTA.

In terms of the governance criteria established in **Table 1**, the system is found to suffer from a number of serious problems. The combination of the SMS regime, company developed operating rules and a move towards performance-based Transport Canada defined railway operating standards<sup>87</sup> means that significant policy choices about the

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<sup>84</sup> OAG 2012, *supra* note 24.

<sup>85</sup> OAG 2013, *supra* note 24.

<sup>86</sup> SCOTIC 2008 *supra* note 77.

<sup>87</sup> Performance requirements specify required outcomes, as opposed to the means of achieving those outcomes. For example, section 112 of the CROR states that “when equipment is left at any point a sufficient number of hand brakes must be applied to prevent it from moving” and “the effectiveness of the

balance between efficiency and safety are increasingly embedded within individual company rules and SMS. The result is a substantial blurring of the lines between administrative and policy functions, which then embeds the potential for significant conflicts of interest on the part of firms in the design and implementation of their operating rules and SMS.

The SMS requirements were applied universally to railway operators, with the exception of “local railway companies” not operating on federally regulated main rail lines. There appears to have been no assessment of the capacity of individual railways to develop and implement SMS, and no consideration of an alternative approach for small operators like the MMA who may have lacked such capacity or were at risk of only pursuing paper or token implementation of the plans they did develop.<sup>88</sup> Despite the potential for significant trade-offs between efficiency and occupational and public safety to embedded in SMS, participation in their development was initially limited to the railway operators themselves. Participation by employees and their bargaining agents was only mandated through the 2012 amendments to the RSA and subsequent revisions to the SMS regulations.<sup>89</sup> Other interests in railway safety, including other levels of government and the public, remain excluded from the process.

Significant concerns have been identified about Transport Canada’s capacity to both oversee implementation of SMS regime, and simultaneously carry out its traditional regulatory functions of policy and standards development, field oversight and inspection, and enforcement. As the OAG’s 2008,<sup>90</sup> 2012<sup>91</sup> and 2013<sup>92</sup> reports make

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hand brakes must be tested” as opposed to specifying the number of handbrakes to be applied in given situation.

<sup>88</sup> The TSB noted in its August 2014 report on Lac-Mégantic, that: “Although MMA had some safety processes in place and had developed a safety management system in 2002, the company did not begin to implement this safety management system until 2010—and by 2013, it was still not functioning effectively.” Transportation Safety Board of Canada (TSB), *Lac-Mégantic runaway train and derailment investigation summary* (Ottawa: TSB, 2014) at 7, online: <[www.tsb.gc.ca/eng/rapports-reports/rail/2013/r13d0054/r13d0054-r-es.pdf](http://www.tsb.gc.ca/eng/rapports-reports/rail/2013/r13d0054/r13d0054-r-es.pdf)> [TSB 2014].

<sup>89</sup> RSA, s.47.1 (1)(b)(v), and Railway SMS Regulations, 2015 (SOR 2015-16) s.16(1).

<sup>90</sup> OAG, *May 2008 Report of the Auditor General of Canada to the House of Commons, Chapter 3: Oversight of Air Transportation Safety – Transport Canada* (Ottawa: Minister of Supply and Services, 2008) at para 3.19 [OAG 2008].

<sup>91</sup> OAG 2012 *supra* note 24.

<sup>92</sup> OAG 2013 *supra*, note 24.

clear the SMS regime implies a substantial shift in effort from conventional regulatory oversight to SMS implementation. The potential tension between SMS oversight and traditional regulatory functions was initially identified by the OAG in its 2008 report on aviation safety SMS implementation,<sup>93</sup> and emphasized by Transport Canada staff unions testifying before the 2014-15 SCOTIC study on transport safety.<sup>94</sup>

The Lac-Mégantic disaster also drew attention Transport Canada's apparent failures to act on long-standing issues around railway tank-car safety standards<sup>95</sup> and more recent concerns related to the crude-to-rail phenomena.<sup>96</sup> These failures may also have been in part due to capacity limitations within the department.

Beyond the question of Transport Canada's institutional capacity to carry out its conventional and SMS oversight functions, there are significant limitations in the regulatory authority provided by the RSA. Important gaps were identified by the TSB with respect to the requirements to report changes in operational practices and to seek approvals for such changes.<sup>97</sup> The minister's ability to make corrective orders with respect to risks to safety was subject to extensive requirements for consultation with the affected railways, and orders were stayed while under appeal.<sup>98</sup> These gaps were only partially addressed via the June 2015 amendments to RSA.

Oversight of the SMS regime by the OAG, other levels of government and the public is limited by the consideration that SMS are considered 3<sup>rd</sup> party documents for the purposes of the *Auditor General* and *Access to Information Acts*.<sup>99</sup> The documents are

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<sup>93</sup> OAG 2008, *supra* note 90 para 3.19.

<sup>94</sup> Union of Canadian Transportation Employees, "Canada's Broken Transportation Oversight System A Concerned Inspectorate Speaks: Recommendations for Reforms to Canada's Transportation Safety Regime" *Submission to SCOTIC* (July 2014) at 6.

<sup>95</sup> See e.g. National Transportation Safety Board (NTSB), *Safety Recommendation R-91-020* (Washington: NTSB, 1991); TSB 2014 *supra* note 88 at 6.

<sup>96</sup> Campbell, "Wilful Blindness," *supra* note 72 at 15-17.

<sup>97</sup> TSB 2014 *supra* note 88 at 8.

<sup>98</sup> RSA s.32.1.

<sup>99</sup> The *Access to Information Act*, RSC 1985, c A-1, s 20(1) prohibits release documents provided by third parties that contain trade secrets; financial, commercial, scientific or technical information that is confidential information supplied to a government institution by a third party; or whose disclosure could result in material financial loss or gain to, or could reasonably be expected to prejudice the competitive position of, a third party.

therefore not accessible without the consent of the individual railway concerned. The railways, including the MMA, have so far declined to provide such access.<sup>100</sup>

With respect to the performance of the regime, there have been longstanding concerns regarding railway safety in Canada. The 2007 rail safety review, for example, was prompted in large part by increases in railway accidents between 2002 and 2005 following the initial introduction of the SMS system.<sup>101</sup> The Lac-Mégantic accident and a series of similar although non-fatal accidents in Canada and the United States following major increases in the transportation of crude oil by train from the end of 2010 onwards (**See Figure 4**) have resulted in a renewed parliamentary, media and public focus on rail safety.

The most detailed assessments of Transport Canada's railway safety inspection and enforcement efforts flow from the CESD's 2011 audit of the department's oversight of the transportation of dangerous goods<sup>102</sup> and the OAG's 2013 audit of the department's oversight of railway safety.<sup>103</sup> Some anecdotal information is also available, as well as testimony before SCOTIC's 2014-15 study on transportation safety.<sup>104</sup>

The CESD and OAG audits highlighted significant gaps in the department's approach to inspection and oversight with respect to dangerous good and SMS. In addition to gaps in the training of inspectors and auditors, OAG identified specific gaps in Transport Canada information gathering efforts, noting that some of the information collected by the department was incomplete or not up to date, such as federal railways' capital plans and track geometry data. Transport Canada was also found to be missing key information on the federal railways' safety management systems in making planning decisions, such as safety performance data related to signals, track, equipment, bridges and personnel.<sup>105</sup> The department was found to be missing other important data to

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<sup>100</sup> Wendy Gillis, "Canadian rail safety plans are kept secret from public," *The Toronto Star* (5 November 2013), online: <[www.thestar.com/news/canada/2013/11/05/canadian\\_rail\\_safety\\_plans\\_are\\_kept\\_secret\\_from\\_public.html](http://www.thestar.com/news/canada/2013/11/05/canadian_rail_safety_plans_are_kept_secret_from_public.html)>.

<sup>101</sup> *Supra* note 69 at 2.

<sup>102</sup> CESD 2011 *supra* note 72

<sup>103</sup> OAG 2014 *supra* note 24

<sup>104</sup> SCOTIC 2015, *supra* note 3.

<sup>105</sup> OAG 2013, *supra* note 24 at para 7.35 & exhibit 7.9.

supplement inspectors' knowledge gained from previous inspections, including the federal railways' risks assessments, information on the sections of track used in transporting dangerous goods, information on the condition of railway bridges, and the financial information on privately owned federal railways that was not otherwise available to the public.

Transport Canada's record of enforcement activities under the RSA was extremely weak. As shown in **Figure 1** there were only eight successful prosecutions under the act between 1997 and 2015.

**FIGURE 1 – PROSECUTIONS UNDER THE RAILWAY SAFETY ACT 1997 – 2015<sup>106</sup>**

YEAR	TC REGION	DESCRIPTION	RESULT/STATUS
2010	Pacific	Canadian National pled guilty to failing to comply with a Notice and Order issued under S.31 of the RSA in 2007 regarding the matter of inaccurate train consists on the Albreda Subdivision.	Fined – 45k
2006	PNR	A Canadian National Rail Conductor was found guilty of violating Canadian Rail Operating Rules (CROR) 103(b) and 103(g).	Conductor found guilty in Nov. 2007 - fined \$3,450 The Alberta Court of Appeal denied the appeal and conviction was upheld in 2008.
2006	Quebec	Canadian National was found guilty of violating a RSA Section 31 Notice and Order for not obeying a slow order issued because of unsafe track conditions.	Convicted Fined - \$200K
2006	Ontario	Canadian National was found guilty of operating trains on track with unsafe conditions.	Pleaded Guilty to 10 charges Fined - \$248K

<sup>106</sup> Transport Canada, *Prosecutions under the Railway Safety Act (RSA)*, (2015) online: <[www.tc.gc.ca/eng/railsafety/railsafety-572.htm](http://www.tc.gc.ca/eng/railsafety/railsafety-572.htm)>. Figure 1 does not include the charges laid under the RSA in June 2015 in relation to the Lac-Mégantic disaster.

2005	Pacific	Canadian National pleaded guilty under section 11 of the RSA for “omissions inconsistent with sound engineering principles” in the evaluation of a railway line work – A bridge near McBride collapsed.	Convicted Fined - \$75K
2002	Ontario / Pacific	Canadian National pleaded guilty in court to violations of a RSA Section 31 Notice and Order relating to incomplete communications about railway track switch positions.	Convicted Fined - \$80K
1999	Pacific	Canadian National was found guilty of violating a RSA Section 31 Notice and Order prohibiting CN from storing railway equipment on a track without positive protection to prevent uncontrolled movements.	Convicted Fined - \$7.5K
1997	Pacific	Canadian National was found guilty of violating a RSA Section 31 Notice and Order restricting rail movement speed over a public crossing at grade to 10mph because of unsafe track conditions.	Convicted Fined - \$5K

The June 2015 amendments to the RSA introduced an administrative monetary penalty regime under the Act. As of June 2016, four such penalties had been imposed. These are summarized in **Figure 2** below.

**Figure 2 – ADMINISTRATIVE MONETARY PENALTIES UNDER THE RAILWAY SAFETY ACT 2015-16<sup>107</sup>**

Date	DESCRIPTION	Penalties
May 27, 2016	In Welland, Ontario, Canadian Pacific Railway failed to ensure that the freight car placed or continued in service was free from all safety defects described	Total: 57,682.08

<sup>107</sup> Transport Canada, “Railway Administrative Monetary Penalties,” <https://www.tc.gc.ca/eng/railsafety/railsafety-975.html>, accessed June 20, 2016.

March 21, 2016	Cando Contracting Ltd. left car GATX 67963 unattended on run around track RA 28 of the CN Quappelle Subdivision, without a sufficient number of hand brakes applied and determined sufficient through an effectiveness test	Total \$54,666.12
March 21, 2016	At or near Regina, Saskatchewan, Cando Contracting Ltd failed to report emergency appropriately.	Total \$54,666.12
December 9, 2015	Canadian National Railway Company allowed equipment to stand as to cause the unnecessary operation of warning devices	Total \$45, 433.04

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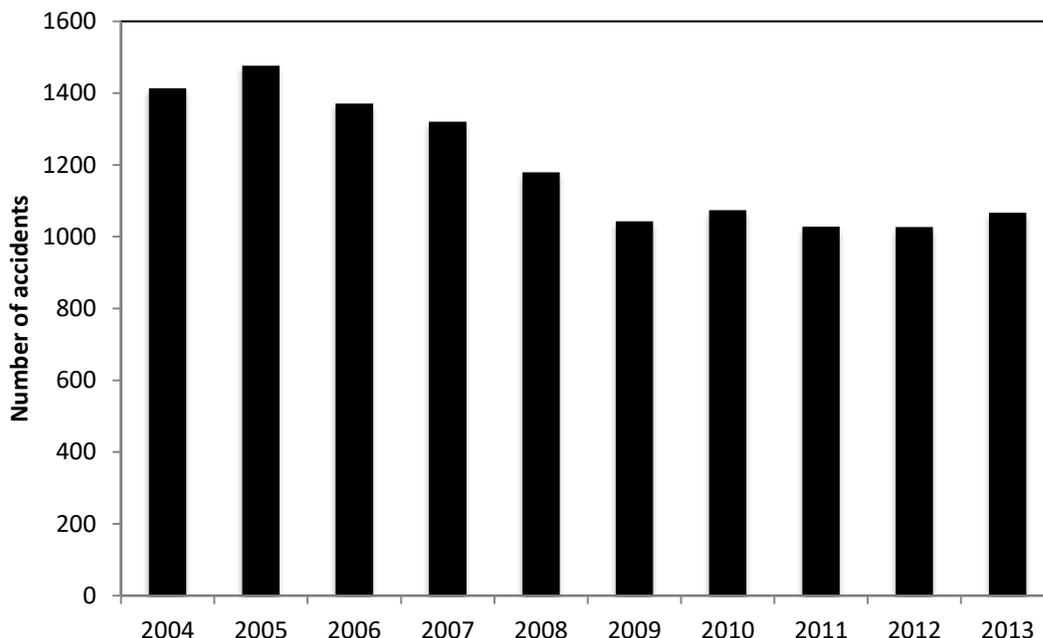
*Safety outcomes (deaths, injuries and incidents in areas of responsibility)*

The Transportation Safety Board provides statistics on rail safety from 2002 onwards. The available data indicates an overall downward trend in terms of accidents, serious injuries, incidents and accidents resulting in the release of dangerous goods from a peak in 2005 to 2011. However, these outcomes cannot be directly attributed to a more rigorous oversight effort on Transport Canada's part. Other factors may have also influenced these trends, including the decline in rail traffic associated with the 2008 economic downturn. As shown in **Figure 3**, the number of accidents began to trend upwards again from 2011 onwards (TSB 2013), coinciding with the emergence of the oil-to-rail phenomena.

**FIGURE 3: NUMBER OF RAIL ACCIDENTS 2013-14<sup>108</sup>**

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<sup>108</sup> TSB 2014, *supra* note 88.



The past five years have been marked by several severe, high profile accidents involving the movement of crude oil by rail. The Lac-Mégantic accident itself represents the worst railway accident in Canada in terms of fatalities in more than a century. It was preceded and followed by a number of non-fatal derailments, explosions and fires as shown in Figure 4 below.

**FIGURE 4: CRUDE BY RAIL DERAILMENTS AND ACCIDENTS 2010-2015<sup>109</sup>**

DATE	LOCATION	DESCRIPTION
6 May 2015	Hemidal, North Dakota	10 tank cars jumped tracks and more than 1 million litres of crude oil caught fire forcing residents to leave area.
7 March 2015	Gogama, Ontario	CN train carrying crude derailed just a few kilometres from town only weeks after Feb 14 incident. Resulting fire burned for days. <sup>110</sup>

<sup>109</sup> Data presented in K. Mackrael, "Gaps in the system: Is rail safety on the right track?" *The Globe and Mail* (4 June 2015), online: <[www.theglobeandmail.com/news/national/is-rail-safety-on-the-right-track/article24779890/](http://www.theglobeandmail.com/news/national/is-rail-safety-on-the-right-track/article24779890/)>.

5 March 2015	Galena, Illinois	103-car train carrying crude oil derailed sending 21 loaded tank cars off track and causing massive fire that lasted 2 days. <sup>110</sup>
16 February 2015	Mount Carbon, West Virginia	Train derailment sending 28 tank cars carrying Bakken crude off tracks. Resulting fire forced 500 people to leave their homes for several days.
14 February 2015	Gogama, Ontario	Ten cars in a 30-40 car CN train carrying oil derail and catch fire 30 kilometres from town. Estimated release of more than 1 million litres of crude and petroleum distillates.
7 November 2014	Moncton, New Brunswick	16 cars derailed, 10 carrying crude oil. One tank car breached leaking 114 litres of oil.
9 May 2014	Lasalle, Colorado	Train derailment causing one crude oil car to roll over and leak.
30 April 2014	Lynchburg, Virginia	Train carrying crude oil through Lynchburg derailed, sending 3 cars into river and causing a large fire. More than 350 people evacuated. <sup>112</sup>
13 February 2014	Vandergrift, Pennsylvania	21 tank cars derailed and crashed into industrial building. 4 crude oil cars punctured causing them to leak.
7 January 2014	Plaster Rock, New Brunswick	Seventeen cars on a 122-car train come off the tracks, resulting in a fire and evacuation of about 150 people. <sup>113</sup>
30 December 2013	Casselton, North Dakota	Train carrying grain derailed in front of train carrying crude which knocked 20 crude oil tank cars off tracks causing massive explosion. <sup>114</sup>
7 November 2013	Aliceville, Alabama	Major derailment causing massive fire. Crude oil same type as that exploded in Lac-Mégantic. <sup>115</sup>

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<sup>110</sup> CBC News, "Train carrying crude oil derails near Gogama, Ont" *CBC News* (7 March 2015), online: <[www.cbc.ca/news/canada/sudbury/train-carrying-crude-oil-derails-near-gogama-ont-1.2985703](http://www.cbc.ca/news/canada/sudbury/train-carrying-crude-oil-derails-near-gogama-ont-1.2985703)>.

<sup>111</sup> Associated Press, "Freight train loaded with Bakken crude oil derails near Illinois city," *The Globe and Mail* (6 March, 2015), online: <[www.theglobeandmail.com/news/world/freight-train-loaded-with-bakken-crude-oil-derails-near-illinois-city-catches-fire/article23327281/](http://www.theglobeandmail.com/news/world/freight-train-loaded-with-bakken-crude-oil-derails-near-illinois-city-catches-fire/article23327281/)>.

<sup>112</sup> Christina Nunez, "Oil Train Derails in Lynchburg, Virginia," *National Geographic* (2 May 2014), online: <[news.nationalgeographic.com/news/energy/2014/04/140430-oil-train-derails-in-lynchburg-virginia/](http://news.nationalgeographic.com/news/energy/2014/04/140430-oil-train-derails-in-lynchburg-virginia/)>.

<sup>113</sup> Associated Press, "Train carrying oil derails, catches fire in Canada," *Times Free Press* (8 January 2014), online: <[www.timesfreepress.com/news/local/story/2014/jan/08/train-carrying-oil-derails-catches-fire-canada/128554/](http://www.timesfreepress.com/news/local/story/2014/jan/08/train-carrying-oil-derails-catches-fire-canada/128554/)>.

<sup>114</sup> David Shaffer, "As oil train burns 2,300 residents of Casselton, N.D., told to flee," *StarTribune* (31 December 2013), online: <[www.startribune.com/business/238070771.html?page=1&c=y](http://www.startribune.com/business/238070771.html?page=1&c=y)>.

<sup>115</sup> Verna Gates & Edward McAllister, "Crude oil tank cars ablaze after train derails in Alabama," *Reuters* (8 November 2013), online: <[www.reuters.com/article/2013/11/09/us-crude-train-explosion-idUSBRE9A70Q920131109](http://www.reuters.com/article/2013/11/09/us-crude-train-explosion-idUSBRE9A70Q920131109)>.

21 October 2013	Smithboro, Illinois	Large puncture discovered in heavily damaged tank car carrying residue crude oil.
19 October 2013	Gainford, Alberta	Thirteen cars — four carrying petroleum crude oil and nine carrying liquefied petroleum gas — come off the tracks sparking a huge fireball and evacuation of about 100 people. <sup>116</sup>
6 July 2013	Lac-Mégantic, Quebec	70 cars of crude oil crashed into downtown Lac-Mégantic. 47 people killed as a result of major explosions and destruction. <sup>117</sup>
26 June 2013	Calgary, Alberta	Six cars on a 102-car train derail when the bridge they crossing over the Bow River partially collapses.
21 May 2013	Jansen, Saskatchewan	Train derailment causing 5 cars of crude oil to go off tracks, spilling more than 71,000 litres.
3 April 2013	White River, Ontario	Train derailment sent 7 tank cars of crude oil and 15 other cars off tracks. More than 100,000 litres of crude released.
27 March 2013	Parkers Prairie, Minnesota	14 cars derailed, 3 breached leaking 57,000 litres of Alberta oil sands crude. <sup>118</sup>
22 January 2012	Glen Ewen, Saskatchewan	Train hit at public crossing causing 24 cars carrying crude oil to derail, 14 flipped onto their side. One punctured tank car released 50,000 litres of crude oil.
1 December 2011	Monroe, Louisiana	5 car derailment – minor leak was contained.
1 November 2010	Havre, Montana	Train derailment - single tank car carrying crude oil fell on its side, oil leaked out but was contained.

More broadly it has been noted that more oil was spilled from trains in North America in 2013 than the combined total from 1975 to 2012.<sup>119</sup>

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<sup>116</sup> Christina Commisso, “Train derailment fire will have to burn itself out before residents can go home,” *CTV News* (19 October 2013), online: <[www.ctvnews.ca/canada/train-derailment-fire-will-have-to-burn-itself-out-before-residents-can-go-home-1.1504179](http://www.ctvnews.ca/canada/train-derailment-fire-will-have-to-burn-itself-out-before-residents-can-go-home-1.1504179)>.

<sup>117</sup> TSB 2014, *supra* note 88.

<sup>118</sup> Jeffery Jones, “Minnesota Oil Spill: Canadian Train Derails, Spilling 30,000 Gallons of Crude in U.S.,” *Huffington Post* (27 March 2013), online: <[www.huffingtonpost.com/2013/03/28/minnesota-oil-spill\\_n\\_2967118.html](http://www.huffingtonpost.com/2013/03/28/minnesota-oil-spill_n_2967118.html)>.

<sup>119</sup> Curtis Tate, “More oil spilled from trains in 2013 than in previous four decades, federal data show,” *McClatchyDC* (11 January 2014), online: <<http://www.mcclatchydc.com/news/nation-world/national/economy/article24761968.html>>.

The TSB's overall assessment of the performance of the transportation safety oversight system has been 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."<sup>120</sup> Data released in May 2016 noted an increase in the incidence of runaway trains from a five-year average of 36 incidents per year to 42 incidents in 2015.<sup>121</sup>

Beyond the question of the direct outcomes in terms of accidents and incidents, the emphasis on implementation and oversight of the SMS regime has the potential to limit opportunities within Transport Canada for policy learning based on operational observation and experience. The increasing dedication of the department's inspection and oversight capacity to reviewing and auditing SMS, reinforced by the successive reports from SCOTIC, OAG, and TSB recommending greater emphasis on SMS implementation, reduces the resources available for first-hand observation of railway operating conditions and practices and other functions. This may have the effect of reducing the department's capacity to identify and respond to emerging problems before they begin to manifest themselves as accidents or disasters.

In theory some experience based policy learning, feeding back into the design and operation of individual company operating rules and SMS, may be occurring within railways themselves. However, given the confidential nature of the SMS there is no way to assess this possibility.

The SMS regime was intended as a supplement to Transport Canada's traditional oversight functions with respect to rail safety. In practice, as made apparent in the OAG's 2013 report,<sup>122</sup> and consistent with the recommendations contained in previous reports by the RSA review advisory panel and the SCOTIC, oversight of the SMS regime has come to dominate the department's railway safety oversight activities.

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<sup>120</sup> TSB quoted in SCOTIC 2015, *supra* note 4 at 22.

<sup>121</sup> G. Robertson, "Reigning in runaway trains top priority for Garneau," *Globe and Mail*, June 5, 2016.

<sup>122</sup> OAG, 2013, *supra* note 24.

It is at best uncertain whether the department has adequate resources to both oversee the SMS regime, and carry out its conventional core regulatory activities of policy and standards development, field inspections and enforcement actions. The findings of the TSB, OAG and SCOTIC in the aftermath of the Lac-Mégantic disaster suggest serious questions about whether the department has the capacity to carry out both of these functions simultaneously. The Auditor General has noted<sup>123</sup> that the department itself has not assessed the capacity it needs to complete its functions. It is likely that very substantial increase in the department's capacity would be needed to fully implement the SMS regime as recommended by the OAG,<sup>124</sup> and to have the capacity to carry out its traditional policy, standards development and operational inspection, oversight and enforcement activities adequately. In effect, the cost-effectiveness of the SMS regime, as currently configured, is open to serious doubt.

The situation invites questions whether the oversight of company SMS has, as suggested by the Canadian Federal Pilots Association before the SCOTIC,<sup>125</sup> become a diversion of already inadequate resources away from Transport Canada's core regulatory effort functions. While in theory, consistent with the concept of reflexive regulatory models, SMS and similar internal management systems may have the potential to improve safety outcomes, the rationale for the department's direct involvement in the development and oversight of these systems is less clear. Indeed, there may be ways in which operators can be provided with powerful incentives to establish such internal management systems without the direct involvement of Transport Canada and the diversion of resources from traditional regulatory oversight that the current approach implies. Such an approach would be consistent with Gunningham's notion of reflexive regulation being more likely to succeed if underpinned by effective direct regulation.<sup>126</sup>

### **A way forward: Alternative paths to reflexive behaviour**

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<sup>123</sup> SCOTIC 2015, *supra* note 3 at 24.

<sup>124</sup> OAG 2013, *supra* note 24.

<sup>125</sup> Quoted in SCOTIC *supra* note 4 at 34.

<sup>126</sup> Gunningham, *supra* note 3 at 102-103.

Transport Canada SMS initiative began as bold experiment in reflexive meta-regulation which attempted to draw on elements of emerging thinking around management systems to address the consistently poor safety performance of Canada railways.

Declining safety performance in the immediate aftermath of the implementation of the SMS regime led to reviews of the department's regime by an independent advisory panel appointed by the Minister of Transport and by the SCOTIC. Both reviews recommended a deepening of the commitment to implementation of the SMS regime. The same direction was effectively recommended by the OAG in its 2012 and 2013 audits of aviation and rail safety respectively, and has been followed by the department in its responses to the Lac-Mégantic disaster, although the OAG did raise concerns regarding capacity and the balance between traditional regulatory functions and SMS oversight. Despite the decline in railway safety performance and implicit failure to achieve the reflexive goals of the SMS regime, there has been no serious reconsideration of the department's approach to rail safety regulatory oversight.

In this context, experience in the field of environmental regulation in Canada suggests potential pathways through which the focus of regulators on direct regulatory functions can be strengthened, while also achieving the reflexive goals sought by the SMS regime. In addition to the adoption of more robust overall approaches to environmental law enforcement, one of the central features of the reform in Canada of environmental regulatory regimes from the mid-1980s onwards was the expansion of the statutory liability of company officers and directors for offenses committed by a firm. These provisions have emerged as effective drivers of the establishment and implementation of the type of reflexive internal management systems sought through the SMS regime, without the need for direct statutory direction or oversight by regulatory agencies.

With respect to officers' and directors' liability, Section 43 of the RSA currently provides that:

“Where a corporation commits an offence under this Act, any officer, director or agent of the corporation who directed, authorized, assented to, acquiesced in or participated in the commission of the offence is a party to and guilty of the

offence, and is liable on conviction to the punishment provided for the offence, whether or not the corporation has been prosecuted or convicted.”<sup>127</sup>

On their face, these provisions appear to establish a criminal standard for the liability company officers and directors in the event of a violation of the act. There is good reason to believe that officers and directors have to knowingly direct, or at least be aware of, a violation and give tacit approval to be personally liable for an offense. Although there is some case law which suggests that the statutory language of “directed, authorized, assented to, acquiesced in or participated,” could be interpreted as implying a positive duty on officers and directors to prevent what should have been foreseen by a reasonable person in comparable circumstances,<sup>128</sup> there is other, more definitive case law identifying the need for a *mens rea* component. In language similar to s.43 of the RSA, Section 78.2 of the *Fisheries Act*<sup>129</sup>, for example, provides that “Where a corporation commits an offence under this Act, any officer, director or agent of the corporation who directed, authorized, assented to, acquiesced in or participated in the commission of the offence is a party to and guilty of the offence and is liable on conviction to the punishment provided for the offence, whether or not the corporation has been prosecuted.” In *R v. Gateway Industries Ltd.*, this language was interpreted by Sinclair, J., to imply a *mens rea* component, noting that “...it is also clear that, among other things, s.78.2 calls for an inquiry into the specific *mens rea* required of a corporate officer.”<sup>130</sup>

The situation with respect to the *RSA* is further compounded by the consideration that it appears that no one has ever been prosecuted under s.43 of the act.<sup>131</sup> If a *mens rea*

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<sup>127</sup> *RSA*, *supra* note 2.

<sup>128</sup> See e.g. *R v Hass* (1993), 139 AR 180, 1993 CarswellAlta 21 at para 65 (Prov Ct); *R v A & A Foods Ltd* (1997), 1997 CarswellBC 2541, at para 24 (BC Sup Ct).

<sup>129</sup> R.S.C. 1985, c. F-14.

<sup>130</sup> *R v. Gateway Industries Ltd.*, 2003 MBQB 241 (CanLii) at 20.

<sup>131</sup> For a recent example, the Chief Executive Officer of the MMA was charged in relation to the Lac-Mégantic disaster in June 2015. However, the charges were made under section 41 of the *RSA*. The specific charges were as follows:

- (1) On or about July 5<sup>th</sup>, 2013, did contravene Rule 112(a) of the Canadian Rail Operating Rules (CROR), in force pursuant to section 19 of the *Railway Safety Act (RSA)*, by omitting to apply a sufficient number of hand brakes when leaving equipment, to prevent it from moving,

standard were applied, this would expand what is required to be proven to establish the offence. Indeed such a component is likely only to be able to be established in exceptional circumstances.<sup>132</sup> The implication is that there is very little risk of company officers and directors being found personally liable for offenses in the normal course of events.

Canadian environmental legislation began to incorporate provisions regarding the personal liability of company officers and directors in the mid-1980s, as part of an overall effort to strengthen the focus on compliance and enforcement.<sup>133</sup> These provisions now incorporate more active, civil standards of liability regarding the duties of company officers and directors. Ontario's *Environmental Protection Act* (EPA)<sup>134</sup> and *Ontario Water Resources Act* (OWRA),<sup>135</sup> for example, require that officers and directors take "all reasonable care" to prevent violations of legislation, regulations and terms and conditions of specific approvals. Similar provisions exist in the *Canadian Environmental Protection Act, 1999*,<sup>136</sup> *Ontario Pesticides Act*,<sup>137</sup> *Oak Ridges Moraine Conservation Act*<sup>138</sup> and Newfoundland and Labrador's *Endangered Species Act*.<sup>139</sup> The *Criminal Code* establishes a duty on those who supervise work to prevent harm to workers and the public.<sup>140</sup> Under these provisions officers and directors may be personally liable in the event of an offense if they have failed in their general duty of "due diligence" or reasonable care to prevent an offense. In contrast, it is very likely the current RSA standard requires that officers and directors play active or knowing roles in

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contrary to paragraph 41(2)(d) of the *RSA*, committing thereby an offence punishable on summary conviction pursuant to paragraph 21(2.1) of the *RSA*.

- (2) On or about July 5<sup>th</sup>, 2013, did contravene Rule 112(b) of the Canadian Rail Operating Rules (CROR), in force pursuant to section 19 of the *Railway Safety Act* (*RSA*), by omitting to apply a sufficient number of hand brakes when leaving equipment, to prevent it from moving, contrary to paragraph 41(2)(d) of the *RSA*, committing thereby an offence punishable on summary conviction pursuant to paragraph 21(2.1) of the *RSA*.

<sup>132</sup> John Swaigen, *Regulatory Offences in Canada: Liability and Defences* (Toronto: Carswell, 1992), at 67.

<sup>133</sup> Pal, *Supra* note 6, ch 3.

<sup>134</sup> *Environmental Protection Act*, RSO 1990, c E.19, s 92(1) [*EPA*].

<sup>135</sup> *Ontario Water Resources Act*, RSO 1990 c O.40, s 116(1) [*OWRA*].

<sup>136</sup> *Canadian Environmental Protection Act, 1999*, SC 1999, c 33, s 280.1.

<sup>137</sup> *Pesticides Act*, RSO 1990, c P.11, s 49.

<sup>138</sup> *Oak Ridges Moraine Conservation Act, 2001*, SO 2001, c 31, s 24(4).

<sup>139</sup> *Endangered Species Act*, SN 2001, c E-10.1, s 42.

<sup>140</sup> See *Criminal Code*, RSC 1985, c C-46, s 217.1.

an offense to attract personal liability. 2005 amendments to the Ontario legislation<sup>141</sup> added a statutory reverse onus provision – meaning that a director or officer who is charged has the burden of proving that he or she took reasonable care to prevent the infraction.<sup>142</sup>

The introduction of these types of liability for officers and directors in environmental legislation from mid-1980s onwards, accompanied by much more vigorous enforcement regimes, has been widely identified as a trigger for the establishment of environmental management systems (EMS) in Canada by firms covered by the environmental regulatory regime.<sup>143</sup> The existence of such systems provide the foundation of defenses of “due diligence” or reasonable care in the event of prosecutions for environmental offenses. It is important to note that unlike the RSA, the relevant environmental legislation does not require development of EMS and environmental regulators play no direct role in prescribing or reviewing the contents of the EMS developed by individual companies. Prosecutions by environment ministries and the resulting case law around officers and directors environmental liability, beginning with the 1992 *R. v. Bata Industries*<sup>144</sup> case, have identified a range of elements that officers and directors can take to demonstrate due diligence including:<sup>145</sup>

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<sup>141</sup> *Environmental Enforcement Statute Law Amendment Act, 2005*, S0 2005, c 12.

<sup>142</sup> See e.g. *EPA*, *supra* note 134, s 194(2.1); *OWRA*, *supra* note 135, s 166(2.1).

<sup>143</sup> See e.g. Donna SK Shier & Raj Bharati, “Directors’ and officers’ environmental liability,” *Whillms and Shier Environmental Lawyers* (ND), online: <[www.willmsshier.com/docs/default-source/articles/directors'-and-officers'-environmental-liability.pdf?sfvrsn=4](http://www.willmsshier.com/docs/default-source/articles/directors'-and-officers'-environmental-liability.pdf?sfvrsn=4)>; Dianne Saxe, *Environmental Offences: Corporate Responsibility and Executive Liability* (Aurora: Canada Law Book, 1990) at 28; Swaigen, *supra* note 164; KPMG Environmental Risk Services, *Canadian Environmental Management Survey*, (Toronto: KPMG 1996); Robert Mansell & Brian Prill, “Beyond Environmental Compliance, with a View to the Best Interests of the Company” in Jane Sarra, ed, *Corporate Governance in Global Capital Markets* (Toronto: UTP, 2003) at 177-78; James Hartshorn, “Better Government: The Value of Environmental Management Systems in Achieving Policy Objectives” (2003) 12 *J Env L & Prac* at 99; Selina Lee Anderson, “Update on Directors’ and Officers’ Environmental Liability: Lessons from Northstar Aerospace,” *McCarthy Tetrault* (22 January 2014), online: <[www.mccarthy.ca/article\\_detail.aspx?id=6607](http://www.mccarthy.ca/article_detail.aspx?id=6607)>; David M Ong, “The impact of environmental law on corporate governance: international and comparative perspectives.” (2001) 12:4 *EJIL* 12.4 708; Allison F Gardner, “Beyond compliance: Regulatory incentives to implement environmental management systems” (2002) 11 *NYU Env'tl LJ* 664, at 667, 702.

<sup>144</sup> *R v Bata Industries* (1992), 9 OR (3d) 329 (Prov Div).

<sup>145</sup> Adapted from Shier & Bharati, *supra* note 143 at 2.

- instructing appropriate officers to establish an EMS to ensure compliance with environmental laws, anticipate, prevent and respond to environmental events, and that will meet or exceed industry standards and practices;
- ensuring that officers have sufficient authority and resources to establish and maintain all elements of the EMS, including training and documentation;
- requiring officers to report regularly to the board on the operation of the system, and that any substantial non-compliance is reported to the board in a timely manner;
- carefully considering the recommendations of the environment committee, and actively responding to them;
- critically assessing whether the board is justified in placing reliance on reports provided by corporate officers, consultants, counsel, or other parties;
- ensuring that environmental concerns of government agencies or other concerned parties, including shareholders, are considered and addressed;
- ensuring that there is active supervision, inspection, and training of employees; and
- ensuring corrective action is taken immediately when the system fail.

EMS are themselves typically subject to some form of third party certification and audit, whose maintenance is considered an important element of their ability to support a due diligence defense in the event of a prosecution. The establishment and implementation of EMS, in response to the expansion of officers and directors liability represents the kind of reflexive responses that Transport Canada sought, but has been unable to achieve, through the SMS regime.

The adoption of similar provisions in the *RSA* clarifying a duty to take “all reasonable care” on the part of officers and directors to prevent violations would be likely to prompt the development of internal company SMS, similar to those prescribed by the SMS regulations, without the need for direct Transport Canada oversight and review. Such a provision would be particularly effective if reinforced by a reverse onus provision similar to that in the Ontario *EPA* and *OWRA*. The SMS requirements could be removed from the *RSA* and the formal regulatory regime prescribed by the department more generally.

Such an arrangement would avoid the diversion of the department's already overextended oversight capacity away from its core regulatory functions of policy and standards development, field inspection and oversight and enforcement, towards SMS implementation, audit and oversight. At the same time it would maintain the reflexive benefits of companies developing and implementing management systems for safety.

An approach of significantly strengthening company officers' and directors' liability with respect to safety would be reinforced by the addition of a general offense provision to the *RSA* (e.g. "no person shall engage in the unsafe operation of a railway in a manner that causes or may cause harm to any person, property, business or the environment")<sup>146</sup>, similar to those which exist in provincial environmental legislation<sup>147</sup> and occupational health and safety legislation.<sup>148</sup>

In order to be effective these proposals would require a much more robust overall approach to the enforcement of the *RSA* by Transport Canada. Enhanced provisions related to officers' and directors' liability *per se* will have little impact on company behaviour unless they are accompanied by a credible threat of enforcement and

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<sup>146</sup> *CEPA 1999*, *supra* note 136, defines the environment as follows:

"environment" means the components of the Earth and includes

- (a) air, land and water;
- (b) all layers of the atmosphere;
- (c) all organic and inorganic matter and living organisms; and
- (d) the interacting natural systems that include components referred to in paragraphs (a) to (c).

<sup>147</sup> See e.g. *EPA*, *supra* note 134, ss 6 & 14:

14. (1) Subject to subsection (2) but despite any other provision of this Act or the regulations, a person shall not discharge a contaminant or cause or permit the discharge of a contaminant into the natural environment, if the discharge causes or may cause an adverse effect. 2005, c. 12, s. 1 (5). Adverse effect is defined in s.1 as follows: "adverse effect" means one or more of,
- (a) impairment of the quality of the natural environment for any use that can be made of it,
  - (b) injury or damage to property or to plant or animal life,
  - (c) harm or material discomfort to any person,
  - (d) an adverse effect on the health of any person,
  - (e) impairment of the safety of any person,
  - (f) rendering any property or plant or animal life unfit for human use,
  - (g) loss of enjoyment of normal use of property, and
  - (h) interference with the normal conduct of business; ("conséquence préjudiciable")

and; *OWRA*, *supra* note 135, s 30:

30. (1) Every person that discharges or causes or permits the discharge of any material of any kind into or in any waters or on any shore or bank thereof or into or in any place that may impair the quality of the water of any waters is guilty of an offence.

<sup>148</sup> *Occupational Health and Safety Act*, RSO 1990, c 0.1, ss 23(1)(c), 24(1)(c), 25.

prosecution. The department's employment of administrative monetary penalties over the past year may indicate the beginnings of such a shift, although it is too early for a definitive assessment.

A more vigorous approach to enforcement could be open to criticism of creating an environment of "adversarial legalism," where companies adopt defensive programs oriented towards proving legal compliance, rather than developing a more open and honest systems to review performance.<sup>149</sup> However, much of the literature around this concern is grounded in US experience in environmental law, where there is a long history of aggressive enforcement action by state and federal agencies. Similar arguments were advanced in Canada in the 1970s and early 1980s in favour of the negotiative rather than prosecutorial approaches to environmental law prevalent at the time.<sup>150</sup> They emerged again in the 1990s in support of "non-regulatory voluntary" approaches to environmental policy implementation.<sup>151</sup> In both cases the outcomes have come to be widely regarded as ineffective.<sup>152</sup> Judicial inquiries into the May 2000 Walkerton drinking water contamination disaster, and a similar 2001 event in North Battleford, Saskatchewan highlighted the role of "voluntary" approaches to enforcement as contributing factors in the disasters.<sup>153</sup>

Moreover, given Transport Canada's weak record of enforcement actions under the *RSA*, with only nine prosecutions, including the June 2015 charges laid in relation to the Lac-Mégantic disaster, being conducted since 1997 (see Figure 1) the risks of the system becoming excessively adversarial seem exceedingly low. Rather the existing

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<sup>149</sup> Eric W Orts, "Reflexive environmental law" (1994) 89 *Nw UL Rev* 1227 at 1283

<sup>150</sup> For a discussion of Canadian environmental regulatory practices in the 1970's and early 1980's see Robert B Gibson, *Control Orders and Industrial Pollution Abatement in Ontario* (Toronto: Canadian Environmental Law Research Foundation, 1999).

<sup>151</sup> See Robert B Gibson, *Voluntary Initiatives: The New Politics of Corporate Greening* (Peterborough: Broadview Press, 1999).

<sup>152</sup> See Doug Macdonald, *The Politics of Pollution: Why Canadians are failing their Environment* (Toronto: McClelland and Stewart 1991) at 178-187; Mark Winfield, "Policy Instruments in Canadian Environmental Policy" in DL VanNijnatten and R Boardman, eds, *Canadian Environmental Policy and Politics: Prospects for Leadership and Innovation*, 3rd ed (Toronto: Oxford University Press, 2009), at 49-50; See also Jaime Benedickson, *Environmental Law* (Toronto: Canada Law Book, 2009) at 167-173; Winfield, *Blue-Green Province*, *supra* note 49 at 28-29.

<sup>153</sup> The Hon Dennis R O'Connor, *Report of the Walkerton Inquiry, Part One* (Toronto: Queen's Printer for Ontario, 2002) at 323-332.; The Hon. Robert D Laing, *Report of the Commission of Inquiry into matters relating to the safety of drinking water in North Battleford, Saskatchewan* (Regina: Queen's Printer for Saskatchewan, 2002).

enforcement regime appears so weak as to have allowed unsafe practices to continue for extended periods of time, as happened the case of the MMA railway, and for firms engaging in such practices to gain short-term competitive advantages over those following more rigorous routines.

## **Conclusions**

The Lac-Mégantic disaster has drawn substantial parliamentary, media and public attention to the question of railway safety regulation in Canada. Studies by TSB, OAG, SCOTIC, CCPA, Canada Safety Council and others both before and after the disaster have identified significant weaknesses in Transport Canada's oversight regime. To date the Conservative and Liberal governments' responses to the situation have been to make adjustments at the margins of the regime, strengthening or changing specific rules and requirements. There has been no overall review of the current approach to safety oversight, grounded in a multi-part system of Transport Canada defined general rules and regulations, individual company developed and Transport Canada approved rules, company developed and Transport Canada audited SMS, TDG rules and CTA insurance requirements. Such a response is inadequate given the scale of the Lac-Mégantic disaster, and ongoing concerns about the effectiveness of the oversight regime. The MMA's response to the SMS requirements provided a textbook example of the risk of token or paper compliance with reflexive meta-regulatory regimes highlighted by Gunningham.<sup>154</sup>

Serious questions exist around the department's capacity to simultaneously implement SMS regime and maintain adequate traditional oversight activities. Alternatives to the incorporation of SMS requirements and oversight into the regulatory regime are available to prompt reflexive board and senior management responses. Experience in environmental law, for example, suggests that expanded statutory duties of care on the part of company officers and directors can trigger the development of internal environmental management systems without the need for direct involvement or oversight by regulatory agencies. Such an approach should be incorporated into the

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<sup>154</sup> Gunningham, *supra* note 3 at 103.

*RSA*, and Transport Canada's regulatory resources refocused on direct safety policy development, oversight and enforcement activities rather than SMS implementation and audit. The incorporation of a general offense provision in the *RSA* would further reinforce the effectiveness of expanded provisions regarding officers' and directors' liability. If accompanied by a much more vigorous approach to enforcement by the department, the overall effect could be to advance the intended goals of reflexive regulation of prompting regulated entities to take more proactive, self-critical approaches to safety issues, while avoiding the diversion of limited oversight capacity inherent in the existing regime.

The SMS initiative began as a well-intended effort to improve railway safety performance. The SMS approach, grounded in a combination of smart regulation and management systems thinking prevalent in Canada and elsewhere in the OCED in the late 1990s, was intended to produce a reflexive meta-regulatory regime. The Lac-Mégantic disaster highlighted the extent to which the initiative became a significant distraction away from Transport Canada's traditional, but essential, safety oversight functions, while also failing to achieve its reflexive goals. The disaster made it clear that Transport Canada's approach requires serious reconsideration if it is to ensure safety while prompting the reflexive responses it seeks. More broadly, Canada's railway SMS experience provides a cautionary tale regarding the risks associated with pursuing reflexive regulatory models at the expense of direct regulation, particularly in areas where the consequences of regulatory failure may be catastrophic.