

CONFIDENTIAL – NOT FOR DISTRIBUTION

Safety and Operations Management Committee Meeting 2023-01

May 9, 2023

**People. Goods.
Canada moves by rail.**



Railway Association
of Canada

Competition Law Compliance Policy

STATEMENT

The RAC is committed to compliance with all **competition laws** applicable in Canada, including Canada's *Competition Act*. Under the leadership of its Board of Directors, the RAC carries out its activities in strict compliance with all **competition laws**, provides guidance to its committees and its employees on how to comply with these laws, and promotes with them the importance and value to the RAC of complying with them.

The RAC Corporate Secretary ensures that RAC, its committees and its staff are familiar and comply with this policy.

COMPETITION LAW

Competition laws are designed to maintain and encourage competition in the marketplace. Non-compliance with the **competition laws** relating to improper coordination among competitors could constitute a criminal offence to which significant fines and prison terms can be attached, and for which significant damages can be awarded in private lawsuits, including large class actions. RAC is a forum for railway members to exchange information and views on the railway sector. Particularly because RAC is an association that represents most of the players in the rail sector in Canada, including many that compete with one another, any activity it conducts must be in strict accordance with the **competition laws**, and avoid even the perception of possible improper conduct.

PROHIBITED ACTIVITIES

Due to the presence of multiple competing entities in RAC, any activity, including discussions or agreements that relate, directly or indirectly, to the following “**Prohibited Topics**” are strictly prohibited:

- ☐ Prices (rates) charged to shippers for services provided by members of the RAC
- ☐ Prices (costs) paid to suppliers for services provided to members of the RAC
- ☐ Any other conditions associated with services provided to shippers or received from suppliers of RAC members, including discounts, rebates, etc. and level of service provisions
- ☐ Customer or territory allocation
- ☐ Limitation of supply of services provided by RAC members to their customers

GUIDANCE

Any activity, including discussions or agreements that could even remotely be construed as relating to the above Prohibited Topics, cannot take place at the RAC or any of its committees or any meeting organized or attended by RAC staff, or otherwise among RAC members.

To ensure compliance with these rules, when meeting, members of a RAC committee or of the Board of Directors must:

- ☐ Have a pre-set agenda and take minutes, recording resolutions adopted and summarizing the essentials of conversations that took place.
- ☐ Limit themselves to issues identified on the agenda, except if circumstances call for other issues to be addressed, in which case careful notes of the additional issues discussed must be recorded.
- ☐ If any participant believes that Prohibited Topics have been raised or discussed, they must advise all participants of their concern and any discussion relating to that issue be ceased immediately pending legal advice.
- ☐ Require legal advice if any issue to be discussed might cause the members to believe that **competition laws** could be infringed.
- ☐ Suspend or even postpone to a later date discussions on such issues if legal advice cannot be sought in a timely manner.

Staff of the RAC shall in their duties ensure the confidentiality of information brought to their attention by members, avoid conflict of interest or situations that would discredit the RAC, unless doing so could violate the **competition laws**.

February 2021

**SAFETY AND OPERATIONS MANAGEMENT COMMITTEE (SOMC)
Briefing Book 2023-01
May 9, 2023**

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**SAFETY AND OPERATIONS MANAGEMENT COMMITTEE (SOMC)
MEETING 2023-01**

May 9, 2023; 10:00 AM (ET)
50 O'Connor, 6th Floor, Ottawa, Ontario, Hunter Room

ZOOM MEETING – [CLICK HERE](#)
Meeting ID: 833 8355 2290, Meeting Password: e#ni?8QB

AGENDA

	SCHEDULE	DISCUSSION LEADER	TIME
1.	Welcome and Call to Order	Matt McClaren (Chair)	10:00
1.1	Competition Law Compliance Policy – Forward statement	Michael Barfoot	10:05
1.2	Approval of Draft Minutes (October 18, 2022)	Matt McClaren	10:10» D
2.	Opening Remarks	Caroline Healey / Matt McClaren	10:15
3.	President's Report	Marc Brazeau	10:25»
4.	Regulatory Affairs / Rail Data Working Group Update	Michael Barfoot	10:35»
5.	Request for a formal "Safety and Environment Awards Committee"	Janet Greene	10:55
6.	Request for a formal "Cyber-Security Committee"	Enzo De Benetti	11:05
7.	Association of American Railroads	Mike Rush	11:15
8.	ETC Working Group	Michael Hendry / Scott McDade	11:30**
	HEALTH BREAK		11:50
9.	Transport Canada – Rail Safety	Stephen Scott / Stéphanie Plouffe	12:20**
10.	Transportation Safety Board	Vincenzo De Angelis	12:40**
11.	Transport Canada - Innovation Centre	Jim Lothrop	12:55»**
12.	Follow-up Discussion on GoC Presentations	All	13:15
13.	Miscellaneous / Adjournment	Matt McClaren	13:30
D	Decision Required		
»	<i>Supporting material in briefing book</i>		
**	Guest speakers exit meeting.		

SOMC – SCENARIO NOTES**1. WELCOME AND CALL TO ORDER – MATT MCCLAREN (CHAIR)**

The meeting of the Safety and Operations Management Committee (SOMC) of the Railway Association of Canada (RAC) held on **Tuesday, May 9, 2023**, is called to order by the **CHAIR**.

CHAIR welcomes the Committee members and goes over housekeeping items such as:

- Since the meeting is being held in person and virtually, please note that there may be disruptions and we ask for your patience.
- Please ensure your microphone is muted unless you are speaking.
- The meeting is being recorded for our minutes.
- For members participating virtually, this meeting will be locked once all participants have joined for security purposes.

CHAIR reports that notification of the meeting was given in accordance with RAC Bylaw #43. *“Notice of Meetings – General Committees and Committees. Ten days’ notice of all meetings of general committees or committees shall be given to all members thereof by the Secretary; provided, however, that the Chair of any general committee or committee may direct the Secretary to call a meeting on shorter notice. The Secretary may delegate to the Chair of a general committee or committee the role of secretary thereof who shall give or cause to be given notice of meeting, shall record all votes and minutes of all proceedings, and shall provide members of the committee with copies of the minutes of the proceedings.”*

CHAIR notes that there is a quorum and declares the meeting to be properly constituted for the transaction of business.

1.1 CHAIR will invite **Michael Barfoot** to address the [Competition Law Compliance Policy](#) by reading the following statement:

This is a meeting of the Railway Association of Canada (RAC) **Safety and Operations Management Committee (SOMC)**. This **SOMC**, like all RAC **SOMC**, operates under the **RAC’s Competition Law Compliance Policy** (Policy) that has been circulated to all participants prior to this meeting and included in the meeting material. This Policy directs that at all times RAC and its SOMC will act in complete compliance with competition laws applicable in Canada.

To begin, we will be proceeding in accordance with the agenda that has been provided to you. Discussion should be limited to the topics that are listed on the agenda.

Additionally, during our meetings there shall be no discussion or agreements, explicit or implicit, on any matter where your company may be in competition, or may potentially compete, with others. Specifically, there should be no discussion about: (1) any aspect of your company’s (or any company’s) rates and prices, including, but not limited to, surcharges, discounts, rebates and credit terms; (2) any other commercial arrangements with, or markets for, customers, suppliers or other vendors, or business strategies; (3) industry capacity or the type or level of service your company provides, whether current or planned for the future; or (4) wages, salaries, benefits, leave policies, or other terms and conditions of employment for existing employees or to be offered to potential employees. There also should be no agreements not to hire or seek to hire the employees of any railroad or other organization, or any discussion of those subjects. Nor should there be discussion of how individual companies intend to respond commercially to potential

market/economic scenarios or government action; nor should there be any discussion about whether or not to use, or disparaging remarks made about, any specific vendors, suppliers or services.

If, during the course of this meeting, you believe that the discussion may be straying into impermissible subject areas, you must immediately raise your concerns with the Chair. The discussion of the questioned subject matter must then be tabled until counsel has been consulted and has advised whether it is a proper matter for SOMC discussion and consideration.

CHAIR reviews the [agenda](#) and asks if any items need to be added.

1.2 CHAIR requires approval of the Minutes of October 18, 2022.

RESOLUTION: It was moved by _____ and seconded by _____ that the Minutes of the *Safety and Operations Management Committee* meeting held on Tuesday, October 18, 2022, be and hereby taken as read and approved.

2. OPENING REMARKS – CAROLINE HEALEY / MATT MCCLAREN (CHAIR)

Caroline Healey welcomes the Committee and will make her opening remarks and further invites Matt McClaren **CHAIR** to do his opening remarks and conduct the remainder of the meeting.

3. PRESIDENT’S REPORT – MARC BRAZEAU

Marc Brazeau provides a report on the activities of the RAC since the last SOMC meeting. Marc Brazeau’s report is included in the briefing book under the **PRESIDENT’S REPORT SECTION**.

4. REGULATORY AFFAIRS / RAIL DATA WORKING GROUP (RDWG) UPDATE – MICHAEL BARFOOT

Michael Barfoot reviews the current regulatory and rule-making priorities, including the work being done by the Rail Data Working Group. Updates and discussion items focus on Ministerial Order (MO) 22-04 Phase 2 *Train Brake Rules* (TBR), Transport Canada (TC) / Industry Working Group on Automated Parking Brakes and *Railway Employee Qualification Standards Regulations* (REQSR). A comprehensive summary of ongoing regulatory, rulemaking, and working groups is included in the briefing book under the **REGULATORY AFFAIRS SECTION**.

5. REQUEST FOR A FORMAL “SAFETY AND ENVIRONMENT AWARDS COMMITTEE” - JANET GREENE

Janet Greene has a request on behalf of the Safety and Environment Awards Committee. On January 31st, the Safety and Environment Awards Committee met to review their current process, criteria and nomination forms. This is not a formal committee but has a lot of influence as to who of our members receive awards.

Currently sitting on the Committee:

Bruno Riendeau, VIA (acting as Chair)

Gerald Linden, SRY
Stéphane Tardif, GWCI
Lynda McLeod, CN
Stacy Patenaude, CPKC

From the RAC: Janet Greene (informally – RAC staff do not vote on any nominations)

- Creating Terms of Reference.
- Identifying how many members constitute a quorum for selecting the award winners.
- Ensuring all different sectors of the industry are represented (freight, passenger, commuter, etc.).
- Appointing a Chair and Vice-Chair.

RESOLUTION: It was moved by _____ and seconded by _____ to establish a Safety and Environment Awards Committee reporting into SOMC.

6. REQUEST FOR A FORMAL “CYBER-SECURITY COMMITTEE” – ENZO DE BENETTI

During the last Security Committee meeting there was a discussion regarding establishing a dedicated Cyber-security Subcommittee that would report into the Security Committee. The Security Committee determined that it does not have the expertise to provide input regarding cyber-security. Therefore, RAC recommends that SOMC establish an official Cyber-security Committee reporting directly into SOMC. This would entail:

- Creating Terms of Reference.
- Identifying members to the Cyber-security Committee.
- Appointing a Chair and Vice-Chair.

RESOLUTION: It was moved by _____ and seconded by _____ to establish a Cyber-security Committee reporting into SOMC.

7. ASSOCIATION OF AMERICAN RAILROADS – MIKE RUSH

Mike Rush provides an update on current key operating, safety, and regulatory priorities in the United States and with the AAR.

8. ETC WORKING GROUP – MICHAEL HENDRY / SCOTT MCDADE

Michael Hendry provides a presentation on Enhanced Train Control (ETC) on behalf of the RAC Working Group. The ETC report is included in the briefing book under the **ETC SECTION**.

9. TRANSPORT CANADA – RAIL SAFETY – STEPHEN SCOTT / STÉPHANIE PLOUFFE

Stephen Scott and Stéphanie Plouffe presents the directions and priorities of Transport Canada's Rail Safety division.

10. TRANSPORTATION SAFETY BOARD – VINCENZO DE ANGELIS

Vincenzo De Angeles provides a presentation on the summary of statistics to date, TSB Recommendations, 2020 Watchlist, *Locomotive Voice and Video Regulations* and Rail Data Working Group.

11. TRANSPORT CANADA – INNOVATION CENTRE – JIM LOTHROP

Jim Lothrop provides an update on the 2025 work planning process and key project updates. Mr. Lothrop's PPT presentation is included in the briefing book under **ANNEX A - PRESENTATIONS**.

12. FOLLOW-UP DISCUSSION - ALL

SOMC members, discuss priorities, confirm, and develop action items in reference to the meeting.

13. MEETING ADJOURNMENT

RESOLUTION: There being no further business, it was moved by _____ and seconded by _____ that the meeting be adjourned.

The next SOMC meeting will be held on October 17, 2023.

The Chair thanked the members for their participation and declared the meeting adjourned at _____ hours.

SAFETY AND OPERATIONS MANAGEMENT COMMITTEE MEETING (SOMC)
DRAFT MINUTES 22-02
Hyatt Regency Calgary Hotel, 700 Centre St. S.E., Calgary, Alberta / Virtual Meeting
October 18, 2022; 9:00 HOURS (MT)

Attendance:

Present: Mr. M. McClaren, CN (Chair)
Mr. G. Barney, CSX
Mr. M. Barfoot, RAC
Mr. V. Bordeleau, QNS&L
Mr. M. Brankley, VIA Rail
Mr. M. Brazeau, RAC
Mr. B. Chursinoff, RAC
Mr. J. Corley, ONTC
Mr. E. De Benetti, RAC
Mr. D. Duquette, ONTC
Ms. J. Greene, RAC
Ms. C. Healey, RAC
Mr. G. Huggins, TTR
Ms. S. Kazaka, RAC
Mr. G. Kolz, RAC
Ms. L. Kennedy, CPKC
Mr. M. Le Boulair, QNS&L
Mr. G. Linden, SRY
Mr. R. McLellan, GWCI
Mr. M. Martens, GCRC
Mr. K. Nordin, SRY
Mr. K. Ouimet, RAC
Mr. M. Schulze, BNSF
Mr. S. Sefsik, GWCI
Mr. S. Tardif, GWCI
Mr. J. Thibault, RAC

Absent: Mr. R. Andrews, Metrolinx
Mr. J. Bérubé, TRT
Mr. M. Bigras, exo
Mr. J.-P. Boucher, AMIC
Mr. C. Edeburn, GCRC
Mr. M. Gallagher, Metrolinx
Mr. N. Johnson, GIO
Ms. L. MacLeod, CN
Mr. J. Moller, AAR
Mr. R. Ringelman, BNSF
Mr. S. Rodrigue, exo
Mr. M. Rush, AAR
Mr. J. Schwichtenberg, CSX

Presenters: Mr. V. De Angelis, TSB
Mr. S. Scott, TC
Ms. S. Plouffe, TC
Dr. M. Hendry, U of A, RAC
Mr. M. Krench, TC
Mr. J. Lothrop, TC
Mr. S. McDade, RAC

1. Welcome, Call to Order, Roll Call and Approval of Minutes (May 10, 2022)
– Matt McClaren, Chair

Mr. McLaren noted that the required quorum was achieved and called the meeting to order in accordance with the Railway Association of Canada (RAC) bylaws.

1.1 Competition Law Compliance Policy – Forward statement – Michael Barfoot, RAC

Mr. Barfoot read the Competition Law Compliance Policy – Forward statement.
Ms. Buffone conducted the roll call.

1.2 Approval of Minutes (May 10, 2022) – Matt McClaren, Chair

It was moved by Mr. Sefsik and seconded by Mr. Martens to approve the minutes of the May 10, 2022, meeting.

2. Opening Remarks – EVP and Chair

Ms. Healey welcomed everyone to the meeting. She thanked the Regulatory Affairs Working Group, which is composed of Lori Kennedy, CPKC, Lynda MacLeod, CN, Nicolas Panetta, VIA, Eric Blokzy, Metrolinx, Sean Sefsik, GWCI and Michael Barfoot from the RAC.

3. President's Report – Marc Brazeau, RAC

Mr. Brazeau stated the RAC just completed the 3-year strategic plan process. The RAC is going to continue to focus on advocacy and influence. The direction and feedback received from SOMC will be critical to understanding the priorities. The Supply Chain Task Force came up with several recommendations in their detailed report. The interswitching recommendation could have unintended consequences. The RAC is also going to focus on telling the rail story by using social media and working with our members with their social media. Connection and collaboration will also

be an important element in the strategic plan. The RAC has set 6 strategic objectives. Number 1 is Safety. The RAC will continue to ensure to drive any safety related issues, programs, and initiatives. Number 2 is Innovation. The RAC will tell the innovation story more aggressively and proactively. Number 3 is Environment Social Governance. Mr. Brazeau is going to propose to the RAC Board of Directors that the RAC go through a governance review as an association. Number 4 is Supply Chain. The RAC will continue to make sure that the railways work with all the supply chain partners. Number 5 is Operational Excellence. Which is an internal strategic objective to ensure the RAC has the right people with the right resources, who are focused and drive the priorities of the members. Number 6 is Talent, Recruitment and Retention. What can the RAC do to attract more people to consider a career in the rail industry. The RAC recently signed a Terms of Reference with the Government of Ukraine to help them rebuild their rail network.

4. **Regulatory Affairs – Michael Barfoot, RAC**

Mr. Barfoot provided an update on recent developments that have occurred since the last SOMC meeting.

Ministerial Order (MO) 22-04 *Train Brake Rules (TBR)*

At the end of July Transport Canada (TC) published Ministerial Order 22-04 in response to the Transportation Safety Board's recommendation R22-01 which requires, "*that the DoT establish enhanced test standards and requirements for time-based mtc of brake cylinders on freight cars operating on steep descending grades in cold ambient temperatures*". TC consulted with RAC and members before publishing the MO. The MO is in two phases. Phase 1 applies to all railways and Phase 2 applies to freight carriers operating on steep descending grades in cold temperatures. The RAC sent the proposed TBR changes to members and unions for consultation on September 23. The RAC plans to file both phases by November 30. The RAC and the working group have not yet met with TC to discuss the proposed changes.

TC / Industry Working Group on Automated Parking Brakes

At the end of August, TC kicked off an industry / TC working group to assess the readiness, effectiveness, and safety implications of automatic parking brakes. This is in response to TSB recommendation R22-02. The recommendation in the report specially calls for automatic parking brakes. The RAC spoke with TC and TSB to state the technology is not available. They are still working on the Terms of Reference and the scope of work. Research initiatives will also be done. TC is trying to get access to prototypes from Wabtec and New York Air Brakes. TC confirmed this will be a regulatory initiative sometime soon.

Review of *Railway Safety Management Systems (SMS) Regulations*

TC emailed railway stakeholders in August stating that it was commencing a review of the 2015 SMS Regulations. This is in response to a number of various report recommendations from the House of Commons, Transportation Committee, the Transportation Safety Board (TSB) and the 2019 Auditor General Report. An industry working group has been put together which has responded to TC's initial discussion paper.

Passenger Rail Transportation Security Regulations and Railway Safety Act (RSA) include into Administrative Monetary Penalties (AMPs) Regulations

TC is proposing to add the *Passenger Rail Transportation Security Regulations* into the *Administrative Monetary Penalties (AMPs) Regulations*. They are proposing to add 3 provisions out of the *Railway Safety Act* into the AMPs regime. The Government will have an initial tool that they can use to issue penalties to trespassers.

Transportation Safety Board Watchlist Mid-Cycle Review

The industry met with the TSB in June to discuss Watch list items. They are doing a mid-cycle review on all the Watch list items. There are a couple of items that are specific to rail (following signal indications and unplanned/uncontrolled movement of rail equipment). Both are being dealt with through the Rail Data Working Group (RDWG). The RDWG is looking at the statistics the TSB has published on these events. TSB and RDWG met in June to discuss the Watchlist, ETC and drug and alcohol impairment.

Railway Employee Qualification Standards Regulations (REQSR)

TC has proposed to amend these regulations, which have not been updated since its inception in 1987. They are to be included in the *Canada Gazette* Part 1 next Spring.

5. Association of American Railroads (AAR) – Mike Rush

Mr. Rush provided an update on current key operating, safety, and regulatory priorities in the United States.

- Mr. Rush stated the major concern at the moment is whether there is going to be a rail strike. Several rail unions have voted to ratify the agreements. The 3rd largest union, the Brotherhood of Maintenance of Way Employees has voted it down. The votes are uncertain for the 2 largest railroad organizations representing the engineers and conductors. The last ratification vote will be coming in by mid-November.
- Crew size: In 2016 the Federal Railroad Administration (FRA) issued a Notice of Proposed Rulemaking on crew size which was subsequently withdrawn. There will be a hearing around mid-December. The essence of the proposed rule is that it requires anyone who wants to operate with fewer than 2 people in a cab to go through a risk assessment process. The risk assessment process is crafted so that no railroad will be able to get satisfaction from the FRA.
- The AAR has been trying for several years to push regulatory reform items. By attempting to modernize regulations, unfortunately not with a lot of success with this administration.
- Track geometry vehicles: To reduce the number of visual inspections that are required. Several Class 1 railroads have had pilot programs or waivers that were authorized under the Ron Batory's administration. Every one of the pilot programs is showing significant advantage with the railroads getting a more optimal combination of track geometry and visual inspections. This administration is not interested in any kind of reduced visual inspection. The existing pilot programs are all scheduled to expire by mid-November.
- Brakes 3 would allow unlimited block swapping which operates under a strict regime in the United States. This would allow blocks of cars to be inserted and removed from a train without going through a full initial Class 1 brake inspection. The Notice of Proposed Rulemaking also would have extended the interval between intermediate brake inspections on certain trains. No action on this proceeding is expected in the foreseeable future. The Ron Batory administration issued a rule which enabled railroads to go 24 hours off air without having to conduct another brake inspection on the train. This was challenged in court by labour and this July the rule was upheld with one minor exception.
- FRA wants to issue a proposal to require certification of dispatchers and signal employees. This was considered by the Rail Safety Advisory Committee. There was no safety data in support of imposing such a certification requirement.

6. Transport Canada (TC) – Innovation Centre – Jim Lothrop / Matthew Krench

Mr. Lothrop and Mr. Krench provided an update on the Innovation Centre's rail RD&D activities and key project updates. Mr. Lothrop's and Mr. Krench's PPT presentation is included in the briefing book under ANNEX A - PRESENTATIONS.

7. ETC Working Group – Michael Hendry, University of Alberta, RAC, / Scott McDade, RAC

Dr. Hendry and Mr. McDade provided a presentation on Enhanced Train Control (ETC) on behalf of the ETC Working Group. The ETC report is included in the briefing book under the ETC SECTION and the PPT presentation is included in the briefing book under ANNEX A- PRESENTATIONS.

8. Transport Canada (TC) – Rail Safety – Stephen Scott / Stéphanie Plouffe

Mr. Scott and Ms. Plouffe provided an update on COVID-19 measures, rail safety regulations, rules and TSB recommendations. TC's PPT was sent to the SOMC after the meeting.

9. Transportation Safety Board – Vincenzo De Angelis

Mr. De Angelis provided an update on Locomotive Voice & Video Recorder Regulations, Rail Data Working Group Update, recent rail safety advisory letters, recent rail recommendations and rail accident statistics year to date (January to August 2022). TSB's updated PPT was sent SOMC after the meeting.

10. Follow-up Discussion – All

It was discussed that the TSB should engage with the railways and TC to get the full story before publishing Rail Safety Advisory letters. They should also limit that not everyone needs to be publicly available unless it is a safety concern which may need to be sent to a broader audience. The RAC will discuss this issue with the TSB.

- a. Volunteers for 2023 RAC Safety Summit Steering Committee – Caroline Healey
Ms. Healey stated the RAC will be hosting in the Fall 2023 a 2-day Safety Summit or Symposium. The RAC is looking for volunteers to participate on the Steering Committee. Mr. Chursinoff in the past this initiative focused on safety culture which was done through partnerships from St. Mary's University, TC, oil, gas, and nuclear industries. This event will be organized by the RAC and will focus on the Canadian railway sector. To highlight what the industry is doing for safety, innovation, technology, and safety culture. The Steering Committee will assist with the planning and logistics of this event.

Action item: Ms. Healey will send out an email with more information on the call for volunteers to participate on the Steering Committee for the 2023 Safety Summit.

11. Miscellaneous / Adjournment – Matt McClaren, Chair

A motion to close the meeting was put forward by Mr. McLellan and seconded by Mr. Martens. The meeting was adjourned at 11:36.



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Railway Association
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PEOPLE. GOODS. CANADA MOVES BY RAIL.

President's Report
Marc Brazeau, President & CEO



PRIORITIES (ADVOCACY)

Key Priorities	Expectations	Timeline
FEDERAL OUTREACH	<p>Deter and/or mitigate proposed economic regulations, including an extended interswitching distance and ban on replacement workers. Focus shifted to these strategic priorities in Q1. RAC to continue extensive outreach with officials alongside communications campaigns.</p> <p>Influence legislation: Bills C-26, C-27, C-33, and S-6. Extend "base" advocacy efforts in Q2 upon full member alignment. Continue parliamentary monitoring and pertinent member updates. Updated budget format received positive feedback.</p> <p>Use data to tell rail's story: Rail Trends, CPCS, CTRF Supply Chain Paper, etc. Significant socialization of reports in Q1 to support advocacy efforts.</p> <p>Committee engagement: RAC participated in several committee studies since Q4. Briefs submitted include pre-budget documents, labour proposals, bill positions, rail safety etc. RAC to elevate direct engagement with relevant House and Senate committees in Q2.</p> <p>Seek to secure access to Public Safety Broadband Network (PSBN) through increased advocacy efforts with Public Safety, ISED, Transport, and others. Significant background work and initial conversations occurred in Q1.</p> <p>Identify and execute opportunities: solve grain in the rain, enable capital cost allowance (CCA), gain access to clean tech tax credits, add provincial support against economic regulation, sign favourable environment MOU, secure new funding streams.</p> <p>Suspended Right Track branded communications and non-priority campaigns to focus on critical advocacy priorities in Q1.</p> <p>The RAC continues to meet with parliamentarians, political staff, senior public servants, and stakeholders to highlight the importance of Canada's railway industry, raise awareness of priority action items, and identify and pursue opportunities for future collaboration.</p>	Q4 - Q2
REGIONAL OUTREACH	<p>Build on significant provincial budget wins from Q1. Expand presence and education to seek allies on federal policies and position Canada's railways to benefit from stable provincial funding streams and address ongoing issues.</p> <p>Arrange informational meetings with officials in Western Canada and Ontario and attend key events (e.g., upcoming FCM conference, Westac conference, etc.). Continue positive conversations with high-level Quebec officials including the Finance Minister.</p> <p>Increase member engagement to maximize coverage, highlight operations with key provincial officials, and further case for funding.</p>	Q4 - Q2



PRIORITIES (POLICY)

Key Priorities	Expectations	Timeline
SHORTLINE CAPITAL IMPROVEMENTS	<p>RAC continues to reiterate the importance of increasing funding for shortlines with Minister Alghabra and other stakeholders, through federal programs such as the National Trade Corridors Fund (NTCF) and/or creation of dedicated funding programs for shortlines (federal and provincial).</p> <p>RAC is in communications with Canada Infrastructure Bank (CIB) to raise awareness about shortline railways and explore financing options. CIB presented at the RAC Shortline Conference in Edmonton in August 2022 and will be presenting at the Shortline Committee meeting in May 2023.</p> <p>Some shortlines who applied to the revised NTCF have been successful, such as Huron Central Railway (HCRY).</p> <p>Shortlines outreach/advocacy continues through the Shortline Committee and Shortline Steering Committee.</p>	Ongoing
CLEAN FUEL STANDARD (CFS)	<p>Proposed regulations were published in Canada Gazette Part II on December 19, 2020. Comments were submitted to Environment and Climate Change Canada on March 4, 2021. Clean Fuel Regulations were registered on June 20, 2022, and the Regulations and the Regulatory Impact Analysis Statement have been published in the July 6th, 2022, version of Canada Gazette, Part II.</p> <p>The RAC published a white paper on environmental policy positions to support the Canadian rail sector. This includes a recommendation for enabling rail sector eligibility for credit generation under the CFS. RAC met with a representative from ECCC's Integrated Transportation Policy division in March 2023 to discuss the issues listed in the Environment White Paper. A formal response is anticipated from ECCC.</p>	Ongoing
INFRASTRUCTURE INVESTMENTS	<p>The RAC continues to promote the importance of railway infrastructure funding. Most recently, this recommendation was included in RAC's 2023 Federal Pre-Budget Submission.</p> <p>Looking ahead, the RAC will continue to emphasize the importance of government investment in railway infrastructure, particularly as it pertains to shortline rail, through a series of one-on-one meetings with legislators and senior government officials during Q4.</p> <p>The RAC intends to reiterate this priority in upcoming provincial pre-budget submissions, which will be drafted/submitted later this fall.</p>	Ongoing



PRIORITIES (REGULATORY)

Key Priorities	Expectations	Timeline
ENHANCED TRAIN CONTROL (ETC)	<p>The ETC Program recently decided to use the AAR ITC (Interoperable Train Control) standards as the basis for ETC. This allows for a more focused scope of work, and to finalize the ETC Standards, the focus will now shift to a detailed gap analysis of the applicable documents.</p> <p>Following the above-mentioned program change, the structure of the ETC program has changed to ensure an efficient completion of the objectives, and to ensure alignment with the AAR ITC program structure.</p> <p>Members within the ETC Program agreed to the conceptual operation of ETC in Driver Advisory System (DAS) territory for each method of control; and drafting of the ETC Operational Concepts for DAS is underway.</p> <p>The ETC Program developed, and shared with Transport Canada, a Risk Assessment Guiding Principles which will be the basis for the establishment of a corridor Risk Ranking methodology.</p> <p>Transport Canada indicated that they plan to proceed with ETC regulation along the following timeline:</p> <ul style="list-style-type: none"> • Engage with RAC/Industry in late spring/early summer 2023 to discuss policy/regulatory making regarding (i) interoperability, (ii) risk methodology for corridors and (iii) spectrum access. • The proposed regulation (Part I) published in the Canadian Gazette in 2024, and regulation (Part II) the Canadian Gazette in 2025. • A 2025-2030 implementation period, with full compliance by 2030. 	Ongoing
TRANSITION OF CLAIMS – Fund for Railway Accidents Involving Designated Goods (FRAIDG)	<p>The Fund was created by the Government of Canada following the Lac-Mégantic Accident. The Fund compensates victims of damages caused by a major crude-by-rail accident. Compensation starts after railway companies have paid damages up to the amount required by law.</p> <p>RAC, and some of its members, have been working with the Fund to develop an appropriate protocol for the transition of open claims following an incident involving crude oil, and once the railway company have settled claims up to the amount required by law. The discussions on the protocol have led to the development of a template for a Memorandum of Understanding (MOU), which the Fund will use when approaching railways individually to conclude, and execute, the MOU. This should help facilitate the process for transitioning of claims from the railways to the Fund.</p>	Ongoing



PRIORITIES (REGULATORY)

Key Priorities	Expectations	Timeline
TC REVIEW OF SAFETY MANAGEMENT SYSTEMS REGULATIONS, 2015	<p>On July 25, 2022 TC initiated a review of the 2015 SMS Regulations, having launched a public consultation. Various factors motivate the review, such as recommendations from the 2018 Rail Safety Act review, TSB investigation reports, the addition of SMS to the TSB Watchlist in 2018, the 2021 Auditor General's report follow-up audit on rail safety, and the June 2022 report from the House of Commons Standing Committee on Transport.</p> <p>TC is looking to build on lessons learned from the first years of SMS implementation and is looking at the regulations as well as the supporting tools. This could drive future regulatory amendments, updates to industry guidance and policy changes.</p> <p>RAC provided comments to a discussion document and TC has published a "what we heard report". Pre-consultation is expected to continue through to early 2024 with a proposed amendment, if required, published in the Canada Gazette, Part I in late 2024.</p>	Ongoing
EFFECTIVENESS OF SAFETY MANAGEMENT SYSTEMS AND TRANSPORT CANADA "INDUSTRY DAY"	<p>A letter from Transport Canada (TC) dated October 11, 2022 informed railways that TC Safety Management System (SMS) audits will now include an assessment of the effectiveness of a railway company's SMS processes, how a railway company's SMS is maturing and how effective it is at meeting its purpose of achieving the highest level of safety in its railway operations. Areas of ineffectiveness will be reflected using "findings of deficiency". TC included a list of key performance indicators (KPI) to be used as guidance to determine effectiveness. The letter also mentions that the KPIs will be reviewed and adjusted as needed and that TC will host a meeting in Spring 2023 to discuss the KPIs.</p> <p>RAC has been working with Transport Canada to organize an Industry Day scheduled for May 8, 2023 in Ottawa.</p>	Ongoing
PASSENGER RAIL TRANSPORTATION SECURITY REGULATION; AND RAILWAY SAFETY ACT (RSA), ADDITIONS TO ADMINISTRATIVE MONETARY PENALTIES REGULATIONS (AMPs)	<p>On July 2, 2022, TC published a proposed amendment to the AMPs Regulations in the Canada Gazette Part I. TC is proposing to designate all requirements of the Passenger Rail Transportation Security Regulations into the rail AMPs regime. Designating these security requirements would provide the Minister with an additional enforcement tool to promote compliance and to address potential non-compliance with the new Passenger Rail Transportation Security Regulations.</p> <p>In addition, TC is proposing to designate certain provisions of the RSA, specifically, sections 26.1 and 26.2, and subsection 40.11(5), into the AMPs regime, to provide the Minister with an additional tool to address the increasing trend of security incidents against the railway system.</p> <p>RAC submitted comments on behalf of industry essentially agreeing with the RSA additions as these would give TC a new tool to enforce trespassers. Though RAC did raise concerns with the AMPs escalation process and inconsistencies with how AMPs are issued throughout the country and different regions.</p> <p>The RAC anticipates this to be published in the Canada Gazette, Part II in 2023.</p>	Ongoing



PRIORITIES (REGULATORY)

Key Priorities	Expectations	Timeline
FATIGUE MANAGEMENT SYSTEM REGULATIONS (FMS)	<p>TC issued a pre-consultation document in March 2022 proposing new regulations that would require railway companies to implement a Fatigue Management System (FMS).</p> <p>The proposed regulations would require railway companies to have, implement and continuously improve a FMS. The FMS would apply to employees whose duties are essential to safe railway operations. These duties include but are not limited to activities performed by any person involved in the movement of trains and the maintenance of the equipment and infrastructure, supervisors and managers.</p> <p>The RAC provided comments and feedback to Transport Canada on the proposed FMS pre-consultation document. Pre-consultation and policy work is expected to continue and could lead to a proposed regulation in the Canada Gazette, Part I in late 2023.</p>	Ongoing
MINISTERIAL ORDER (MO) 22-04 REGARDING TRAIN BRAKE RULES	<p>TC published MO22-04 on July 25 in response to TSB report R19C0015 recommendation R22-01 which requires, <i>“that the DoT establish enhanced test standards and requirements for time-based MTC of brake cylinders on freight cars operating on steep descending grades in cold ambient temperatures”</i>. The MO requires federal and provincial railways to revise the <i>Railway Freight and Passenger Train Brake Inspection and Safety Rules</i> (TBR) to reduce the risk posed to train operations in cold weather.</p> <p>The MO is in two phases. Phase 1 applies to all railways. A revision to the TBR addressing Phase 1 was approved January 30, 2023 and these come into force May 2023. Phase 2 applies to freight cars operating on steep descending grades in cold ambient temperatures and filing is due May 31, 2023. To address Phase 2, RAC plans to propose requirements for use of Brake Effectiveness Tests (BET) using wheel temperature detectors (WTD) in lieu of a No. 1 Brake Test.</p>	Ongoing
TC / INDUSTRY WORKING GROUP ON AUTOMATED PARKING BRAKES	<p>In 2022 TC and the rail industry established a working group to assess the readiness, effectiveness and safety implications of automatic parking brakes (APB), especially in the context of cold weather operations. This is in response to TSB Report R19C0015 recommendation R22-02.</p> <p>Both the National Research Council (NRC) and CN are conducting limited prototype APB tests. The U.S. DOT Volpe Center is conducting a research assessment. Final results are expected to be available to the working group by fall 2023.</p>	Ongoing



PRIORITIES (REGULATORY))

Key Priorities	Expectations	Timeline
GRADE CROSSING REGULATIONS / RAIL SAFETY IMPROVEMENT PROGRAM	The extended compliance deadline for upgrading other-than-high-risk grade crossings is November 2024. RAC is engaged with Transport Canada in an attempt to secure appropriate funding under the Rail Safety Improvement Program (RSIP) to support railway members in ensuring that their private landowners are able to fund expenditures related to bringing their private crossings into compliance, in accordance with Section 103(3) of the Canada Transportation Act.	Ongoing
RAILWAY EMPLOYEE QUALIFICATION STANDARDS REGULATIONS (REQ)	Transport Canada (TC) is proposing to modernize the Railway Employee Qualification Standards Regulations (REQ). The regulations have not been updated since its inception in 1987. The RAC submitted comments in early 2022 to a preliminary consultation document and is currently pre-consulting with TC. It is anticipated that TC will issue a proposed regulation in the Canada Gazette, Part I by Q4 2023.	Ongoing
CREW RESOURCE MANAGEMENT	Transport Canada (TC) has published draft guidelines regarding implementation of crew resource management (CRM) concepts into railway training programs. The guidelines are intended to complement the forthcoming modernized Railway Employee Qualification Standards Regulations (REQ). RAC provided comments to TC in March 2023.	Ongoing
DUTY AND REST PERIOD RULES (DRPR)	As part of the phasing in of the Duty and Rest Period Rules (DRPR), specific duty and rest period limitations come into force May 2023 for freight railways and November 2024 for passenger railways. In March 2023 Transport Canada (TC) published a guidance document intended to provide interpretation of these rules. RAC is engaged with TC on further amendments and clarifications in the guidance document.	Ongoing



PRIORITIES (ENGAGEMENT/INITIATIVES)

Key Priorities	Expectations	Timeline
OPERATION LIFESAVER	<p>Developed and launched several new campaigns over the summer and fall, including OL's new <i>Seriously. Read the Signs.</i> animated campaign, four new #STOPTrackTragedies videos for Rail Safety Week, and two new <i>Today is Better</i> suicide-prevention videos. Promotion of these campaigns is ongoing.</p> <p>OL's key priorities for the next 6 months include:</p> <ul style="list-style-type: none"> • Securing its next round of Rail Safety Improvement Program funding. OL's current contribution agreement with Transport Canada expired on March 31st. OL's 2023-2026 RSIP proposal has been drafted and is ready to submit as soon as the call for proposals goes out. • Ensuring another successful Rail Safety Week (September 18-24, 2023) As part of RSW 2023, OL is planning to launch several new #STOPTrackTragedies videos, to promote its Stay Safe with Thomas books in partnership with CPKC, Metrolinx, and Mattel, and to encourage additional municipalities to install rail safety decals at crossings as part of its Community Safety Partnership Program. 	Ongoing
PATHWAY INITIATIVE	<p>The Rail Pathways Initiative was publicly launched in December 2022 which completes a key deliverable under the MOU with Transport Canada which highlights collaboration between government and industry. Partners on the initiative (TC, Delphi Group, and Pollution Probe) all supported the distribution of the report and development of a promotional video. Findings of the report will be used to help inform development of a new MOU with Transport Canada.</p> <p>The AAR has engaged with RAC regarding the Rail Pathways Initiative as they are considering proceeding with a US version of the report by working with Delphi Group. Completion of a US report would help to advance North American decarbonization in the rail industry and provide critical information for both industries north and south of the border.</p>	Complete
PROXIMITY INITIATIVES	<p>On March 21, 2023, the RAC received an email from FCM providing notification that they have decided to conclude the MOU with RAC. A Proximity Initiative Steering Committee was subsequently held on March 31, 2023, to discuss this decision. FCM informed members that this decision is not a reflection of the initiative itself but rather that FCM has decided to focus on a shorter list of priority areas related to homelessness, housing affordability, mental health and addictions, and policing costs. Moving forward the FCM-RAC Proximity Guidelines may still include "FCM" in the title however the initiative will no longer depict FCM's logo. FCM will continue to indirectly support the initiative by having the proximity guidelines on their website and point municipalities to them. The rail industry steering committee members requested that FCM not make any public announcements regarding this decision to limit any negative perceptions which FCM has agreed to.</p> <p>The RAC will engage the PTAs to firm up provincial support and develop partnerships at that level to continue raising awareness and promotion of the proximity guidelines. RAC will continue delivery of the 2023 workplan by hosting a trade booth at the FCM conference in May and the UBCM conference in September.</p>	Ongoing



PRIORITIES (ENGAGEMENT/INITIATIVES)

Key Priorities	Expectations	Timeline
PASSENGER SECTOR COMMITTEE	Jonathan Thibault is the new RAC staff lead on the Passenger Sector Committee. With the departure of the committee's chair from the RAC membership, a new Chair has been elected – Tracy MacPhee of Ontario Northland. The committee held a meeting on October 4, 2022, as well as another meeting on March 7, 2023. The next meeting is slated for late September or early October 2023. The committee's regular meeting schedule is now aligned with the timing of the spring and fall SOMC & PAC meetings.	Ongoing
BUILD RAC BRAND IN QUEBEC	The RAC met with nearly 20 municipalities with rail activity in Quebec since Q4 2021 and continues its outreach at the provincial level. In addition to participating in various committees and roundtables (AQTR, FCCQ, CMAI, MTQ, etc.), the RAC also participated to numerous conferences in Quebec. A presentation on rail decarbonization was made by the RAC at the AQTR Rail Conference in Quebec City and contributed to their magazine in November 2022 that generated positive attention. RAC has been invited to sit on an advisory committee (composed of municipal and provincial elected officials, chamber of commerce and local businesses) for a freight light rail pilot project in Montreal with Amazon. RAC will host a Safety Summit in Montreal in November 2023. RAC continues to participate in conferences, networking events, and luncheons.	Ongoing



PRIORITIES (ENGAGEMENT/INITIATIVES)

Key Priorities	Expectations	Timeline
MAINTAINING THE CANADIAN RAIL ATLAS	The Atlas data was most recently updated in November 2022. Atlas data is consistently updated twice per year, typically in April/May and November. The next data refresh is expected to occur in May 2023.	Ongoing
ENVIRONMENTAL MANAGEMENT SYSTEM (PILOT)	<p>The objective is to support railway companies in the development and implementation of an EMS, in order to improve the environmental performance of member companies, better enable members to share information and best practices related to environmental management and support continuous improvement in the sector.</p> <p>Aureus Solutions has been contracted to develop a series of checklists, templates, and informational videos related to EMS implementation. Materials will provide support in the following areas: creating an environmental policy, identification of aspects and impacts, documenting legal and other compliance obligations, goal and objective setting, communications, training and awareness, and documental control and records management.</p>	Q4
MOU w/ TRANSPORT CANADA	The MOU with TC establishes a framework for government and industry to collaborate to advance decarbonization in the rail industry. The most recent MOU covered 2018 – 2022. 2023 will see be a year of further collaboration with TC to develop a new MOU. To begin, RAC initiated a series of engagements with select members from December to February to help inform views and ideas on the MOU. RAC and TC are commencing engagements to develop a new MOU by planning a Spring workshop in Ottawa with RAC and select members, TC, ECCC, NRCan, Delphi, and Pollution Probe. The objective is to finalize a new MOU by the end of 2023.	Q4



PRIORITIES (DATA)

Key Priorities	Expectations	Timeline
RAIL DATA WORKING GROUP (RDWG)	<p>The Rail Data Working Group (RDWG) is composed of representatives from TSB, TC, RAC and federally regulated railways, that work together to address selected data issues and improve reporting and presentation of rail safety statistics.</p> <p>In early 2023 the TSB approved the creation of an <i>incident</i> category for the reporting of fires that are along or adjacent to the right-of-way (ROW) and not affecting the rolling stock. This will address the rise in reported ROW fires since 2019, as those occurrences are now classified as incidents instead of accidents. This change results in a significant reduction in the overall railway accident rate.</p> <p>RAC has also proposed new data categories relating to <i>Unplanned/uncontrolled Movements</i>, a TSB Watchlist item. Final approval from the TSB is anticipated this Spring and historical data is being adjusted accordingly. This change will allow for more accurate data and trend analysis to mitigate unplanned/uncontrolled movements.</p> <p>RAC has also proposed reporting criteria and categories relating to <i>Following Railway Signal Indications</i>, also a TSB Watchlist item. RAC and the TSB are consulting.</p>	Ongoing
RAC QUARTERLY REPORTS	<p>RAC's Quarterly Report compiles weekly, monthly, and quarterly data from railways and various statistical and regulatory agencies to provide a timely update on the state of the economy, the transportation sector, and freight and passenger rail operations.</p> <p>Six reports (2021-Q3 through 2022-Q4) have been published on the RAC website.</p> <p>The expectation is to release the following four reports over the next twelve months:</p> <ul style="list-style-type: none"> • 2023-Q1 in May 2023 • 2023-Q2 in August 2023 • 2023-Q3 in November 2023 • 2023-Q4 in February 2024 	Ongoing
LOCOMOTIVE EMISSIONS MONITORING REPORT – 2021	<p>The Locomotive Emissions Monitoring (LEM) report is produced every year under the terms of the MOU between RAC and TC for reducing locomotive emissions. MOUs date back to 1995, and the current MOU covers the 2018-2022 reporting period.</p> <p>The 2021 LEM Report is progressing on schedule and slated for publication in summer 2023. As of April 19, 2023, the Report draft has been reviewed by the Technical Review Committee. In late April, the draft will be sent to translation and design, and then to the MOU Management Committee for final approval.</p>	Q3



PRIORITIES (EVENTS)

Key Priorities	Expectations	Timeline
EVENTS	Toward the end of May, RAC will host a session on VIA Rail's High Frequency Rail project for members and staff. We will host 1-2 sessions for associate members to provide an update on advocacy, communications, and regulatory affairs.	Q2
	The RAC will host its third annual Women in Rail conference on June 8. We will continue to host this virtually as this format allows for more people to participate. We are planning on charging a nominal fee to attend and all proceeds will go to a scholarship fund a deserving woman who wishes to enter the rail industry.	Q2
	Transport Canada approached the RAC to work on an SMS Workshop for RAC federally regulated members. This workshop, which will take place on May 8 in Ottawa, is designed so that rail members and TC can collaborate and clarify some of the KPI's TC rolled out previously regarding SMS.	Q2
	On May 9, the RAC will hold its SOMC and PAC committee meetings in Ottawa. That evening we will host a member reception.	
	On May 10, we will host a Board of Directors breakfast at the Rideau Club in Ottawa. It will be followed by the Board meeting and the AGM.	Q2
	Virtual Rail 101 will take place May 24-25 over a three-hour period each day. This virtual course is designed to give an overview of operations and track maintenance for those who need a lighter understanding of rail.	
	The two June courses for Railway Operations Live sold out instantaneously. We have policymakers and regulators from Transport Canada filling those two courses. September is now open for registrations and is expected to be sold out as well.	
	In November, the RAC plans to host its first Safety Summit in Montreal. This two-day conference will focus on safety initiatives the railways are implementing as well as a tradeshow component where suppliers and railways can showcase their innovations and technology. We are considering partnering with AQTr, the Association québécoise de transports.	Q4



PRIORITIES (HR)

Key Priorities	Expectations	Timeline
EMPLOYEE WORKPLACE	<p>Early 2023, RAC engaged a HR Resource (consultant) to improve internal HR capabilities and reinforce the organizational culture. Communication with staff has been ongoing and well-received.</p> <p>RAC's social committee has received input from staff and is actively planning social events for the year.</p> <p>Staff survey will take place spring 2023.</p>	Ongoing
MANAGEMENT OF 3-YEAR PLAN AND RISK ASSESSMENT	<p>Net Assets are maintained in conjunction with policy and the financial budget.</p> <p>Key performance metrics are tracked on an ongoing basis with a dashboard update provided bi-annually.</p>	Ongoing
SUCCESSION PLANNING & TALENT MANAGEMENT	<p>Develop a timely and practical succession plan for several key positions.</p>	Ongoing



CURRENT LANDSCAPE

Significant Wins

- Provincial budget funding announcements for rail infrastructure, safety, and member/associate projects.
- CPCS study and Rail Trends report. 500+ touchpoints and successful online campaign.
- Increased member and government engagement. ~3500 touchpoints. ~50 GR meetings. High-impact submissions and other materials.
- Several successful OL campaigns.
- CTRF supply chain paper demonstrating rail reliability.

Risks

- Liberal-NDP agreement adds further to Liberal economic activism.
- Potential for new, more activist governments in Manitoba and Alberta.
- Upcoming supply chain strategies include harmful recommendations.
- Federal legislation passes without improvement.
- Access denied to Public Safety Broadband Network, impacting ETC.
- FCM departure affects support for proximity guidelines.

Opportunities

- Governments open to higher funding for supply chain investments.
- OL anticipates securing another 3-year contribution agreement (2023-2026) with TC this year.
- Sign favourable MOU with TC on environment initiatives.



COMPLETED

Key Priorities	Expectations	Timeline
RAIL SAFETY WEEK 2022	Completed	Completed
CANADIAN RAIL OPERATING RULES (Ministerial Order MO 20-09)	Completed	Completed
TRACK SAFETY RULES (MINISTERIAL ORDER 20-07)	Completed	Completed
ROLLAWAY PROTECTION (MINISTERIAL ORDER 21-02)	Completed	Completed
LOCOMOTIVE VOICE AND VIDEO RECORDER (LVVR) REGULATIONS	Completed	Completed
DIABETES GUIDELINES	Completed	Completed
EXTREME WEATHER FIRE RISK MITIGATION (MO 21-06)	Completed	Completed
RAIL PATHWAYS INITIATIVE FINAL REPORT	Completed	Completed
LOCOMOTIVE EMISSIONS MONITORING REPORT – 2020	Completed	Completed
RAIL TRENDS REPORT – 2022	Completed	Completed
SUPPLY CHAIN ADVOCACY – RESEARCH	Completed	Completed



Border Committee

Jeffrey	Parson	CN
Allan	Schepens	CPKC
Caroline	Healey	Railway Association of Canada

The following update describes current customs issues that the Railway Association of Canada (RAC) is engaged with either directly or through its representative membership in the AAR Transborder Committee and the AAR/RAC EDI Rail Customs Task Force. **Many of these initiatives have all carried over from 2022 into 2023, with limited issues resolution in 2022 due to impact of COVID on government agencies and trade. On February 23, 2023, the Canadian Border Services Agency (CBSA) representation of the Border Commercial Consultative Committee (BCCC) Rail Working group advised they were moving forward with disbanding the working group as the points and topics of discussion would not be able to provide solutions in the short term and that the longer-term initiatives had other forums in which they could be discussed.**

CBSA

There are multiple initiatives currently underway with Canada Border Services Agency (CBSA) that affect rail that are being monitored closely and for which we are engaged on the issues and that we progress through CBSA committees and working groups. **For 2021 there was a new issue tabled under e-House Bill, and one new subheading related to train crew reporting.**

The following are the CBSA related committee meetings for 2021 – 2023 that the RAC was represented either in person or via teleconference:

- Border Commercial Consultative Committees (BCCC) collective
- BCCC E-House Bill Working Group
- CBSA Assessment and Revenue Management (CARM) Working Group
- PreClearance Working Group
- BCCC Rail Working Group
- North American Plant Protection Organization (NAPPO)

E-House Bill

CBSA's E-House Bill project is part of larger E-Manifest initiative that includes rules on electronic reporting of cargo that is either being imported to, or transiting Canada, for all modes of transport. Updates are provided for each of the e-House Bill items, and each of these is ongoing.

E-House Bill elements that currently affect rail:

1. CBSA release of rail shipments on a secondary **Freight Forwarder 8000 Manifest**.
2. Inclusion of a **CBSA Sublocation Code** on rail cargo EDI arrival messages to CBSA.
3. Inclusion of a **Consolidated Load Indicator** on CBSA rail manifests for transborder cargo.
4. **NEW for 2021: Electronic Arrival of Truck Manifest** at rail intermodal facility.

- 1) **Freight Forwarder 8000 Manifest:** This long-awaited process automation by CBSA will benefit Canadian rail carriers. Import ocean containers traveling by rail from Canadian marine ports to inland ports in-bond typically do so on the marine carrier's primary manifest (9000). Under Canadian regulation, each one of these containers requires some type of release or "acquittal" against the marine 9000 manifest for the rail carrier to allow the container out of the rail terminal gate without risk of CBSA penalty. CBSA allows freight forwarders to post a secondary manifest (8000 series) against the primary 9000 marine manifest as a form of gate release, essentially assuming liability for the shipment, however, this is a paper process requiring CBSA stamped documents being forwarded to the rail company. There are hundreds of containers each week affected in this way and requiring manual processing by rail carriers. This automation by CBSA will match the primary and secondary manifests in their internal system and provide an electronic release message to rail carriers.

UPDATE: CBSA's electronic processing of freight forwarder manifests at rail facilities is going well, an issue has been identified with CBSA's system that is causing daily additional manual work for rail carriers and the freight forwarder community. A timing issue has emerged with the CBSA electronic processing of freight forwarder manifests where if the freight forwarder transmits their documents prior to the rail company electronically transmitting a cargo arrival message, the rail carrier will not receive an electronic release message authorizing an out-gate. Since the rail carrier will not have visibility to the issue the work-around process is to have the freight forwarder notify the rail carrier of disconnect in electronic processing, whereby the rail carrier then needs to notify local CBSA to manually create a cargo arrival in their system. This is a priority system fix for CBSA and they expect resolution by summer 2021.

UPDATE September 21, 2021: The issue described above is still outstanding as of this date with no new time frame for resolution offered by CBSA. Additionally, issues are being reported whereby importers and freight forwarders in the Greater Toronto Area who use rail are unable to have manifest transfer documents entered into the CBSA system on weekends as CBSA does not have weekend coverage for this task. Railroads rely on the electronic release messaging from CBSA to activate out-gate procedures at rail intermodal terminals, there are occasions where import containers are delayed at rail facilities pending electronic authorization for further movement.

UPDATE April 13, 2022: Issue described in September 2021 update remains outstanding with no updated timeframe for resolution by CBSA.

UPDATE September 29, 2022: No new updates to this item.

UPDATE April 13, 2023: We are still seeing these issues described above despite being less common, there is still no updated timeframe for resolution.

- 2) Consolidated Load Indicator:** Part of the E-House Bill roll out on November 1st will be a requirement for rail carriers to transmit an indicator on the transborder rail manifest when a freight forwarder is involved with the cargo release in Canada. This would apply to intermodal containers arriving in North America at a US ocean port and then transit the US to Canada. In the case of rail, this intermodal traffic would typically be interline business where a US railroad is loading containers at a US port and then interchanging with a Canadian transborder rail carrier. The ocean carrier would need to transmit the consolidation indicator to the US origin road who would then provide it on the interline waybill (EDI 417).

The Canadian transborder carrier maps this piece of data to their EDI manifest that they transmit to CBSA. If the indicator is not present, and a Canadian freight forwarder is involved with the cargo handling, then CBSA will not release the cargo. The result will be delayed freight and a penalty potentially issued to the importer or Freight Forwarder.

UPDATE: This new data requirement has meant rail shippers and their related freight forwarder partners have had to adjust their system and business processes which has generated some joint industry discussion to ensure cargo release fluidity. There have been a few customs release issues causing slight delays to container freight, however the process is working well.

UPDATE September 21, 2021: The above stated issue, persists. The issue is triggered by the ocean carrier, who initiates a container import movement from a US ocean port to a Canadian rail destination, but who does not correctly represent a load consolidation on the submission of the rail EDI billing. Further trade chain partner outreach is needed, including involvement by CBSA.

UPDATE April 13, 2022: Issue continues with continued outreach being performed amongst trade chain partners.

UPDATE September 29, 2022: No changes to the current status.

UPDATE April 13, 2023: We are receiving consolidated load indicator; however, data quality remains an issue with some partners which is creating additional workload and manual challenges for rail carriers. Discussions are continuing between rail carriers and other supply chain partners.

- 3) NEW: Electronic Arrival of Truck Manifest:** CBSA regulations require that Sufferance Warehouses (i.e., bonded rail yards and terminals) transmit electronic manifest arrival messages to CBSA, this includes for in-bond truck shipments (typically from the US) that arrive at a rail intermodal terminal. All modes of transport are required to be electronically transmitting manifest data to CBSA, however CBSA does not have an electronic link between the modes. Managing multi-modal shipment reporting can be problematic with a manual workload imposed by CBSA on trade partners in an otherwise electronic process.

Rail carriers have pushed back on CBSA on this issue, as we do not feel that trade members should be incurring the costs of manual entry into an electronic system reporting design that only benefits CBSA. Currently, and as a stop gap measure, local CBSA port offices are manually connecting and processing the disconnected reporting between the modes, however, CBSA has stated that this interim process does not meet the regulatory requirements. In informal discussions with CBSA leadership we explained that rail terminals are highly automated, and, in many cases, there is no physical person to accept a paper document from a truck driver upon arrival of a container and then convert this into an electronic arrival message. We have, however, identified a way for the trade partners and CBSA to electronically link these documents which would require some system programming from both rail carriers and CBSA as a solution. This item will be formally tabled with the CBSA BCCC Rail Working Group.

UPDATE September 21, 2021: This issue remains outstanding. Although regulation required sufferance warehouse operators (i.e., all bonded rail facilities) to transmit EDI arrival reporting messages for bonded goods arriving on their property, local CBSA recognize that this is problematic when an outside trucking company is bringing bonded container loads onto rail property, instead of the rail carrier. Most CBSA local offices will perform the “arrival” of the goods on behalf of the rail carrier without question to acquit the truckers’ bond in a timely manner. There are select local CBSA offices that will point out that it is not their role to arrive manifests on behalf of a bonded facility and who remind rail carriers that the issues must be resolved. Ongoing dialogue with CBSA leadership in Ottawa has this flagged as an item requiring an automated link to a future electronic remanifest process (see **Re-Manifest Process** item below).

UPDATE April 13, 2022: Issue continues to be outstanding with implementation reliant on Re-Manifest Process covered below. Implementation has been pushed back due to other commercial priorities with CBSA. (See notes under **Re-Manifest Process** below.)

UPDATE September 29, 2022: No new developments since last update provided.

UPDATE April 13, 2023: No new developments since last update provided.

CBSA Assessment and Revenue Management (CARM)

CARM is a redesign of CBSA’s broker entry filing process for the release of goods and which will be hosted on a new system. The system will have a web portal frontend where all related parties, including rail carriers, will need to be registered. There are significant changes required to the broker community processes and systems, requiring more data earlier in their business process and more accurate reporting of shipment valuation and accounting. The risk identified for rail carriers, which have been raised with CBSA through the CARM working group, is that if brokers have difficulty in the timely filing of their entries it can easily translate to unreleased railcars that will congest rail yards. CBSA was expecting to start piloting the new system in summer of 2020 with select brokers and importers, with a roll out date in Q2 2021, but due to COVID-19 there is no longer a firm date available. CBSA timelines for this initiative will be re-established at a post pandemic point.

UPDATE: CBSA is still targeting June 2021 for roll out of Release 1 of their client portal which is the new gateway for brokers and importers to manage their accounts with CBSA, including payment of accounts and querying import tariff items. Rail carriers will be invited to participate in the client portal process, by registering and linking themselves to the shipper’s release process, in June 2022. Enforcement dates for mandatory participation that impact rail is not yet published. There have been some conversations between the importing community and rail carriers raising concern that entry and release processing in CARM may delay customs release of rail shipments due to onerous requirement placed on importers by CBSA, however, these claims have not been widely expressed and as of now are still unsubstantiated.

UPDATE September 21, 2021: Concerns by the Canadian importing and customs brokerage community have grown in respect to Phase 2 of CARM slated for roll out by CBSA in Spring of 2022, citing insufficient time for preparation and gaps in trade chain capabilities. Importers have also highlighted this issue with the Canadian Chamber of Commerce as a potential significant business impact, resulting in the Chamber reaching out to transporters, including railways, for corresponding views. One concern is what is viewed by the importing community as the onerous capture and submission of additional cargo data prior to shipment arrival into Canada that will be necessary for importers to retain expedited cargo release. Without this additional data, shipments would dwell much longer in bonded facilities awaiting release, which would significantly impact rail terminals and rail operations. Dialogue on this important issue is ongoing between the parties with the expectation that CBSA will be asked to push back the 2022 timeline for implementation of Phase 2 to allow for further requirements and trade capability reviews.

UPDATE April 13, 2022: There continues to be concerns raised by the Canadian importing and customs brokerage community with dialogue between CBSA and involved parties continuing. During the meeting in February 2022, CBSA shared that January 2023 is being explored as a target date for Phase 2 and the brokerage community requesting February 2023 to avoid peak season for some industry sectors. Industry is currently waiting on a request in writing that May 2022 will no longer be the go live date from CBSA which indicated will be provided once necessary approvals are in place.

UPDATE September 29, 2022: Last communication from CBSA is that there is no planned release prior to January 2023.

UPDATE April 13, 2023: The implementation target date is October 2023 for Phase 2 as discussions with officials continue between CBSA and various supply chain players.

Rail PreClearance Pilot

CBSA and CBP have been working with members on a rail preclearance pilot under the provisions of Bill C-23. The current rail pilot tested joint CBSA-CBP Large Scale Imaging (LSI) processing at Rouses Point, NY, where CBSA officers from Lacolle, QC, coordinated with CBP officers from Rouses Point, NY, to view select northbound train images using CBP LSI equipment. This joint LSI testing occurred from summer 2018 to summer 2019. The next phase of the current pilot is expected to have CBSA officers stationed at a US location, such as Chicago, reviewing and potentially jointly inspecting rail cargo in collaboration with CBP prior to a shipment being added to a train destined to Canada. A CBSA officer would have the ability to identify a shipment on a northbound train departing Chicago and then coordinate with CBP operating LSI equipment at the US border point of exit to view the image of the selected container. Preclearance of northbound shipments allow CBSA to meet mandates to review and inspect import rail shipments into Canada without the need to physically intervene at rail border crossing points, but either at the US point of origin or at the Canadian destination. COVID-19 has impacted any timetable that CBSA has on this initiative, and we expect discussions to resume post pandemic.

UPDATE: This was a key discussion item on CBSA BCCC Rail Working Group virtual meeting that was last held on February 3, 2021. Rail Pre-Clearance in the US for shipments to Canada is still a top initiative for CBSA and they have been progressing talks internally and with CBP, however, they have not been able to deploy resources to the identified CBP Chicago facility due to the pandemic. Once travel restrictions are removed it is CBSA's intent to move forward with establishing a Chicago based rail inspection pilot using CBSA officers. The issue was raised with other governmental department interests being addressed as part of the pre-clearance process to avoid having one agency clear a shipment for delivery while another agency has interest of holding or inspecting a rail shipment in Canada. Currently there is no reengagement date for the physical portion of the pilot.

UPDATE September 21, 2021: CBSA has recently reached out to the BCCC Rail Working Group co-chairs to advise that the pre-clearance initiative will move forward and that discussion between the agencies has resumed, however next steps and timelines to locate CBSA officers in the US are still to be determined.

UPDATE April 13, 2022: CBSA has recently notified discussions between the two agencies have now restarted and current timelines are planned for implementation in spring 2023, dependant on continued positive progress of the pandemic.

UPDATE September 29, 2022: No new update or confirmation on set timeline for trials to begin.

UPDATE April 13, 2023: CBSA reached out to CN requesting a joint call for the end of April in order to reopen discussions on the best manner to participate and proceed in a pilot trial.

CBSA Paper Re-Manifest Process

Although CBSA regulations require all modes of transport to transmit customs manifest information electronically, they do not have the system functionality to electronically link manifest information when one carrier hands in-bond shipments to a subsequent carrier for furtherance. An example would be a highway carrier who imports a container into Canada, from the US, on a highway carrier's manifest and then delivers the container to a rail carrier for haulage to a Canadian seaport. The container would be transiting Canada "in-bond" and as such, a transfer of liability would occur between the highway carrier and the rail carrier that is referred to as a re-manifest. All carriers transmit electronic manifests to CBSA, however, in the case of re-manifested shipments described above the importing highway carrier must print a copy of their electronic manifest and provide it to the rail carrier who must then print a rail manifest, collate it with the highway manifest, submit it for manual processing, and then manually update the rail system. There are thousand of these truck/rail shipments that must be processed every month by rail carriers and CBSA offices across Canada creating significant and unnecessary manual workload and cost. CBSA acknowledges this deficiency and has expressed interest in building system functionality to address it, however, no timeline has been established to date. Industry continues to lobby at various CBSA and industry forums to get this important issue addressed.

UPDATE: This was a discussion item on CBSA BCCC Rail Working Group virtual meeting held on February 3, 2021. Tamara Allard, Director, Commercial Operations Division at CBSA indicated that there is some forward movement on this issue and that the agency is aware of the commercial impacts and has committed to keep moving forward towards resolution. This item can be directly linked to the **New Item 4 of e-House Bill** above, as it is the system functionality which will tie in truck and rail manifest and provide an electronic mechanism for reporting truck shipments into rail intermodal terminals.

UPDATE September 21, 2021: CBSA has recently reiterated that they recognize the importance of an electronic remanifest process and the direct links to other areas of manifest compliance. Unofficially, CBSA is advised that the required system functionality may be in place as early as 2022, there is no commitment to a specific time frame or functionality. Dialogue will be ongoing through the BCCC Rail Working Group.

UPDATE April 13, 2022: Most recent update from CBSA is that despite their recognition of the importance of this requested process, due to competing commercial priorities and the availability of Information Science and Technology Branch (ISTB) labs, the implementation date will be required to be re-evaluated with no confirmed dates at this time and only a possibility of Spring 2023.

UPDATE September 29, 2022: No updates from last update of April 2022.

UPDATE April 13, 2023: Still outstanding on resolution timelines and targets. Remains one of the key focuses and requests from the rail industry to CBSA in order to prioritize and allow for a reduction in manual and outdated workloads.

NEW: CBSA/PHAC Crew Reporting

CBSA has not had in place a standard method of rail crew reporting across the more than 20 rail border crossing points between the US and Canada, due to remote operations where CBSA does not have an office at the physical border crossing point. With the emergence of PHAC rules for entering Canada in the face of COVID-19 restrictions, standardized reporting to Health Canada became mandatory, including for essential service providers such as train crew members. PHAC has developed an app (ArriveCan App) that can be downloaded onto a cell phone or a desktop computer where personal crew information can be entered prior to a crew member crossing the border from the US into Canada. Problems were identified with this process in that crew members cannot use cell phones while on duty for rail safety reasons, and crew members do not always have access to a desktop computer prior to starting their train run from the US into Canada. Further, if a train crew member does use the ArriveCan App they are still required to communicate the authorization number returned on the app after their declaration to a CBSA officer prior to crossing the border, with the officer then entering the number into the PHAC system. This now becomes a problematic 2-step process. Alternatively, CBSA has been able to gather the information from crew members and then entering the information into the PHAC system, making this an efficient one step process. Recently there has

been concerned raised by CBSA that this is too onerous of a process for CBSA officers and a push by CBSA to have crew members go to the 2-step process. However, our position is that since a CBSA officer must access the PHAC system to record the crew member name and the ArriveCan App authorization number that this is not a burdensome task, and that it would be much burdensome for rail crews to have to communicate with 2 agencies and potentially delay trains by having to access a device on which to report to PHAC. This issue is still under review by CBSA.

UPDATE September 21, 2021: CBSA has recently advised that they have modified the ArriveCan App to allow for a one-time single submission by a rail crew member that would generate a permanent PHAC number. Crew members are now able to file their PHAC declaration independently of any transborder trip and only need to reference the permanent PHAC number with an officer when providing their CBSA declaration at train time. If the status of the crew member changes, such as if the person were to take a trip overseas, they would need to submit a new ArriveCan declaration and be issue a new PHAC number.

UPDATE April 13, 2022: There have been no issues that have been presented since the process indicated in the September 2021 update was implemented.

UPDATE September 29, 2022: No further issues experienced with the prior mentioned process. Expectation this issue will be resolved September 30th as the Federal Government has announced with lifting of remaining COVID restrictions, ArriveCan will become optional.

UPDATE April 13, 2023: No longer in enforcement with ArriveCan now becoming voluntary. Issue should be considered closed.

CBP

There are several CBP developing regulations that affect rail which are monitored closely, and ensure close dialogue with the agencies to ensure rail interests are protected and that rail carriers remain compliant:

- Customs Electronic Systems Action Council (CESAC)
- AAR Transborder Committee
- AAR/RAC EDI Rail Customs Task Force
- Commercial Customs Operations Advisory Committee (COAC) In-Bond Subcommittee
- COAC Trade Support Network In-Bond Technical Working Group

In-Bond Regulation

CBP implemented new in-bond regulations in July 2019, that require the following:

1. The use of **FIRMS Codes** for reporting cargo arrivals at specific locations in the US.
2. Carrier must use **Electronic Bond Diversion** to requests diversion of in-bond traffic while moving in the US.
3. The inclusion of **Harmonized Codes (HS)** in all electronic manifests.

FIRMS Codes

Rail carriers were encouraged, prior to the CBP rule coming into effect, to make programming changes to have this data element included in their EDI rail manifest for US in-bond traffic. CBP is still processing the FIRMS codes if received on the EDI rail manifest, however, they do not yet have a system edit in place to enforce use of this data element.

UPDATE September 21, 2021: No significant impact and electronic reporting of FIRMS codes working as designed. No change on enforcement issues.

UPDATE April 13, 2022: No issues or impacts since September update. No change on enforcement issues.

UPDATE September 29, 2022: No issues or impacts since last update. No change on enforcement issues.

UPDATE April 13, 2023: We are currently receiving messaging rejections for when codes are provided but there does not appear to be enforcement in place requiring FIRMS code submittal at this time.

Electronic Bond Diversions

CBP is currently enforcing electronic bond diversions and rail carriers are complying.

UPDATE September 21, 2021: Electronic process is working well for railways that have high volume transborder traffic. Other carriers crossing the Canada-US may not be following reporting requirements, however, they also do not have any significant in-bond traffic entering the US.

UPDATE April 13, 2022: No issues or changes since September 2021 update.

UPDATE September 29, 2022: No issues or changes since prior update.

UPDATE April 13, 2023: No issues or changes since last update.

HS Codes

Acquiring these codes and moving them electronically through the trade chain is very problematic due to different carrier capabilities. This item is currently not being enforced and CBP has no timeframe available for enforcement.

UPDATE September 21, 2021: No change. Discussion with CBP to be continued.

UPDATE April 13, 2022: No change. Discussions with CBP are on going.

UPDATE September 29, 2022: No change, discussion still in process with CBP.

UPDATE April 13, 2023: No change, discussions still in process with CBP

COAC In-Bond Working Group

This is a joint CBP/Industry group focusing on multimodal in-bond issues for all modes of transport, which has a significant ocean/rail component. Two key issues that affect how railroads in the US do business with ocean carriers that have emerged; the need for CBP to make release information for goods bonded to US inland locations to be available prior to train arrival the destination terminal (i.e., Chicago), and the marine carrier push for US rail carriers to manage the electronic release of ocean freight, similar to, how rail carriers do this in Canada. The former issue would be welcome by Canadian transborder railroads, where as US railroads are not involved with the container release process at this time and would derive no benefit.

US railroads are opposed to the latter issue raised by marine carriers as they are not the importing carrier of the ocean containers, and it will require significant computer programming from them to comply. Canadian railroads who handle transborder in-bond containers into the US do not have an issue with this latter item as this is an existing requirement by CBP, given that the railroad is the importing carrier into the US.

UPDATE: No change on this item and no significant impact to rail carriers to date.

UPDATE September 21, 2021: No change.

UPDATE April 13, 2022: No change from last update.

UPDATE September 29, 2022: No Change from last update.

UPDATE April 13, 2023: No change or update from previous.

Rail Electronic Export Manifest

CBP has been working with the rail industry for several years to develop system functionality that will have rail carriers transmit electronic export cargo and train data to CBP's ACE system. Rail carriers have been testing EDI manifest and train consist transactions with CBP for the last several years in a pilot environment, however, CBP has not provided a mandatory participation timeframe in the rail EDI export program. There are potential benefits to automated export reporting, such eliminating paper processing of outward trains from the US with CBP and being able to identify data and process issues early to avoid train issues at the border. However, there is risk that CBP targeting of export containers for inspection can increase.

Rail manifest data is derived from bill of lading data that is available to CBP shortly after the rail waybill is created. CBP has advised that electronic export data will be subject to both electronic and officer review as

soon as received and can be used to hold shipments for inspection at the US border point of exit, increasing border delays. CBP is interested in international container traffic that is destined to countries other than Canada and Mexico. The rail industry's view is that data or inspection issues should be identified and managed by CBP as early as possible in the data exchange process, this to allow rail carriers to manage these issues at the US point of origin as opposed to at border. The rail industry, through the AAR, has requested that CBP address rail shipment inspections at US point of origin as a policy matter. CBP continues to work with the rail industry on both the electronic export requirements and related inspection policy issues, which are under review. There are advanced stages of production test of CBP's export manifest system, having been in an operational phase of testing since May of 2020, and has not experienced any additional border delay as a result.

UPDATE: This initiative is progressing with all railroads with multiple rail carriers now engaged in the pilot. There are still some technical issues to work out with CBP's IT department regarding handling of bonded freight and as new rail carrier export scenarios emerge, CBP is working to fold these into the overall process. No date yet for mandatory participation in the pilot or future dates for electronic export reporting enforcement.

UPDATE September 21, 2021: This initiative is ongoing with additional Class 1 railroads and short lines participating in the pilot in 2021.

UPDATE April 13, 2022: Initiative continues with ongoing pilot and additional Class 1 railroads and short lines participating in the pilot.

UPDATE September 29, 2022: Initiative is ongoing with CBP seeking more participation from other roads within the pilot.

UPDATE April 13, 2023: Initiative is on going with CBP seeking regular feedback on participants experience while in the pilot as well as actively seeking more partners to participate within the pilot.

Electronic Crew Reporting

CBP has reinitiated discussions with the rail industry on CBP electronic crew reporting processes. Confidentiality issues make it difficult to manage personal crew information through existing rail-customs transactional processes, as well as managing crew admissibility issues. This view by northern border rail carriers has been tabled with the AAR Transborder Committee for future dialogue with CBP. CBP has recently begun soliciting comments on electronic crew reporting and rail is expected to submit comments through the AAR.

UPDATE: No change.

UPDATE September 21, 2021: No change at this time, however, on September 17, 2021, CBP again invited comments from interested parties in the US Federal Register. The language in the Federal Register references Crewman's Landing Permits for aircraft and vessels, however, historically these electronic reporting requirements get extended to all modes of transport.

UPDATE April 13, 2022: No changes as of last update.

UPDATE September 29, 2022: No changes as of last update.

UPDATE April 13, 2023: No changes as of last update.

US Border Agriculture Inspections

This issue was discussed at the following committee meetings:

- CanAm Border Trade Alliance
- BCCC Commercial and Operations Committee
- Customs Electronic Systems Action Council (CESAC)

Containers Rejected at the US Border

Daily between 1500 and 2000 containers from overseas arrive at Canadian ocean ports that can transit over a thousand kilometers through Canada to arrive at the US border for continuance to US destinations. Every one of these containers is scrutinized by CBP and USDA/APHIS for pest, seed or solid wood packaging material issues which may make a shipment inadmissible into the US. If CBP or APHIS officers identify pest or seed issues in a container at the US border, the affected container can be rejected by the US agencies and then must be transported back to the original Canadian ocean port for export back to country of origin. Prior to re-entering Canada, however, CFIA requires that the affected containers be fumigated prior to providing authorization certificates for movement through Canada. The cost of inspecting import containers at the US border, arranging for fumigation, and transportation to move rejected containers back to Canadian ocean ports is extremely expensive to all trade partners and the process is very disruptive to rail carriers who handle this business. Given that CFIA has the same concerns as CBP, which is evidenced by the fact that CFIA requires fumigation prior to allowing a US rejected container to transit back to Canadian ocean ports, CFIA needs to partner with USDA/APHIS to interdict on pest issues at the time that containers first arrive at Canadian ocean ports. The RAC is pushing this agenda item through various customs industry forums including the BCCC subcommittees, the CanAM Border Trade Alliance and CESAC.

Class 1s were invited to join the North American Plant Protection Organization (NAPPO) working group by CFIA. This group is made up of the Canada, US, and Mexico agricultural agencies and trade representatives. Part of this group's focus is on compliance with ISPM-15 Solid Wood Packaging Material (WPM). In North America, issues related to WPM have become a significant part of border enforcement to prevent the spread of pests arriving from overseas in containers and that burrow into the solid wood used in pallets and blocking/bracing and subsequently cause significant ecological damage (trees, crops, etc.). These joint government/trade committee discussions tie directly into the larger agriculture related issue faced by Canadian rail carriers at the US border, and the need to push these back to the North American perimeter.

UPDATE: No change on this item. Work continues with the related agencies and participate in the NAPPO working group (monthly calls) to progress rail interests on resolution of agricultural inspection issues.

UPDATE September 21, 2021: Discussion with the NAPPO group is progressing. Rail has submitted flow charts describing the container import and transborder process to the group and has outlined several scenarios that impact rail as is described in the issues statement above.

UPDATE April 13, 2022: Discussions within the NAPPO group continues with the respective working committees contributing on their submissions for the Draft In-Transit document.

UPDATE September 29, 2022: Working group meetings continue with contributions being vetted amongst industry for Draft In-Transit document.

UPDATE April 13, 2023: Working group continues to meet and review and add new contributions and edits for the draft In-Transit document.

Dangerous Goods Committee

Darlene	Nagy	CPKC, Chair
Anthony	Ippolito	CN, Vice Chair
Normand	Adams	Genesee & Wyoming Canada Inc.
Sylvain	Brière	Genesee & Wyoming Canada Inc.
Jim	Kozey	CPKC
Guy	Langis	Ontario Northland Transportation Commission
Nikeghbal	Mahboubbeh	CN
Nicolas	Panetta	VIA Rail Canada Inc.
John	Phillips	Metrolinx
Steven	Santelli	CN
Megan	Schumacher	CPKC
Scott	Croome	Railway Association of Canada

The RAC Dangerous Goods Team (DGT) update was provided by Scott Croome the new Director, Dangerous Goods. Andy Ash retired at the end of last year after 46 years of work with the railways. The three RAC Transportation of Dangerous Goods Specialists (TDGS), based in Montreal, Toronto and Edmonton currently have the following activities that are ongoing for 2023:

- The DGT works under the auspices of the RAC Dangerous Goods Committee.
- Working with Shortline railway members by providing regulatory updates and provide DG operational advice. (e.g., DG tank car storage, employee training) **Note: TDG Training is available to RAC Member Railways in person and can be done virtually if required.**
- **Project ERP** (Emergency Response Plan) - When conducting member site visits, where applicable, the RAC DG Specialist will conduct training on the use of the E/R Plan template. Of note, not all railways will use this template as they may already have robust E/R plans in place.
Railway Emergency Response (RER) training – two 40-hour courses scheduled to take place at the Justice Institute of British Columbia (JIBC) in June and September, have been finalized. The first RER course will take place at the JIBC, the week of June 19-23. The second course is planned for the week of September 11–15, 2023.
- **TRANSCAER® activities** – The DGT is continuing TRANSCAER operations that are being conducted across Canada. There seems to be large demand for this training and DGT continues to service as many as possible. Approximately, 55,1814 have been trained in the past 10 years. To date 183 TRANSCAERs activities have been conducted.
- Chemical Industry Association of Canada (CIAC) and the RAC have produced a V/R tool that incorporates a training tour of the CCPX911 that currently resides at the Fire and Emergency Services Training Institute (FESTI) at Toronto Pearson airport. This tool can be used for TRANSCAER operations remotely with first responders. There is also a French version available.
- **Training and Inspection services to Member Plants (shippers)** - The DGT is continuing in person member plant inspections and training. With an absence of services in the past couple of years, the demand for service is high. It is worth mentioning that service from the RAC DGT must be requested and service fees have been increased for 2023.
- **On-call DGT service** - Continue to maintain an operational readiness, 24/7, for RAC railway members in the event of a dangerous goods incident. There has been assistance/advice rendered at one member railway incident presently in 2023.

Committee Work

- **AAR Tank Car Committee** – voting member.
- **AAR Security Working Group** – member.
- **AAR Hazmat Committee** – new member
- **TRANSCAER®** – National and Regional – railway member.
- **TEAPIII** – Transportation Emergency Assistance Plan, Executive and Editorial Board – member and working towards Assessment Team Leader(s).
- **CERCA** – Canadian Emergency Response Contractors' Alliance - stakeholder member.

- **ERAC Executive Committee** – Emergency Response Assistance Canada – railway member. Covered by C. Myson
- **GPAC** – General Policy Advisory Council – railway member representing RAC Shortlines - alternate is Jean Pierre Couture.
- **GPAC Subcommittees:**
 - International engagement
 - Compliance and response
 - Policy and regulatory affairs
- **TC subcommittees** - on ER Training (CERFLIT)
- **MACTDG** – Multi Association Committee on TDG – railway member.
- **CIAC Safety Train Committee** (development and construction of the new training tank car) – member and Sub-Committee Chair.
- **Transport Canada Rail Security Working Group** – railway member.
- **RAC Dangerous Goods Committee** (RAC facilitator)
- **RAC Security Committee** (RAC facilitator)

Training and Other Team Projects (full team)

- Chlorep
- Ammonia
- CPKC / CN training schools (guest instructor)
- Fire School
- TC CBNRE Exercise
- TC has begun another functional exercise like Vulcan and Athena. This event will focus on a CBRNE event with Police being the main participants. This event will use both real world and virtual tools to allow for a more engaging learning experience. Hosted at the JIBC campus October 23 -27, 2023.
- Industrial Rail Safety
- Disaster Former

Canada: TDG Regulations, Standards, Other Initiatives

- **Notice – Publication of updated Transport Canada standard Containers for the Transport of Dangerous Goods by Rail TP 14877 (January 2018)**

Transport Canada has engaged the Canada General Standards Board (CGSB) to carry out the process to revert the TP14877 Transport Canada standard back to a CGSB National Standard of Canada. The CGSB Committee will be tasked to review the existing Transport Canada standard and to develop a National Standard of Canada that will continue to support the *Transportation of Dangerous Goods Regulations*. In November of 2021 the Draft Standard is considered approved as the 1st Committee Draft Standard by the CBSB Committee. Public review closed on August 6th, 2022, and comments are now being reviewed by the CGSB Committee.

Accepted comments that favour railways were:

- Under 11.3.5 Added “CARRIER” to the paragraph “vehicle may be transported between two properties owned or leased by the manufacturer, producer, carrier or user of the dangerous goods for the purpose of temporary storage if.”
- OTMA’s issued in the USA are now permitted in Canada provided the movement is compliant with all applicable requirements in the 49 CFR.
- Red and or Blue flags are now permitted to be displayed to warn approaching railway vehicle operators.

- **Consultation on RDIMS-#18040250-v8-CANADIAN UPDATE-PRELIMINARY CONSULTATION DOCUMENT- 2021 (002) to the *Transportation of Dangerous Goods Regulations* (TDGR)**

Transport Canada is currently consulting on proposed amendments to the *Transportation of Dangerous Goods Regulations* (TDGR) to harmonize, where possible, with the most recent changes in the UN Recommendations (20th Revised Edition), ICAO TI (2019-2020) and IMDG Code (2018). *Canada Gazette*, Part I was published November 26, 2022. The RAC TDG Committee commented regarding the number of changes made to *Canada Gazette*, Part I which does not result in harmonization and due to the complexity and length of the amendment and the number of comments the RAC requested that Transport Canada republish the amendment in *Canada Gazette*, Part I again for comment.

- **Registration Database – Previously Client Information Database (CID) Consultation**

Proposed Scope: Applies to a person who imports, offers for transport, handles or transports dangerous goods at a permanent site that they own or operate located in Canada. A site means a place where

dangerous goods are imported, offered for transport, handled or transported, and are in direct possession of a person conducting these activities, but does not include a means of transport or a place where the dangerous goods are destined to be used as part of their scope of work, or as raw materials used in their products. Railroads will need to register sites, but the definition of a site as it pertains to a railroad has not been clarified by Transport Canada.

- Regulatory changes in the TDGR, publication in *Canada Gazette*, Part I → June 25, 2022
- Comment period extended until → January 13, 2023
- Regulatory changes in the TDGR, publication in *Canada Gazette*, Part II → 2023 still pending
- CID launch → 2023 still pending

RAC TDG Committee provided comments after the posting in *Canada Gazette*, Part I regarding the definition of sites which currently as defined would mean a report would be required for each station (4777 between CPKC & CN) as train travels through. Most of these sites will have thousands of line entries because of the hundreds of unique UN ID numbers and multiple packing groups for most UN IDs. Transport Canada's online system is incapable of a user friendly or efficient bulk upload requiring extensive manual entry in addition to the prep work to pull the required data for each site of the 4777 sites.

- **CGSB Committee Standard 192.3 TDG Training Competencies**

In 2017, the CGSB established a Standards Committee to develop a new standard for competency-based training and assessment for the transportation of dangerous goods. The standard will be incorporated by reference into the TDGR and was published in the *Canada Gazette*, Part I in December 2021. Draft Guidance material was provided to industry. Publication in *Canada Gazette*, Part II – still pending.

- **Initial Consultation Part 6 Training**

In May of 2020, Transport Canada shared a working document for a rewrite of Part 6 of the TDGR which includes the proposed draft provisions for the incorporation by reference of the proposed standard CGSB-192.3, Transportation of Dangerous Goods Training, Assessment and Competency to the TDGR. The RAC TDG Committee's comments were submitted on May 14, 2020. Was published in the *Canada Gazette*, Part I in December 2021. Draft guidance material was provided to industry. Publication in the *Canada Gazette*, Part I in December 2021. Comments were submitted on February 9, 2022, and generally were in reference to the new requirements on the dangerous goods training certificates.

- **Reverse Logistics**

In 2014, there was a change to the TDGR which removed the ability of a consignor to rely on the classification that was determined by a previous consignor or the manufacturer. This is now inconsistent with the United States (U.S.) hazardous materials regulations (49 Code of *Federal Regulations* (CFR), section 171.2) where there is an allowance to rely on information provided by previous offeror or prior carrier. The RAC commented to the *Canada Gazette*, Part I, published November 26, 2022, and will be presenting to the TDG GPAC sub-committee on Policy and Regulatory Affairs in May 2023.

- **Bill S-6, An Act Respecting Regulatory Modernization**

Is currently before the House of Commons that is proposing amendments to the *Canada Transportation Act* to authorize the Minister of Transport to make interim orders to incorporate international transportation standards and obligations into law. This is a recurring legislative mechanism that enables the Government of Canada to make common sense changes across many pieces of legislation at once to address overly complicated, inconsistent, or outdated requirements on businesses and Canadians. Tabled in the Senate, May 10, 2022.

- **AMPS – Administrative Monetary Penalties**

With the tabling of Bill C-33 – which would introduce the legislative amendments necessary to introduce an AMP regime and *Canada Act* (CA) framework under the *Transportation of Dangerous Goods Act*, 1992 (TDGA) the TDG Program is now seeking industry's feedback regarding the details of its proposed AMP and CA policies. Amps Notice of Violations (NoV) will publish the details of any violations on the Canada.ca website. Details would be listed under the Administrative Enforcement Action Summaries which would include; name of the person (individual or organization), nature of the violations, amount of the penalty and status of each NoV. Publications will be present for up to 5 years after they are paid.

- **TDG has also provided a list of new projects that are still in the scoping stage. The items of most interest to this committee are:**

- Hydrogen transport by rail – assessment of Canadian standards, fire performance
- Analysis of Fire Effects on Tank Cars (AFFTAC) studies – internal evaluation of recent software updates and comparisons to TC models
- Hard coupling of rail cars – assessment of current requirements/speed limits

United States: Rulemaking

- **HM-219D NPRM Published:** Adopt Petitions and Regulatory Update. Published March 3, 2023. Comment period closes on May 2, 2023. HMSA proposes amendments to the *Hazardous Materials Regulations* (HMR) to update, clarify, improve the safety of, or streamline various regulatory requirements. Specifically, this rulemaking responds to 18 petitions for rulemaking submitted by the regulated community between May 2018 and October 2020 that requests PHMSA address a variety of provisions, including but not limited to those addressing packaging, hazard communication, and the incorporation by reference of certain documents.
- **HM-215P Final Rule:** Harmonization with International Standards rule. Effective August 25, 2022, PHMSA is amending the HMR to incorporate by reference the newest versions of various international hazardous materials standards, including the International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air, the International Maritime Dangerous Goods Code, United Nations Recommendations on the Transport of Dangerous Goods and, the International Atomic energy Agency.

Pending Rulemaking

- **HM-215Q NPRM:** Harmonization with International Standards. Expected 2023
- **HM-233G Final Rule:** Special Permit conversion rule. Will address what existing SP's can be converted into the regs. Sent to Secretary for Final Review/Approval. Expected 2023
- **HM-263 NPRM:** Real-Time Train Consist Information. Expected 2023
- **HM-264A Final Rule: Suspension of HMR Amendments Authorizing Transportation of Liquefied Natural Gas by Rail.** NPRM Issued 11-8-2021 with comment period closed 12-23-Expected Final Rule 2023.
- **HM-264B NPRM:** Improving the Safety of Transporting Liquefied Natural Gas. Expected NPRM 2023.
- **HM-265 NPRM:** Modal Regulatory Reform Initiatives. Of rail interest – To address rail issues from HM RSAC/AAR M-1002 and updating Parts 174, 179 and 180. Note: The FRA HMG-127, Revision 5 draft will be included with the issuance of this NPRM for review and comment along with the NPRM comment period once it is issued in the Federal Register. Is currently in final agency review stage. Expected NPRM: 2023.
- **HM-265A ANPRM:** Modal HM Regulation Update. Expected Issuance: 2023.

LNG Tender/Cargo & 174.63**LNG as cargo movements:**

ARRC's 174.63 Approval to move LNG as cargo in portable tanks was renewed by FRA via a conditional approval issued in the Federal Register on June 24, 2021. Comment period on this conditional approval closed on August 23, 2021. ARRC is not currently transporting any material but is looking into options for moving the material in the future on their system.

FERC also has an FRA issued 174.63 approval to move LNG in portable tanks on their system in Florida. Movements are as specified in the issued Approval.

Special Permit DOT-SP 20534 was issued on 12-5-19 to Energy Transport Solutions to offer and transport LNG by rail in DOT-113C120W tank cars from a location in PA to a location in NJ. NOTE: High level of Interest at the Congressional level on the issuance of this SP.

Enhanced Train Control

Executive Committee			
Brett Jury	CN	Jonita Delaney	Metrolinx
Luc Fiset	CN	Richard Desforges	VIA Rail Canada
Lynda MacLeod	CN	Zvonko Trajkovic	VIA Rail Canada
Lori Kennedy	CPKC	Nicolas Panetta	VIA Rail Canada
John Leonardo	CPKC	Gilles Renaud	VIA Rail Canada
Paul Sztanko	CPKC	Anand Chaubey	VIA Rail Canada
Thomas Casselman	Metrolinx	Caroline Healey	RAC
Applications Committee			
John Sadler (Lead)	CN	Dwarak Punja (Lead)	Metrolinx
Dan Green	CN	Daniel Danu	Metrolinx
Alain Gangé	CN	Ali Khan	Metrolinx
Peter Kowalchuk	CN	Ammar Ahmad	Metrolinx
David Thurston (Lead)	CPKC	Brandon Scott	Metrolinx
Stephen O'Connor	CPKC	Paul Charrette (Lead)	VIA Rail Canada
Dan Freeman	CPKC	Aaron Consebido	VIA Rail Canada
Andrew Brant	CPKC		
Project Management Office (PMO) - RAC			
Scott McDade		Temitope Abiodun	
Michael Hendry			

The Railway Association of Canada's (RAC) Enhanced Train Control (ETC) Program consists of CN, CPKC, VIA Rail Canada, and Metrolinx representatives. The purpose of the ETC Program is to coordinate the implementation of ETC in Canada and develop common Standards and Interface Control Documents (ICDs) to allow ETC systems to be interoperable (tenant railway operating on host railway with protection from ETC system).

The program began as a response to Transportation Safety Board's (TSB) recommendations and because of the 2018 *Railway Safety Act Review* recommendations. The program's profile has increased with the release of Transport Canada's (TC) Notice of intent for *the implementation of enhanced train control in Canada* (the NOI) posted in the *Canada Gazette* on February 5, 2022. Transport Canada communicated early 2023 that they plan to proceed with regulation, with stakeholder engagement starting spring or early summer of 2023.

The ETC Program was reorganized in early 2023. The ETC Program now consists of an Executive Committee, an Applications Committee Team, and committees comprised of subject matter experts for (Standards, Safety & Risk, Communications, and Interoperability). All committees have representation from each of the participating railways. The ETC program is supported by the RAC Program Management Office (PMO). The approved scope of work for the ETC Program has been divided into two phases. The first phase developed system and segment-level requirements and has largely been completed. The second phase has begun and will develop Standards and ICDs based on the Association of American Railroads' (AAR) Interoperable Train Control standards. A detailed project plan for the second phase is currently under development.

The ETC Program initiated a Vendor Engagement Process because it was recognized that the system requirements, standards, ICDs etc., developed for ETC would benefit from being reviewed by potential vendors of train control systems to reasonably confirm, to the extent possible, that they do not: unnecessarily preclude the use of proven systems or components; or, contain requirements that result in extensive unnecessary changes to proven systems or components that significantly increase costs. This process included a publicly posted Request for Information. The initial sharing of documents with vendors is expected in May/June 2023, once all agreements have been completed.

In alignment with Public Safety Canada's vision, Industry has advised Transport Canada of the need for LTE/5G utilizing the Public Safety Broadband Network (PSBN) spectrum as a reliable communications solution for implementing ETC in Canada. This will require that the industry install the infrastructure needed to support the LTE network. Transport Canada has coordinated meetings between the RAC, ETC Program participants, and other government agencies to discuss access to the PSBN. No commitments have been made by the federal government, and these meetings are ongoing.

Environment Committee

Emily	Mak	Southern Railway of British Columbia, Chair
Nirwair	Bajwa	CPKC
François	Bélanger	CN
Christian	Belliveau	New Brunswick Southern Railway Company Limited
Ben	Chursinoff	Railway Association of Canada
Emily	Cosburn	Metrolinx
Stéphanie	Daneau	exo
Benoît	Gingras	exo
Françoise	Granda-Desjardins	VIA Rail Canada
Kevin	Houle	CPKC
David	Huck	CPKC
Donna	Jaques	Ontario Northland Transportation Commission
Ted	Jones	CPKC
Stella	Karnis	CN
Arjun	Kasturi	Metrolinx
André	Lapalme	Québec Gatineau Railway
Jérémie	Largeaud	Genesee & Wyoming Canada
Murray	MacBeth	Genesee & Wyoming Canada
Luanne	Patterson	CN
Bruno	Riendeau	VIA Rail Canada
Sylvain	Rodrigue	exo
Thomas	Rolland	exo
Aaron	Stadnyk	CN
Marta	Swiercz	Metrolinx
Joe	Van Humbeck	CPKC
Joe	Viscek	Ontario Northland Transportation Commission
Michael	Barfoot	Railway Association of Canada
Ben	Chursinoff	Railway Association of Canada
Caroline	Healey	Railway Association of Canada
Jonathan	Thibault	Railway Association of Canada

Rail Pathways Initiative

The Rail Pathways Initiative was published in December 2022 after nearly two years of collaboration with Transport Canada (TC) and the authors of the report. Publication of the Rail Pathways Initiative achieves one of the key deliverables of the Memorandum of Understanding (MOU) between the RAC and TC, representing an important success for the rail industry.

The communications strategy implemented a series of social media messaging, the creation of a promotional release video, and interview footage speaking to the report. Partners also communicated the release of the report including Delphi Group and Pollution Probe.

RAC has communicated the findings of the report to various stakeholders including but not limited to Environment and Climate Change Canada, Quebec Advisory Council on Climate Change, Association Québécois des transports, and Association of American Railroads (AAR).

Discussion with AAR and Delphi Group indicate that the AAR is interested in proceeding with a US version of the Rail Pathways Initiative report. RAC is supportive of this endeavour as it acts as an interim step in furthering North American rail industry decarbonization.

Report findings and recommendations are crucial for providing a foundation for RAC engagements with TC to co-develop a new Memorandum of Understanding that provides a framework for industry-government collaboration to advance decarbonization.

Memorandum of Understanding with Transport Canada

RAC's Memorandum of Understanding (MOU) with Transport Canada (TC) provides a framework for collaborating on research initiatives, advancing decarbonization, and setting emissions reductions targets for the rail industry. The most recent MOU covered the years 2018 – 2022. While the MOU period has concluded, there are still two years remaining for Locomotive Emissions Monitoring reporting (2021 and 2022).

To begin informing industry positions, the RAC engaged members from December 2022 to February 2023 to collect perspectives and ideas. Members engaged throughout this process include CPKC, CN, Metrolinx, VIA Rail, and Southern Railway of British Columbia. Comments were aggregated into themes which were then presented to the RAC Environment Committee on March 23, 2023, for discussion.

RAC has approached TC to begin early discussions on codeveloping a new MOU. Several themes from TC are similar to themes raised by industry. To kick start the process, a spring workshop is being planned in Ottawa in early June where government and industry will discuss the previous MOU achievements, review research findings, and discuss areas of interest for a new MOU.

The objective is to finalize a new MOU by the end of 2023.

Environmental Management Systems

Following a survey to members in the Spring of 2022, RAC has contracted Aureus Solutions to develop additional supporting materials for members seeking to implement Environmental Management Systems (EMS). A series of policy checklists, templates, and videos will be produced to provide more guidance to members. Table 1 below depicts the estimated completion dates for this project.

Table 1. Project Milestones

Task Name	Deliverables	Status	Start Date	Target Date	Submission Date	Notes	% Complete
Part 1a							
Creating an Environmental Policy	Template Checklist Video Procedure	Submitted for Review	02/01/23	03-10-2023	03/17/23	Uploaded to google drive and submitted for Ben's review	95%
Part 1b							
Identification of Aspects and Impacts	Template Checklist Video Procedure	In progress	02/01/23	05-19-2023			45%
Part 1c							
Documenting Legal and Other Compliance Obligations	Template Checklist Video Procedure	In progress	02/01/23	05-19-2023			25%
Part 2a							
Goal and Objective setting	Template Checklist Video Procedure	In progress	02/01/23	05-19-2023			15%
Part 2b							

Communication	Template Checklist Video Procedure	Not started	TBD-based on feedback from part 1a	06-16-2023			0%
Part 2c							
Training and Awareness	Template Checklist Video Procedure	Not started	TBD-based on feedback from part 1a	06-16-2023			0%
Part 2d							
Document Control and Records Management	Template Checklist Video Procedure	Not started	TBD-based on feedback from part 1a	06-16-2023			0%
RAC REVIEW							
Review of EMS Modules in Totality	Review of all Video Modules	Not started	TBD-based on feedback from part 1a	06-30-2023			0%

Canadian Wildlife Federation - Monarch Butterfly and Milkweed

In 2022, the Canadian Wildlife Federation (CWF) undertook a scoping exercise to determine interest in a Monarch Butterfly conservation organization in Canada. As part of that research, the RAC provided comments to the CWF. Environment and Climate Change Canada has favourably reviewed the scoping report. As a result, ECCC has asked CWF to develop a “road map” business plan for a Monarch conservation organization.

To advance this initiative, CWF is undertaking another round of consultations with various sectors in Canada. RAC again participated in the process by providing feedback in March 2023. Feedback provided focused on the need for safety and ensuring that tracks are clear of vegetation, limiting fire hazards, and that more feasibility studies need to occur to fully understand the impacts of milkweed around rail tracks.

Assessment completed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) on the Status of the Monarch Butterfly (*Danaus plexippus*) and Two Subspecies of the Western Bumble Bee

RAC provided comments to Environment and Climate Change Canada in December 2022 in response to a consultation on the status of the Monarch Butterfly. Industry views focused on the need to balance regulated safety requirements such as clearing of vegetation along railway corridors as required by Part II of the *Rules Respecting Track Safety* adopted by Transport Canada with the protection of critical habitats. The need to consult with railways is important to ensure that both needs are safely met. RAC will continue to monitor for consultations on the Monarch Butterfly.

Cross-border Movement of Hazardous Waste and Hazardous Recyclable Materials Regulations (XBR)

a) Permit of Equivalent Level of Environmental Safety (PELES)

- Environment and Climate Change Canada’s (ECCC) Regulatory Operations branch within the Waste Reduction and Management Division denied RAC’s most recent proposal for a PELES on the basis that it does not comply with international obligations binding on Canada

(i.e., Basel Convention, OECD Decision C (2001)107/FINAL, and the Canada-USA Agreement on the Transboundary Movement of Hazardous Wastes, 1986.

- Industry has engaged this branch of ECCC several times over the last couple of years to develop an approved PELES template but with no success. A PELES would allow for alternative compliance with the XBR that industry could meet.
- Given the lack of success with this approach, RAC, CN, and CPKC are considering an advocacy approach with both Minister Guilbeault's and Minister Alghabara's offices.

b) Definitions of Hazardous Wastes and Hazardous Recyclable Materials

- Following the submission in September 2022 to Environment and Climate Change Canada (ECCC) in which RAC made the case that scrap rail ties should not be considered hazardous, ECCC has communicated that this regulatory process is currently on pause. They indicated that it may be 3-4 years before they review Schedule 7 of the XBR.
- In March 2023, RAC, CN, CPKC, and Ken Roberge (TRC Companies) met with representatives from Environment and Climate Change Canada (ECCC) to discuss the XBR and scrap rail ties. Industry asked if ECCC could potentially provide feedback on a draft Statement of Work that would seek to conduct a risk assessment of scrap rail ties in Canada. The goal is to demonstrate that there is minimal environmental risk and scrap ties should not be considered hazardous but there needs to be assurances that the project meets the requirements of ECCC to which they agreed to review any Statement of Work developed by industry.
- CPKC provided two relevant studies to ECCC on rail ties and creosote for their review as ECCC had asked if industry knows of any available literature.

Storage Tank Systems Regulations

In October 2022, the RAC submitted comments on behalf of industry to ECCC in response to the *Discussion Document – Review of the Storage Tank Regulations*. The 17-page submission was developed with comments from CN, CPKC, and support from Ken Roberge (TRC Companies). RAC and members will continue monitoring for further consultation opportunities.

British Columbia Carbon Tax

In January 2023, the RAC was approached by Advanced Biofuels Canada (ABFC). ABFC was seeking support from the rail industry to support its advocacy campaign in BC regarding the application of the provincial carbon tax to renewable fuels. Under this policy regime, the carbon tax is applied the same to renewable fuels (e.g., biodiesel) in the same manner as petroleum fuels which adversely impacts the price point of renewable fuels that have a lower carbon intensity.

The application of the carbon tax results in incorrect market signals and a lack of policy support for the advancement of renewable fuels. RAC provided its support to ABFC's advocacy campaign by supporting a letter to the BC Government. Unfortunately, with the BC Budget 2023, no policy change was implemented to correct this issue. ABFC remains engaged with the BC government.

At the March 23, 2023, RAC Environment Committee meeting, the committee recommended that the RAC include this advocacy piece in its BC pre-budget submission for 2024.

Mechanical Committee

Kyle	Mulligan	CPKC, Chair
Manuel	Salazar	CN, Vice-Chair
Stéphane	Boudreault	Quebec North Shore and Labrador Railway Company
Kevin	Claerbout	Metrolinx
Laszlo	Czihaly	Southern Railway of British Columbia
Dave	Dallaire	Québec Gatineau Railway
Kevin	Hill	Metrolinx
Lonnie	Little	Ontario Northland Transportation Commission
Murray	MacBeth	Genesee & Wyoming Canada
Pierre	Michaud	Quebec North Shore and Labrador Railway Company
Dave	McMullen	Quebec North Shore and Labrador Railway Company
Donald	Proulx	Quebec North Shore and Labrador Railway Company
Lukasz	Szymsiak	VIA Rail Canada
Kevin	Ouimet	Railway Association of Canada

Broken Wheels

The current focus for the Mechanical Committee is to study broken wheels which have resulted in derailments. Industry agreed that the biggest problem around broken wheels have been in heavy bulk fleets. Both Canadian Class 1s have been developing and implementing additional wayside detectors to identify and remove broken wheels from service. Some designs aim to be pro-active (electromagnetic) and others reactive (camera, laser). Development has been ongoing for the past 2 years by working on prototypes and refining designs. The Committee discussed image-based systems and issues with significant numbers of false positives. The Committee determined there is a need to continue to evolve image recognition algorithms however, even with manual visual techniques using cameras, broken flanges, shells, and other defects which are present and not detected during terminal inspections are yielding significant safety benefits. Therefore, putting Certified Car Inspectors into remote inspection centres is therefore of value. Other topics including steel manufacturers and mileage have also been topics of discussion. Implementation of the laser-based prototype for mainline use is anticipated in 2022. The results of in-service testing will be shared during committee meetings.

UPDATE SEPTEMBER 2022:

The Committee discussed vertical split rims in most cases they were from wheels that were turned in a wheel shop with 18/16" of thread left on them. In the AAR Manual of Standards and Recommended Practices there is no minimum threshold other than the condemning limit preventing you from turning a wheel.

A member is going to the Wheel Axle Brakes and Lubrication (WABL) Committee to petition that there should be some limit in the Manual of Standards and Recommended Practices in terms of turning a wheel with minimum rim thickness. The WABL Committee provides comments for the Manual of Standards and Recommended Practices. The manual must be followed by the wheel shop facilities, specifically the G2 section of the Manual of Standards and Recommended Practices documentation.

To make a change to the G2 section of the Manual of Standards and Recommended Practices, the members must agree, and the car owners will also have input. The car owners are likely to fight this as it will cost them money to change the wheel set. The cost to car owners and members is going to go up until the new norm is established.

More information will be shared with the Committee as the broken wheels requires more testing.

UPDATE MARCH 2023:

More information will be shared with the Committee at the October meeting as testing is still in progress.

Discussions of the Norfolk Southern (NS) Ohio derailments. One of their derailments was linked to a Canadian freight car manufacturer with a loose wheel. During the Wheel Axle Brakes and Lubrication (WABL)'s meeting they discussed the NS derailment and the loose wheel issue.

The hot box detectors spacing was discussed. Industry discussed with the AAR acoustic bearing detectors and bearing trending. A lot of analysis has been done by the railways to demonstrate that moving from 20 miles to 15 miles to 10 miles spacing provides no real statistical risk reduction.

Cold Operation

The Transportation Safety Board's (TSB) report on the Field Hill accident was released and one of the recommendations is to have enhanced brake test standards when operating through mountain grade territory. Industry has agreed to move forward with the RAC to investigate performance air brake standards as opposed to the manual number one brake test. The goal is to petition Transport Canada before the end of the year to implement it. The scope would be limited as to where it needs to be. The rule would apply to trains that are operating with greater than a one hundred tons per operative brake. Industry is looking at how to apply to solid intermodal. Right now, the technology is not ready for manifest trains or any other trains. The focus is on bulk unit trains.

UPDATE SEPTEMBER 2022:

The industry has filed the petition including the proposed rules, risk assessment results, and labour consultation. Pending the sixty (60) day consultation review period, the final petition with responses to labour will be filed with Transport Canada.

UPDATE MARCH 2023:

The industry is still working on the proposed *Train Brake Rules* Phase II including the "BET" Brake Efficiency Test using hot and cold wheel detection.

Train Inspection Portal Systems

Challenges were identified with implementing Train Inspection Portal Systems (TIPS) into an integrated exemption as an alternative to performing manual safety inspections. The discussions highlighted issues with regulators focusing on minor defects such as: brake shoes and knuckle pins, which apply negative light on approved exemptions. The Committee agreed that these systems and implementation by both Canadian Class 1s have significantly contributed to an improved industry safety record. Hence, both Canadian Class 1s would like to protect these technologies and their implementation and agreed to educate the regulators. The consensus was to approach regulators with united processes given inspections affect all railways. The Committee is preparing such united approach to TC and eventually the Federal Railroad Administration (FRA).

UPDATE SEPTEMBER 2022:

The Committee will discuss at the next meeting the logistics of inviting Transport Canada – Rail Safety to an onsite portal at a Canadian Class 1 facility.

UPDATE MARCH 2023:

At the March 9, 2023, Mechanical Committee meeting invitations were sent to Ursula Green, Senior Engineer, Rail Safety Operations, Transport Canada and Graham Lowrey, Senior Environmental Advisor, Transport Canada to discuss the *Locomotive Emissions Regulations*.

The *Canadian Locomotive Regulations* are aligned to the extent possible with those in the United States. The United States *Environmental Protection Agency (EPA) Regulations*, found under the Code of Regulations Title 40, Part 33. The biggest difference with the regulations in Canada versus the U.S. is that in the United States their regulations which stem from the U.S. *Clean Air Act*, apply to manufacturers and remanufacturers. In Canada, the *Locomotive Emissions Regulations* apply to the railway companies that operate under federal jurisdiction.

The EPA also issued a question-and-answer document for non-Original Equipment Manufacturer (non-OEM) component certification program. The links for the documents mentioned in the presentation will be sent to all Committee members.

How to meet applicable emissions standards and transfer of certified emission parts from a manufacturer to another were discussed at Committee, and U.S. EPA certificate vs. Canadian EPA certificate.

Medical Committee

Lisa	Trueman	CPKC, Chair
Gina	Stirpe	CN, Vice Chair
Ana	Derksen	Metrolinx
Jessica	Farinaro	Genesee & Wyoming Canada
Marie-Claude	Laporte	VIA Rail Canada
Marc	Lavallée	exo
Sean	Sefsik	Genesee & Wyoming Canada
Michael	Barfoot	Railway Association of Canada

Medical Advisory Group

Dr. George	Lambros	CPKC, Chair
Dr. Michelle	Laprade	CN, Vice Chair
Dr. Marie-Danièle	Pitchen	CN
Dr. Nigel	Adams	BNSF Canada
Dr. Ayodele	Adebayo	Occupational Medicine Physician
Dr. John	Cutbill	Occupational Medicine Physician
Dr. Oyekanle	Oyekanmi	Occupational Medicine Physician

The *Canadian Railway Medical Rules Handbook* was successfully republished in May 2022 to reflect the updated **Diabetes Guidelines**. The Medical Advisory Group and the Medical Committee are now working on the following guideline updates and additions for 2023.

Cardiovascular Disorders – The mature draft of updated Cardiovascular Disorders Guidelines has been completed by the Medical Advisory Group and is now positioned to be reviewed with a Cardiologist, identified by Dr. Pitchen and Dr. Laprade in the spring of 2023 to finalize.

Cerebrovascular Disorders - Neurological Disorders guidelines are developed focused on Cerebral Aneurysm, Stroke and Transient Ischemic Attack. Additional content has been developed for Intracranial Tumours and Seizures and Epilepsy. The Medical Advisory Group continues to progress these guidelines and decisions will be made as to the appropriate section or new section of the Canadian Railway Medical Rules Handbook that these will fall based on the final content.

2023 Scope of Work and Budget (\$25,000)

The Medical Committee anticipates the following scope of work and associated budget for the remainder of 2023.

Guideline/Subsection	Budget Allocation	Comments/tasks
Subsection 4.6 Cardiovascular Disorders	\$10,000	Finalized guideline by year end 2023
New Subsection 4.11 Cerebrovascular/Neurological Disorders	\$10,000	Finalized guideline by year end 2023



**OPERATION
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Operation Lifesaver Canada Update

Operation Lifesaver (OL) Canada has continued to make good progress on its objectives over the past six months. OL's main activities from October 2022 to April 2023 included promoting its rail-safe winter driving and recreation campaign, the production and promotion of two new *Today is Better* videos, and the launch of a new Google Maps rail-crossing alert feature.

That said, OL's three-year contribution agreement with Transport Canada expired on March 31, 2023, and the organization is currently without government funding. OL and the RAC continue to follow up with Transport Canada about this, and TC officials have indicated that the next Rail Safety Improvement Program call for proposals will be sent out this spring. Hopefully, OL will soon be in a position to move ahead with its education and outreach initiatives and plans for Rail Safety Week 2023.

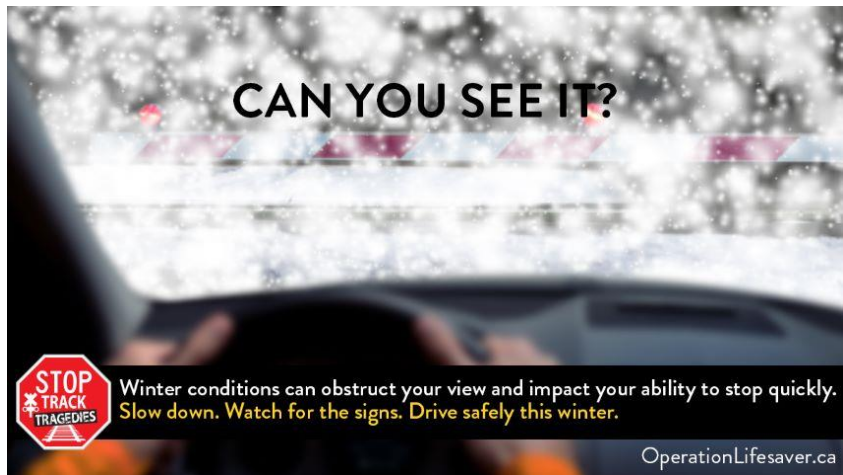
The following briefing note outlines OL's key achievements over the past 6 months.

1. 2023 Rail-Safe Winter Driving and Recreation Campaign

To help Canadians stay safe around rail crossings over the winter, Operation Lifesaver refreshed its successful 2022 winter driving and recreation campaign, and promoted it on Meta, Google AdWords, and TikTok. The campaign featured a combination of still graphics and "cinemagraphs" that reminded Canadians to exercise caution around railways in winter when weather conditions affect visibility and impact the ability of vehicles to stop quickly.

In December, OL promoted the "[Santa](#)" leg of the campaign, to emphasize the importance of rail-safe driving over the holidays. That campaign

generated more than 120,000 views, 1.5 million impressions, and 57,000 clicks through to the OL website. The cinemagraphs — which target [drivers](#) and [snowmobilers](#) — were simultaneously promoted to two key audiences: youth (ages 16-30) and adults (ages 30-65). The ads ran throughout December 2022, and then from January 23 to February 13, 2023, and performed extremely well, generating more than 2.5 million video views, 6 million impressions, and 280,000 clicks through to the OL website.





**OPERATION
LIFESAVER**



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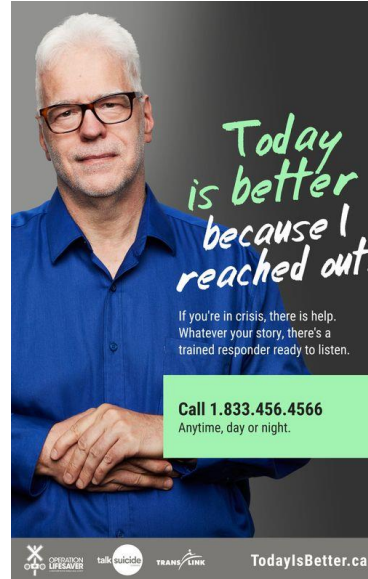
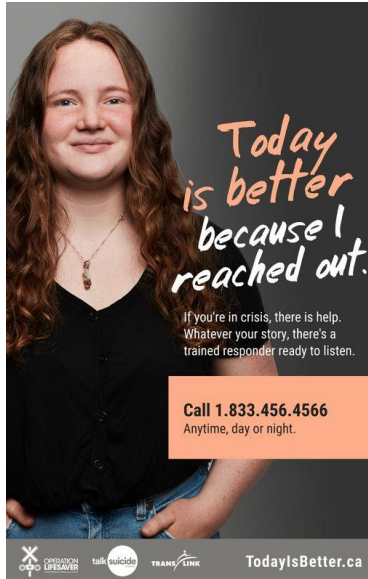
telephone: 613.564.8100

fax: 613.567.6726

e-mail: admin@operationlifesaver.ca

2. Today is Better Campaign

OL also expanded its *Today is Better* suicide prevention campaign in early 2023, by producing and promoting two new videos aimed at audiences particularly at-risk for suicide. The new videos feature the stories of a young person and a first responder who each struggled with suicidal thoughts but found help.



The videos were promoted through paid ads on Meta, Google AdWords, and TikTok from January 19 to 24 and February 15 to 28, 2023, as well as organic posts on OL's social media channels. The campaign generated impressive results: 500,000 video views, more than 4.2 million impressions, and 40,000 clicks through to the *Today is Better* website.

3. Google Maps Project



In April, OL was pleased to announce a new rail-crossing alert feature developed in collaboration with [Google Maps](https://www.google.com/maps). Drivers, pedestrians, and cyclists using the Google Maps app version 5.57 or higher for iOS and 10.68 or higher for Android will now see a rail crossing icon alerting them to upcoming crossings and encouraging them to approach with caution. The new tool was developed using data from the Canadian Rail Atlas

Operation Lifesaver is a national rail safety program, sponsored by Transport Canada and the Railway Association of Canada, that works to save lives by educating Canadians about the hazards of rail crossings and trespassing on railway property.



**OPERATION
LIFESAVER**



OPERATION LIFESAVER

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— the Railway Association of Canada’s interactive map of the country’s nearly 43,000-kilometre railway network. This is OL’s second collaboration with a technology company: OL first began alerting drivers to rail crossings through the popular [Waze](#) app in April 2020. OL plans to lobby Apple to incorporate similar alerts into its iMaps application in the coming months.

4. Rail Safety Week (September 18-24, 2023)

Finally, funding permitting, OL hopes to mark another successful Rail Safety Week this year. OL is planning to launch several new [#STOPTrackTragedies](#) videos, to promote its [Stay Safe with Thomas](#) books in partnership with CPKC, Metrolinx, and Mattel, and to encourage additional municipalities to install rail safety decals at crossings as part of its [Community Safety Partnership Program](#). More details about OL’s plans for Rail Safety Week 2023 will be shared with its partners over the summer.

For more information about Operation Lifesaver Canada and its initiatives, please contact:

Sarah Mayes
National Director
Operation Lifesaver Canada
smayes@railcan.ca

Operating Rules Committee

James Gamble	CPKC, Chair
Luca Frappier-Charron	CN, Vice Chair
Normand Adams	Genesee & Wyoming Canada
Jonathan Cooke	VIA Rail Canada
Brent Medwid	CN
Michael Rennie	Ontario Northland Transportation Commission
Michael Barfoot	Railway Association of Canada

The first quarter of 2023 has seen RAC member companies continuing to implement and refine many new industry initiatives, most notably:

- processes related to Transport Canada's (TC) *Locomotive Voice & Video Recorder Regulations*, including the handling of regulatory requests for LVVR data, and the implementation of random audit processes permitted under the regulation;
- *Rollaway Protection Rules* and processes resulting from Ministerial Orders (MO) 21-01 and 21-02; and
- Phase 1 revisions to the *Railway Freight and Passenger Train Brake Inspection and Safety Rules*.

The random audits permitted per regulation are an excellent opportunity for railways to continue to affect positive changes to our respective safety cultures, particularly with compliance to rules focussed on creating a safe and effective in-cab operating environment.

February 2023 saw TC approve the first phase of revisions to the *Railway Freight and Passenger Train Brake Inspection and Safety Rules*. Member companies are working separately to refine company specific special instructions to support the changes, coming into effect May 1. RAC work on the Phase 2 submission in response to MO 22-04 is ongoing, with additional changes expected later this year.

The Operating Rules Committee's are concerned with TC's *Grade Crossings Regulations* and *Grade Crossing Standards* (collectively, GCR) and the *Canadian Rail Operating Rules* (CROR). Given the low likelihood of industry ability (and regulator willingness) to affect meaningful revisions to the GCR prior to November 2024, our attention has turned to developing company specific processes to attempt to mitigate the impact of the regulation.

Once the above is complete, the Committee hopes to turn the focus back to the draft package of CROR revisions in development since 2015.

Proximity Committee

Randy	Goulden	City of Yorkton, Co Chair
Jonathan	Abecassis	CN
Jeff	Browaty	City of Winnipeg
Philippe	Cannon	VIA Rail Canada
Chris	Fonseca	City of Mississauga
Matt	Gemmel	FCM
Eric	Harvey	CN
Saadia	Jamil	CN
Mike	LoVecchio	CPKC
Emily	Mak	Southern Railway of British Columbia
Rhona	Martin	Columbia Shuswap Regional District
David	Provencher	VIA Rail Canada
Marion	Robinson	Transport Canada
Jenelle	Saskiw	Village of Telkwa, Project Manager, FCM
Adam	Snow	Metrolinx
Jason	Tsang	Canadian Transportation Agency
Eve Danièle	Veilleux	VIA Rail Canada
Ben	Chursinoff	Railway Association of Canada

Federation of Canadian Municipalities (FCM) Board of Directors Decision

RAC was notified by FCM on March 21, 2023, that the FCM Board of Directors made the decision to conclude the Memorandum of Understanding (MOU) with the RAC. This decision was made to reallocate FCM resources to focus more on a limited number of priority areas (e.g., affordable housing, mental health and addictions, policing). The decision made is not a reflection of how FCM views rail safety or the proximity initiative. FCM indicated to the RAC and the Steering Committee that there have been significant achievements over the last twenty years through this partnership. FCM believes that the time is appropriate to take a step back from the initiative. FCM will continue to host the *Proximity Guidelines* on their website, point municipalities to the guidelines, and encourage their adoption. However, the FCM name and logo will be removed from all materials moving forward. The *Proximity Guidelines* themselves will continue to be known as the *FCM-RAC Proximity Guidelines*.

RAC requested that FCM avoid any public announcements regarding this decision to limit any negative perception issues that may arise regarding proximity issues and the guidelines; the guidelines remain very useful for railways, municipalities, developers, and the Canadian Transportation Agency.

The Proximity Initiative will continue outreach with stakeholders and will engage the provincial / territorial municipal associations to strengthen collaboration.

2023 Outreach Plan

For 2023, the Proximity Initiative is focusing outreach on British Columbia and Ontario. To support this objective, a trade booth has been registered for the Federation of Canadian Municipalities annual conference in Toronto (May 25 – 27) and for the Union of BC Municipalities in Vancouver from September 18 – 22. Outreach to urban development institutes is also included in the engagement plan in addition to continued outreach with municipalities.

Stakeholder Engagements

- Meeting with city of Kamloops, BC
- Meeting with Dillon Consulting re: Proximity Guideline update
- Meeting with Tyler Banick, CN, follow up from Alberta Municipalities conference.
- Follow up with Eve-Danielle Veilleux re: update on development appeal in Casselman, ON
- Meeting with Central Alberta Economic Development Association. Secured speaking opportunity at upcoming conference.
- Meeting with developer Devin Chobick, re: development in Lumsden, SK
- Meeting with Aimee Bryck re: development in Lumsden, SK

- Meeting with Sarah Dunning, town of Wainsfleet, ON
- Meeting with Matt Gemmel and Lauri Lidstone of FCM re: MOU
- Meeting with Mayor Ken Johnston Red Deer, AB
- Meeting with the town of Vegreville, AB
- Presented at the Central Alberta Economic Partnership (CAEP) year end AGM
- Meeting with Joan Miller, Joint Economic Development Initiative Alberta
- Meeting with Town of Spirit River, AB
- Meeting with Bria Arid, Planner with the City of Ottawa, ON
- Meeting with developer Alexander Mirando, North York, ON
- Meeting with Dale LefCouchman re: development in Orillia, ON
- Niagara Region, Ont
- Casselman, Ont
- Town of Vegreville, AB
- Meeting with Jordan Thompson, City of Lacombe, AB
- Kimberley Worthington of Central Alberta Economic Partnerships
- Meeting with Rena Paridaan, Churchbridge, SK
- Meeting with Carla Thompson, Economic Development Officer, County of Wetaskwin, AB
- Meeting with Kalen Anderson, UDI Edmonton Metro
- Meeting with Dee Daily, re: development in Elgin, ON
- Meeting with Lynn Gagnon, Dillon consulting re: Proximity Guideline Update
- Meeting with Kevin Francois, re: development in Saint Raymond, QC
- Meeting with Matt Gimmel, re: FCM Proximity Initiative MOU
- Meeting with Randy Goulden re: FCM Proximity Initiative MOU
- Meeting with Taneen Rudyk: re: FCM Proximity Initiative MOU
- Meeting with Eric Harvey, re: FCM Proximity Initiative MOU
- Meeting with Edmonton Urban Development Institute

Events Attended

- Virtual presentation to Churchbridge Saskatchewan regional partnership Association
- Attended the Alberta Rural Municipalities Conference
- Presented to the Central Alberta Economic Partnership (CAEP)
- Attended the Alberta Speech from the Throne

Regulatory Affairs Update**ONGOING ITEMS / IN DEVELOPMENT*****Ministerial Order (MO) 22-04 Phase 2 Train Brake Rules (TBR)***

- Transport Canada (TC) published the MO on July 25, 2022, in response to the Transportation Safety Board of Canada (TSB) report R19C0015 recommendation R22-01 which requires, “*that the DoT establish enhanced test standards and requirements for time-based mtc of brake cylinders on freight cars operating on steep descending grades in cold ambient temperatures*”.
- The MO requires railway companies and local railway companies to revise the *Railway Freight and Passenger Train Brake Inspection and Safety Rules* (TBR) to reduce the risk posed to train operations in cold weather.
- The MO is in two phases. Phase 1 applies to all railways. A revision to the TBR addressing Phase 1 was approved January 30, 2023, and these come into force May 1, 2023. Phase 2 applies to freight cars operating on steep descending grades in cold ambient temperatures and filing is due May 31, 2023. To address Phase 2, RAC plans to propose requirements for use of Brake Effectiveness Tests (BET) using wheel temperature detectors (WTD) in lieu of a No. 1 Brake Test.

Transport Canada (TC) / Industry Working Group on Automated Parking Brakes

- Transport Canada (TC) and the railway industry have established a working group to assess the readiness, effectiveness and safety implications of automatic parking brakes, especially in the context of cold weather operations. This is in response to Transportation Safety Board of Canada (TSB) recommendation R22-02 from investigation report R19C0015.
- TC has been up front that they intend to mandate the implementation of Automatic Parking Brakes (APB) technologies, though there are many challenges that would need to be understood and dealt with for this to be possible, such as factors related to car ownership, US / Canada operations, etc. It is far too soon to speculate on what such a mandate might look like, where and how it would apply, and the timeline for implementation.
- TC has engaged the U.S. DOT Volpe Center to perform an independent review and analysis of APB readiness and operational, safety, regulatory and cost considerations relating to implementation of the technology on freight cars operating in Canada.
- Both the National Research Council (NRC) and a major Canadian railway are conducting limited prototype APB tests. The NRC is conducting brake force tests in a cold climate chamber while the railway is running several devices on a unit train to establish operational robustness. The railway is not using the APBs for securement.
- The Working Group expects the NRC final report in April 2023 and the Volpe report in August 2023. Next steps are pending further discussion on both reports.

Railway Employee Qualification Standards Regulations (REQSR)

- Transport Canada (TC) proposed in 2022 on its Let's Talk Website an approach to updating the REQSR, which have not been updated since its inception in 1987.
- The Transportation Safety Board of Canada (TSB) has highlighted insufficient railway employee training in at least one recommendation.
- The RAC has submitted comments to TC on the proposed approach in January 2022.
- TC intends to publish proposed modernized REQSR in the *Canada Gazette*, Part I probably early 2024 now.
- RAC met with TC in late March 2023 to continue consultations leading to a CGI publication.

Rail Data Working Group (RDWG)

- The Transportation Safety Board of Canada (TSB) has approved a new “incident” category for fires. Fires on or adjacent to the Right of Way (RoW) and that aren’t on rolling stock will now be classified as incidents vs. accidents. This will significantly reduce the overall rail accident rate. Historical data has been modified accordingly and reporting guidelines have been updated.
- RAC also expects the TSB to soon approve new categories for uncontrolled movements, a TSB Watchlist item, which would result in more accurate data and ability to trend and apply appropriate mitigations. Now differentiating vandalism, third-party handling, weather, loss of control, switching, securement and equipment failure. Historical data is already being recategorized accordingly.
- RAC has proposed categories to the TSB for Following Signal Indications occurrences, also a Watchlist item. Current TSB data on this item includes not only stop signal violations but also exceedances to limits of authorities and other violations which RAC feels are outside the scope of the Watchlist. We feel this item should only be capturing occurrences reported under 5(1)(g) of the TSB regulations and should be categorized as stop board violations either when performing switching/doubling/entering main track (with two employees in the cab); or, when proceeding and following signal progressions (i.e., not a work authority). Consulting with TSB on this next week.
- Also consulting with TSB on reporting guidelines which are being updated to include the new Fires reporting requirements and incident category, as well as addressing other items that have been noted since the current 2018 version was published.

Crew Resource Management (CRM) Guidelines

- Transport Canada (TC) provided RAC with a draft copy of CRM guidelines for review. RAC provided comments April 4, 2023, and will be consulting further with TC in addressing our concerns; i.e., compliance expectations for CRM as this will pre-date the regulatory requirement for CRM, value of the CRM expectations given rail ops compared to other industry benchmarks, existing training programs at many railways addressing human factors related issues, etc.
- TC plans to publish these guidelines to address Transportation Safety Board of Canada (TSB) Recommendation R22-05 of R19W0002 and plans to include CRM requirement(s) within the REQ regulations (per the 2022 discussion doc).

Review of Railway Safety Management Systems (SMS) Regulations

- Transport Canada (TC) emailed railway stakeholders on August 25, 2022, that it was commencing a review of the *SMS Regulations*, having launched a public consultation with a 30-day comment period (ending by September 25) though RAC received an extension to September 30 and provided comments on that day.
- TC published on the Let’s Talk website a “what we heard” report. Pre-consultation is expected to continue throughout 2023 and early 2024 with a possible *Canada Gazette*, Part I publication, if required, late 2024.
- Various factors motivated the review of the *Railway Safety Management System Regulations*, 2015, such as:
 - The 2018 *Rail Safety Act* Review recommended that TC continue to build capacity to assess the effectiveness of a railway company’s SMS.
 - Transportation Safety Board of Canada of Canada (TSB) investigation reports and recommendations that flagged a need to ensure the adequacy of company safety management systems (e.g., investigation reports R13D0054 and R19C0015, TSB Recommendation R14-05).
 - The addition of safety management to the TSB watchlist in 2018.
 - The 2021 Office of the Auditor General report Follow-up Audit on Rail Safety – Transport Canada that recommended that:

- TC “regularly assess the effectiveness of railway companies’ safety management system processes”.
- The June 2022 report from the House of Commons Standing Committee on Transport, Infrastructure and Communities recommending that TC conduct “a comprehensive review of Safety Management Systems in the rail sector”.
- TC is looking to build on lessons learned from the first years of SMS implementation and is looking at the regs as well as the supporting tools. This could drive future regulatory amendments, updates to industry guidance and policy changes.

SMS Effectiveness Key Performance Indicators (KPI)

- Transport Canada (TC) sent railways a letter dated October 11, 2022, informing industry that TC Safety Management System (SMS) audits will now include an assessment of the effectiveness of a railway company’s SMS processes, how a railway company’s SMS is maturing and how effective it is at meeting its purpose of achieving the highest level of safety in its railway operations. Areas of ineffectiveness will be reflected using “findings of deficiency”. TC included a list of key performance indicators (KPI) to be used as guidance to determine effectiveness.
- TC scheduled an SMS “Industry Day” on May 8, 2023, which is now postponed to the Fall due to labour disruptions, to review expectations and criteria for determining SMS effectiveness. RAC is aware that KPIs are being used during SMS audits and that railways have concerns with the scope of these KPIs compared with regulation, and confusion/misinterpretation around the KPIs between various railways and inspectors.
- RAC met with TC in April 2023 to begin collaborating and will continue to do so irrespective of the Industry Day.

Passenger Rail Transportation Security Regulations and Railway Safety Act (RSA) include into Administrative Monetary Penalties (AMPs) Regulations

- On February 11, 2022, Transport Canada (TC) advised that they are proposing to designate provisions of the RSA, specifically, sections 26.1 and 26.2, and subsection 40.11(5), in Schedule 1 of the *Railway Safety Administrative Monetary Penalties Regulations*, to provide the Minister with an additional tool to address the increasing trend of security incidents against the railway system.
- Railway administrative monetary penalties are fines issued by TC to individuals and corporations for contraventions to the *Railway Safety Act* (the RSA), or regulations and rules made under the Act. TC uses a graduated enforcement approach to address non-compliance with the RSA and its regulations and rules. Penalties are based on the severity of the violation. The maximum penalty is \$50,000 for an individual and \$250,000 for a corporation.
- The RAC provided initial comments on the proposal on March 1, 2022, and met with TC March 21, 2022, for a Q&A session.
- On July 2, 2022, TC published a proposed amendment to the *Administrative Monetary Penalties Regulations* (AMPs) Regulations in *Canada Gazette*, Part I. TC is proposing to designate all requirements of the *Passenger Rail Transportation Security Regulations* into the rail AMPs regime. Designating these security requirements would provide the Minister with an additional enforcement tool to promote compliance and to address potential non-compliance with the new *Passenger Rail Transportation Security Regulations*.
- In addition, TC is proposing to designate certain provisions of the *Railway Safety Act* (RSA), specifically, sections 26.1 and 26.2, and subsection 40.11(5), into the AMPs regime, to provide the Minister with an additional tool to address the increasing trend of trespassing incidents against the railway system.
- TC gave 30 days for comments which ended August 1, 2022. RAC submitted comments on behalf of industry essentially agreeing with the RSA additions as these would give TC a new tool to enforce trespassers. Though we did raise concerns with the AMPs escalation process and inconsistencies with how AMPs are issued throughout the country and different regions.

- RAC met with TC in March 2023 to discuss our comments. Main points RAC raised included: ensuring that the escalation process regarding deficiencies, findings and AMPS are consistently applied across regions as well as between Rail Safety vs. Rail Security; that AMPS weren't necessarily used in other industry with Safety Management Systems; and that we believe AMPS are not an incentive to ensuring compliance and corporate responsibility towards safety. TC also asked RAC for any advice on how TC might enforce the trespassing requirements. Further engagement between TC and the railway industry may be required.

Fatigue Management System (FMS)

- Transport Canada (TC) issued a pre-consultation document on March 11, 2022, proposing new regulations that would require railway companies to implement an FMS.
- The proposed regulations would require railway companies to have, implement and continuously improve FMS. The FMS would have four main components:
 - Fatigue management plan.
 - Fatigue management processes and procedures.
 - A fatigue management training and awareness program.
 - A continual improvement process for the FMS.
- The FMS would apply to employees whose duties are essential to safe railway operations. These duties include but are not limited to activities performed by any person involved in the movement of trains and the maintenance of the equipment and infrastructure, supervisors and managers.
- The RAC has formed a working group and met with TC on April 5, 2022, for a Q&A session.
- The RAC provided comments to a pre-consultation document, on behalf of the industry, on April 23, 2023.
- Pre-consultation and policy work is expected to continue and could lead to a proposed regulation in the *Canada Gazette*, Part I in late 2023.

COMING INTO FORCE

Ministerial Order (MO) 22-04 Phase 1 Train Brake Rules (TBR)

- Transport Canada (TC) published the MO July 25, 2022, in response to Transportation Safety Board of Canada of Canada (TSB) report R19C0015 recommendation R22-01 which requires, "*that the DoT establish enhanced test standards and requirements for time-based mtc of brake cylinders on freight cars operating on steep descending grades in cold ambient temperatures*".
- The MO requires federal and provincial railways to revise the *Railway Freight and Passenger Train Brake Inspection and Safety Rules* (TBR) to reduce the risk posed to train operations in cold weather.
- The MO is in two phases. Phase 1 applies to all railways. A revision to the TBR addressing Phase 1 was approved January 30, 2023, and these come into force May 1, 2023.

Grade Crossing Regulations (GCR)

- New regulations were issued November 27, 2014. The purpose of the regulation was to provide consistent grade crossing safety standards that would improve enforcement capabilities. It also included a definition of roles, responsibilities and collaboration between road authorities and railway companies.
- These regulations allowed a 7-year compliance deadline (November 28, 2021). Although progress towards implementation had been made, achieving full compliance for thousands of existing grade crossings by November 28, 2021, was threatened due, in part, to the broad scope of the regulations; COVID-19; the lack of crossings data that were to be provided by road authorities; the significant

challenges and issues encountered in the field; and a lack of clarity among stakeholders about specific responsibilities and liabilities for the required upgrades which would have led to disputes being raised to the Canada Transportation Agency (CTA) for settlement and contribute to implementation delays.

- Therefore, a notice of proposed regulation was published in the *Canada Gazette*, Part I June 19, 2021, with a one-month consultation period. The proposed amendment would revise the scope of the regulations by establishing a risk-based model for crossings: excepting low-risk crossings and extending the compliance deadline by one year for high-priority crossings and three years for all other crossings.
- Changes to the GCR that were to come into force on November 28, 2021, have been approved by Transport Canada (TC). These changes include extending the compliance deadlines for upgrading crossings using a risk-based approach. High-risk crossings require compliance within a year. Medium risk crossings within three years, and very low risk crossings are exempt.
- The extended compliance deadline for upgrading other-than-high-risk grade crossings is November 2024.
- RAC is engaged with TC in an attempt to secure appropriate funding under the Rail Safety Improvement Program (RSIP) to support railway members in ensuring that their private landowners are able to fund expenditures related to bringing their private crossings into compliance, in accordance with Section 103(3) of the *Canada Transportation Act*.

Duty and Rest Period Rules (DRPR) Implementation

- PART D: Fatigue Management Plan (FMP) of the Rules took effect November 25, 2021, (12 months from the coming into force date).
- Full compliance is required 30 months from coming into force of the rules for freight railways (May 25, 2023), and 48 months from coming into force of the rules for passenger railways (November 25, 2024).
- Transport Canada (TC) issued a guidance document to address differences in interpretation of some rules. RAC provided comments April 20, 2023, and is collaborating with TC to amend the guidance doc further to address our concerns.

Ministerial Order (MO) 20-07 (Track Safety Rules [TSR])

- The MO requires extensive changes to the TSR across three phases. Phase 3 was approved May 31, 2022, and includes new requirements (Rules) for concrete ties, a requirement which increases the minimum number of wood ties per each 39-foot segment of track, Key Performance Indicators (KPI)s for track defect rectification and better inspections for yard tracks over which passengers are carried.
- The Rules addressing Phase 3 take effect May 31, 2023, though the wood crossties provision is effective May 31, 2024.
- Industry sought relief from the Phase 2 requirement to execute remedial actions related to combination defects and was approved by TC on April 29, 2022. The relief expired September 30, 2022.

Safety Culture Committee

Gregory	Barney	CSX Transportation
Sam	Berrada	SAB Vanguard Consulting
Mark	Cameron	Metrolinx
David	Clarke	Universal Rail Systems
Renota	Dennard	Norfolk Southern
Doug	Dillon	Prairie Dog Central Railway - Vintage Locomotive Society
Mark	Fleming	St. Mary's University
Martin	Gallagher	Metrolinx
Benoit	Gingras	exo
Daniel	Goodfellow	Toronto Terminals Railway Company
Becky	Hamilton	CSX Transportation
Keri	Harvey	Consultant
Amberly	Janiten	CPKC
William	Kelly	OmniTRAX Canada
Wes	Kuzio	Universal Rail Systems
Laurie	Laronde	Ontario Northland Transportation Commission
Michael	Leonard	BNSF Railway
Gerald	Linden	Southern Railway of British Columbia
Jeff	Livingstone	Prairie Dog Central Railway - Vintage Locomotive Society
Bronson	MacFarlane	Consultant
Mike	Martens	Great Canadian Railtour Company
Matthew	McClaren	CN
Heather	McKeown	Universal Rail Systems
Jeffrey	Moller	Association of American Railroads
Thomas	Murta	Short Line Safety Institute
Cathy	Newbigging	Universal Rail Systems
Paul	Newsome	Prairie Rail Solutions/Prairie Dog Central Railway
Minh	Nguyen	Southern Railway of British Columbia
Bruno	Riendeau	VIA Rail Canada
Ryan	Ringelman	BNSF Railway
Sylvain	Rodrigue	exo
Jocelyn	Short	Metrolinx
Lisa	Smith	Cando Rail & Terminals
Jo	Strang	American Short Line & Regional Railroad Association
Stéphane	Tardif	Genesee & Wyoming Canada
Robert	Tully	CPKC
Ben	Chursinoff	Railway Association of Canada

2022 Safety Culture Assessments

The RAC has completed safety culture assessments with Metrolinx and OWS Railroad Construction & Maintenance Ltd. (part of Universal Rail Systems).

The Metrolinx assessment began in the summer months with the survey period operating from June to July 2022. The focus groups were administered throughout the fall months. Metrolinx experienced labour disruptions which impacted scheduling of some activities, but the assessment process was successfully completed thanks to the efforts of the Metrolinx in-house team. An action plan has been developed for implementation to address the findings of the assessment.

The OWS safety culture assessment began in September with the administration of the survey from September to October 2022. Focus groups were held throughout November to gain further insights into

organizational safety culture. An action plan has been developed for implementation to address the findings of the assessment.

2023 Safety Culture Assessments

The RAC issued the call for safety culture assessment applications in March 2023. Three applications were received from GIO Rail, Great Plains Rail (part of Universal Rail Systems), and the Prairie Dog Central Railway (PDCR). The latter application is for a reassessment as PDCR completed a first-time assessment in 2019. Interest in the initiative remains strong.

Safety Culture Asynchronous Leadership Education (SCALE)

The aim of the Safety Culture Asynchronous Leadership Education (SCALE) program is to provide people in supervisory roles, such as foremen, lead hands, supervisors, managers, and leaders, with an overview of safety culture and how they can use their roles to positively influence safety culture in their organization.

Development of SCALE has advanced over the last several months. RAC has engaged an education technology specialist to begin developing the web-based format of SCALE using the Articulate platform. A series of videos and images are being put together using media provided by the RAC members. The training includes knowledge checks, scenarios, and reflections. SCALE also includes non-module components such as peer engagements, field practice, and a check-in with the participants' manager.

The current timeline to pilot SCALE is August 2023. Feedback from the pilot will then be used to finalize SCALE for a launch in 2024 to the membership.

It is important to point out that SCALE was initiated following strong interest by members for such training for their supervisors and managers.

RAC Safety Culture Strategic Planning Session

On February 22, 2023, the RAC safety culture team convened a strategic planning session in Halifax at Saint Mary's University. This session focused on reviewing the safety culture assessment process, reassessment process, SCALE, safety culture indicators, engagement with Dr. Mark Fleming and Transport Canada, and other aspects of the Safety Culture Improvement Initiative.

The discussions lead to positive enhancements to the assessment process and advanced safety culture knowledge for the initiative. Meeting minutes from this session are available upon request to Ben Chursinoff at bchursinoff@railcan.ca.

RAC Safety Culture Compendium Review

The safety culture team initiated a review of the safety culture compendium which is a compilation of resources available to the members. Information covers safety culture knowledge, research, best practices, and examples of initiatives to strengthen safety culture. Part of this process includes enhancing the members' website to be more intuitive and user friendly for accessing safety culture resources. The enhanced compendium was well received by the safety culture steering committee.

Near-Miss Report

A new version of the near-miss report, *Shared Lessons about Near Miss Reporting Across Industries*, has been developed by the RAC safety culture team lead by Keri Harvey. The report provides information on barriers to near miss reporting and opportunities to address them. Insights from RAC safety culture assessments are included. This report is available on the members website under resources.

As a follow up to this report, interviews are being scheduled with safety culture steering committee members to better understand how near miss reporting systems are implemented and managed in Canadian rail.

Railway Safety Act Review Recommendation 2D – Federal Funding

The 2018 *Railway Safety Act* review contained a recommendation directing Transport Canada (TC) to partner with the rail industry to fund safety culture assessments, research, and training. RAC held engagements with industry and TC on this to develop a proposal for a Canadian Safety Institute modeled after the Shortline Safety Institute model in the U.S.

Although discussions progressed with CN and CPKC, an agreement has not been achieved yet. Therefore, the RAC is internally developing a new proposal based on feedback from Dr. Fleming.

Dr. Fleming provided an overview of a funding model used in Nova Scotia known as the Change Lab Action Research Initiative or CLARI. This model sees the provincial government allocate funding to academic institutions who then administer funds towards different research initiatives and forms community partnerships to advance social and economic challenges.

The safety culture team is developing a proposal for a new approach to address recommendation 2D that would be based on this CLARI model whereby TC could allocate funding to academic institutions for safety culture research, training development and delivery. In this scenario, TC would fund the research and training while RAC would continue to deliver safety culture assessments and reassessments, continue supporting members in the journey to strengthen safety culture, sharing best practices, and providing dangerous goods training and education as currently delivered. This approach would not require additional funding from the railways.

Note that TC has not been engaged yet. This currently remains internal at RAC as the proposal is developed.

Safety Summit

The RAC continues to plan for a Safety Summit to be held in November in Montreal. RAC is exploring an opportunity to collaborate with the Association Québécoise des Transports as they are also planning a rail conference in November in Montreal with the potential dates of November 13, 14, and/or 15 at the Sheraton Centre. More information will be shared as it becomes available.

Security Committee

Brandon	Myers	CN, Chair
Luciano	Bentenuto	VIA Rail Canada Inc. Vice Chair
James	Babe	Capital Railway
Bryan	Bass	BNSF Railway Company
Christopher	Bennett	CSX Transportation
Stephen	Covey	CN
Patrick	Desaulniers	exo
Court	Edeburn	Great Canadian Railtour Company
Jack	Gibson	CSX Transportation
Mitch	Jardine	CN
Lori	Kennedy	CPKC
Peter	Lambrinakos	VIA Rail Canada Inc.
Guy	Langis	Ontario Northland Transportation Commission
Greg	Sandsness	BNSF Railway Company
Stéphane	Tardif	Genesee & Wyoming Canada
James	Tollerson	Norfolk Southern Corporation
Lucie	Tremblay	VIA Rail Canada
Pierre-Luc	Vachon-Gravel	exo
Jared	Wagar	CPKC
Todd	Wallace	West Coast Express
Steve	Weir	Metrolinx
Brian	Williams	BNSF Railway Company
Robert	Zawerbny	CN
Scott	Croome	Railway Association of Canada

UPDATE 13 April 2023

Since the previous meeting there has not been much movement with regards to the Security Committee. The one notable change is the retirement of Andy Ash from the Railway Association of Canada, after 46 years of service in the railways Andy is now enjoying time with his family and travelling. Scott Croome has been hired and will be taking on the tasks previously handle by Mr. Ash.

For the upcoming meetings the Chair has asked for suggestions from this group to discuss on the next call, we are looking for short “lessons learned” or “recent events” that the membership would be interested in hearing about.

Below is the Summary from the Meeting of October 2022

Brandon Myers, CN Assistant Chief of Police, was voted into the role of Security Committee Chair in February 2022. Luciano Bentenuto, VIA Rail Canada, has been selected to serve as vice-chair, as of September 27, 2022. Each will serve a two-year term per the Security Committee Terms of Reference.

Transport Canada Rail Security Working Group

Members of the Committee attend monthly calls chaired by Transport Canada (TC)'s new Director General, Intermodal, Surface, Security and Emergency Preparedness Randa Saryeddine.

TC has been issuing new passenger regulations under the *Railway Safety Act* (RSA) and has become much more active in their security inspections, members of this Committee continue to actively engage with TC to provide input on what is being considered as opportunities. While interaction between Committee members and TC has increased over the last few months, more progress can be made. The following is a brief overview of the key activities that this Committee has been focused on:

Administrative Monetary Penalty (AMP) Regulations

TC released a plan of *AMP Regulations* for comment.

The RAC Security Committee will be sending comments to TC.

Some issues to address:

1. TC provided the context for the proposed regulations, and the reason for including AMPs in rail security, as follows:
 - a. Concerns with what has been occurring during the COVID-19 pandemic, as well as blockades and other unlawful interference in rail operation.
 - b. This is an additional rail security program/tool that other regimes (e.g., aviation and marine) already have in place.

Industry noted that AMPs are targeted towards and penalize railway companies but do not address the concerns TC identified in 1 a. above as these are violations committed by external parties, such as trespassers and protesters. Also given that *the Passenger Security Regulations* are still relatively new and railway companies have worked collaboratively and voluntarily with TC for several decades to improve security, there is not evidence to support a need for AMPs related to rail security at this time.

2. TC still needs to arrive at specific fines for infractions.
3. TC provided the following additional information in response to the 5 items/questions that were communicated to TC by the RAC on March 1, 2022:

- *The applicability of all sections of the Passenger Security Regulations within Schedule 1 of the AMPs Regulations:*

- All requirements will be designated and enforced.
- AMPs are an extension to other existing tools within TC's security program

- *The categorization of applicable sections and determination of maximum monetary penalties being contemplated:*

- The RSA stipulates the maximum amounts for each noncompliance.
- Different provisions will be designated based on the level of risk.
- TC's initial thoughts on AMP amounts are:

Risk level	AMPs for Individuals	AMPs for companies
Low risk	\$5k	\$25k
Medium risk	\$25k	125k
High risk	\$50k	\$250k

- The next step for TC is to determine which type of infraction falls in which level of risk.
 - TC will try to have consistency between rail safety and rail security in the designation and application of AMPs.
4. Once in *Canada Gazette*, Part I there is a very short comment period (30 days), the Committee would like to see more time to comment. The proposed release of the CGI is in the summer which is a bad time to seek industry input.

Update: TC published *Canada Gazette* Part 1 in July 2022. The Committee was asked to review and provide comments for the RAC response. These comments were provided by the end of July.

Cyber Security

The RAC Security Committee discussed the possibility of creating a subcommittee for cyber security. Members had internal discussions with their appropriate staff on cyber security. Discussions indicated that companies that have a Cyber Security team, separate that function from the physical security group because of their differences and expertise. The AAR has two distinct committees but brings both groups together when needed. This model could also be used in Canada. The RAC could set up the Cyber Committee to work congruently on issues with the Security Committee when need be.

Update: The Committee has determined that the best course of action would be to have two distinct committees for Cyber and Security to be aligned with the industry and the AAR, but also due to the specific expertise necessary to assess cyber and information technology threats. Scott Croome will discuss further with RAC.

Memorandum of Understanding (MOU) Management Committee
No change since the last meeting.

Wireless Communications Committee

Simon	Beliveau	CN, Chair
Rey	Badua	Metrolinx
Norbert	Chan	CPKC
Pavel	Danshin	Metrolinx
Sébastien	Desmarais	CN
Celina	Kawasima	CPKC
Martin	Laplane	Québec Gatineau Railway
Marc	Lavallée	exo
Marc	Levesque	Québec North Shore and Labrador
Diane	Neese	CN
Muhammad	Pasha	CPKC
Stéphane	Rodrigue	VIA Rail Canada
Trevor	Smith	CPKC
Alain	Vachon	CN
Enzo	De Benetti	Railway Association of Canada

RAC Surveys

The RAC conducted additional surveys of radios in the Cranbrook and Toronto areas for CPKC at the end of 2022. These surveys were performed to validate existing licenses and to license any radios in the area which did not have an authorization. These activities are coordinated by the RAC to ensure compliance with its obligations to ISED with respect to the Railroad Spectrum License.

RAC Wireless Communications Committee

The annual RAC WCC meeting was held in person on October 19, 2022, in Calgary.

Non-Competitive Local Licensing (NCLL) Consultation

The RAC responded to the Innovation, Science and Economic Development's (ISED) NCLL consultation with comments applauding its intent. This initiative by ISED will allow access to broadband access on a first come first serve basis for unused spectrum in remote and rural areas. The intent is to allow private industry to deploy systems where carriers have not been willing to deploy services. This could be beneficial for railroad yards in non-urban settings.

220 MHz International Border Coordination

The RAC and its members have been working with PTC220-LLC to amend the international coordination agreement for 220 MHz to consider changes that have been made to the PTC220 Radio in the United States. The number of channels used for linking locomotives to base stations has been increased from one channel to three channels. To make use of the new channels in the border area, it will be necessary for Federal Communications Commissions (FCC) and ISED to make amendments to the international border agreement.

A draft agreement has been provided to the FCC and to the RAC by PTC220-LLC for analysis. It is hoped that this amendment will be accepted at this year's coordination meeting between FCC and ISED.

Narrow Banding Update

There has been an increase in the deployment of very narrow band channels by CPKC, CN, Metrolinx and recently Southern Railway of British Columbia. However, the majority of the network still consists of wide band channels. In urban areas it is becoming more difficult to find available channels for use by railroads. The migration to narrow band was completed 10 years ago (2013) by the AAR as part of FCC mandate. A plan will be worked upon to migrate to narrow band in Canada to harmonize with the US.

Workforce Development

This year, the RAC is once again placing additional advertisements, in all four editions, in the Canadian School Counsellor magazine which is sent to all guidance counsellors across Canada – hoping to make rail a career of choice for graduates out of high school. We will also have a feature editorial in the May edition of the magazine highlighting why students should choose rail as a career.

The RAC Human Resources Committee is in the process of creating new industry-approved curriculum for conductors that will be issued to approved colleges across Canada this year. The RAC, CN, CPKC and its consultant have been working on the curriculum. GIO Rail is helping with the final two modules for completion.

There are currently four colleges across Canada offering the conductor curriculum: British Columbia Institute of Technology (BCIT), Cégep-de Sept-Iles, the Southern Alberta Institute of Technology (SAIT) and Lambton College.

The RAC is also focusing on how to get younger people interested in rail as a career. We are looking into career fairs across Canada and speaking with guidance counsellors across Canada to see where we can have a presence.

RAC's training initiative for shortline railway members was launched in 2019. The initiative focused on delivering four modules in English: Securing unattended equipment/Rule 112; car air brakes; freight car inspection; and track inspection. The RAC is also working on streamlining all the modules as well as translating them all to French which should be done by the end of the year.

TSB Stats March 2023
Monthly rail transportation occurrence statistics
March, 2023
Table 1
Railway occurrences and casualties

	March			Year to date (March)		
	2023	2022	2018-2022 average	2023	2022	2018-2022 average
Accidents	79	91	104	255	286	312
Main-track train collisions	0	1	1	0	2	2
Main-track train derailments - 1-2 cars*	3	1	6	10	9	16
Main-track train derailments - 3-5 cars	0	0	0	1	0	0
Main-track train derailments - 6 or more cars	2	5	2	7	8	9
Crossings	6	19	15	48	48	47
Non-main-track train collisions	8	4	10	20	19	29
Non-main-track train derailments - 1-2 cars*	36	31	43	99	114	134
Non-main-track train derailments - 3-5 cars	4	6	7	12	16	20
Non-main-track train derailments - 6 or more cars	2	2	2	8	6	7
Collisions/Derailments involving track units	5	4	3	12	17	10
Employee/Passenger	1	1	1	1	2	3
Trespassers	4	3	4	12	11	12
Fires/Explosions on-board rolling stock	6	4	4	15	11	9
Other	2	10	6	10	23	16
Incidents	26	33	30	65	100	87
Main-track train derailments - 1-2 cars* (no damage)	0	0	0	0	0	1
Non-main-track train collisions* (no derailment, no damage)	0	1	0	0	1	0
Non-main-track train derailments - 1-2 cars* (no damage)	3	15	11	16	58	38
Fires on railway right-of-way	0	4	4	0	5	4
Main-track switch in abnormal position	1	0	1	2	1	3
Movement exceeds limits of authority	20	11	10	42	30	33
Uncontrolled movement of rolling stock	1	1	2	1	1	4
Others	1	1	1	4	4	5
Million train-miles (a)	-	-	-	20.60	18.92	20.73
Accidents/Million train-miles	-	-	-	12.38	15.12	15.03
Accidents involving dangerous goods	5	13	14	21	39	42
Main-track train derailments	0	4	2	2	4	4
Crossings	0	0	1	0	1	2
Non-main-track train collisions	3	1	3	6	8	10
Non-main-track train derailments	2	6	7	12	24	24
All others	0	2	1	1	2	2
Accidents with a DG release	0	0	1	1	0	1
Accidents involving passenger trains	1	6	4	4	19	13
Accidents involving an uncontrolled movement of rolling stock	3	4	6	6	12	13
Fatalities	3	3	3	15	9	12
Crossings	1	2	1	6	3	4
Trespassers	2	1	2	9	6	7
All others	0	0	0	0	0	1
Serious Injuries	6	8	5	11	19	15
Crossings	3	5	2	7	12	7
Trespassers	2	1	2	2	3	4
All others	1	2	1	2	4	4

Data extracted 18 April 2023

All 5-year averages have been rounded. The totals sometimes do not coincide to the sum of these averages.

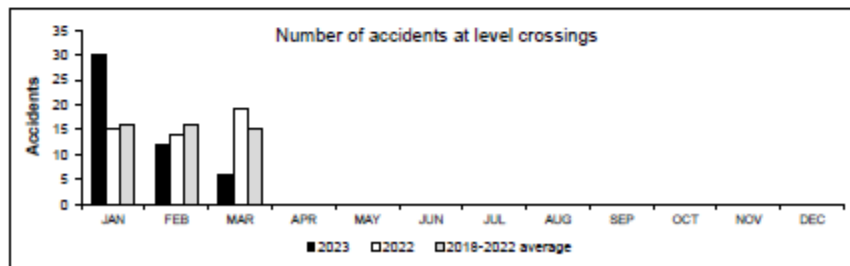
a. Train-miles estimated. (Source: Transport Canada)

New TSB regulations came into effect on July 1, 2014, changing some reporting requirements.

* Under new reporting requirements all derailments are reportable. The TSB has reviewed derailments and collisions back to January 1, 2014 and recategorized occurrences with minimal consequences as reportable incidents including: derailments involving 1 to 2 cars, with no equipment or track damage, no injuries, no fires, and no release of dangerous goods; Non-main-track collisions, with no equipment or track damage, no injuries, no fires, no release of dangerous goods, and did not foul the main track.

Monthly rail transportation occurrence statistics
#####
Table 2
Railway crossing and trespasser accidents by province

	Crossings with type recorded (year to date 2023)				All crossings (year to date 2022)			
	Public automated	Public passive	Private	Farm	2023	2022	2023	2022
Newfoundland								
Accidents	0	0	0	0	0	0	0	1
Fatalities	0	0	0	0	0	0	0	0
Serious Injuries	0	0	0	0	0	0	0	1
Nova Scotia								
Accidents	0	0	0	0	0	0	0	1
Fatalities	0	0	0	0	0	0	0	0
Serious Injuries	0	0	0	0	0	0	0	0
New Brunswick								
Accidents	0	0	1	0	1	2	0	0
Fatalities	0	0	0	0	0	0	0	0
Serious Injuries	0	0	0	0	0	0	0	0
Quebec								
Accidents	3	0	1	0	4	5	3	1
Fatalities	1	0	0	0	1	0	1	1
Serious Injuries	1	0	0	0	1	1	2	0
Ontario								
Accidents	9	1	4	0	14	6	6	5
Fatalities	0	0	2	0	2	0	5	5
Serious Injuries	4	0	0	0	4	1	0	0
Manitoba								
Accidents	3	3	1	0	7	6	0	0
Fatalities	0	1	0	0	1	0	0	0
Serious Injuries	1	0	0	0	1	1	0	0
Saskatchewan								
Accidents	0	2	0	0	2	11	0	0
Fatalities	0	1	0	0	1	2	0	0
Serious Injuries	0	1	0	0	1	5	0	0
Alberta								
Accidents	6	3	0	1	10	11	1	0
Fatalities	0	0	0	0	0	0	1	0
Serious Injuries	0	0	0	0	0	4	0	0
British Columbia								
Accidents	4	3	3	0	10	7	2	3
Fatalities	1	0	0	0	1	1	2	0
Serious Injuries	0	0	0	0	0	0	0	2
Northwest Territories								
Accidents	0	0	0	0	0	0	0	0
Fatalities	0	0	0	0	0	0	0	0
Serious Injuries	0	0	0	0	0	0	0	0
Canada								
Accidents	25	12	10	1	48	48	12	11
Fatalities	2	2	2	0	6	3	9	6
Serious Injuries	6	1	0	0	7	12	2	3

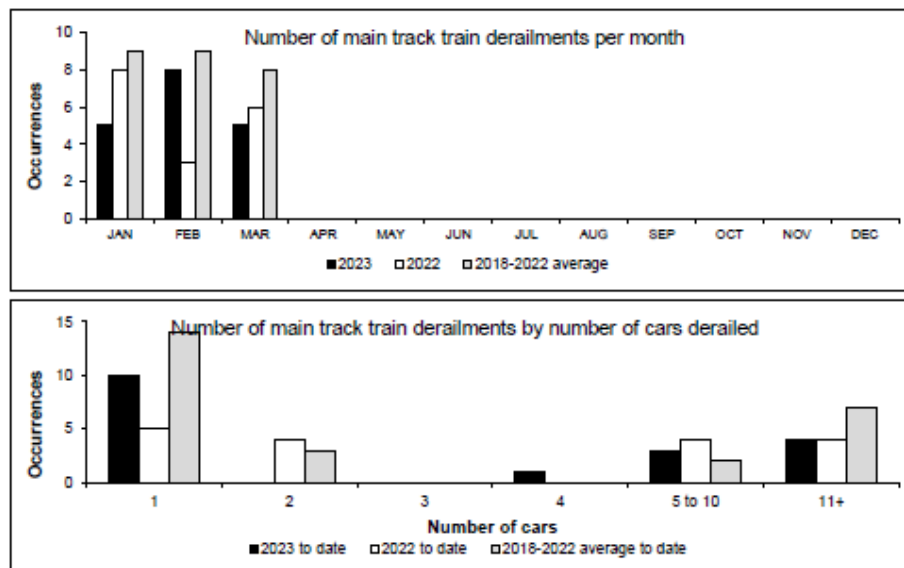


Data extracted 18 April 2023

New TSB regulations came into effect on July 1, 2014, changing some reporting requirements.

Monthly rail transportation occurrence statistics
March, 2023
Table 3
Main track derailment accidents and incidents by province

	March			Year to date (March)		
	2023	2022	2018-2022 average	2023	2022	2018-2022 average
Canada	5	6	8	18	17	25
Newfoundland	0	0	0	0	0	1
Nova Scotia	0	0	0	0	1	0
New Brunswick	0	0	0	0	0	0
Quebec	2	0	1	2	2	3
Ontario	0	2	2	2	3	5
Manitoba	0	0	0	2	1	2
Saskatchewan	0	2	1	2	6	4
Alberta	1	1	2	2	1	5
British Columbia	2	1	2	8	3	6
Northwest Territories	0	0	0	0	0	0
Canada - with dangerous goods involved	0	4	2	2	4	4
Newfoundland	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Quebec	0	0	0	0	0	0
Ontario	0	2	1	1	2	2
Manitoba	0	0	0	1	0	1
Saskatchewan	0	1	0	0	1	0
Alberta	0	1	1	0	1	1
British Columbia	0	0	0	0	0	1
Northwest Territories	0	0	0	0	0	0

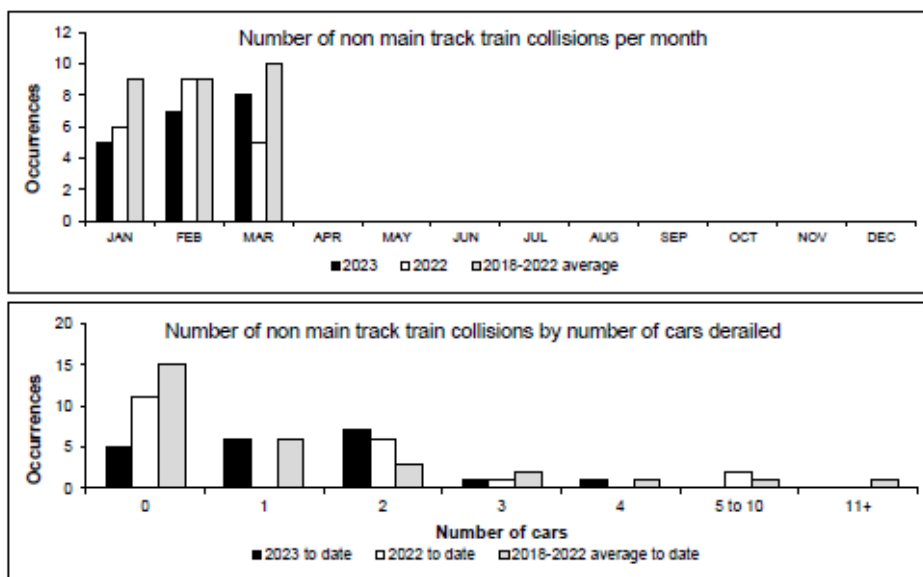


Data extracted 18 April 2023

All 5-year averages have been rounded. The totals sometimes do not coincide to the sum of these averages.

Monthly rail transportation occurrence statistics
March, 2023
Table 4
Non-main track collision accidents and incidents by province

	March			Year to date (March)		
	2023	2022	2018-2022 average	2023	2022	2018-2022 average
Canada	8	5	10	20	20	29
Newfoundland	0	0	0	0	0	0
Nova Scotia	1	1	0	1	1	0
New Brunswick	0	0	0	0	0	0
Quebec	1	0	0	3	2	2
Ontario	2	1	3	7	5	6
Manitoba	0	0	1	3	2	3
Saskatchewan	0	0	2	0	0	3
Alberta	2	2	2	3	6	7
British Columbia	2	1	2	3	4	7
Northwest Territories	0	0	0	0	0	0
Canada - with dangerous goods involved	3	2	3	6	9	10
Newfoundland	0	0	0	0	0	0
Nova Scotia	0	1	0	0	1	0
New Brunswick	0	0	0	0	0	0
Quebec	0	0	0	1	2	1
Ontario	0	1	1	1	3	2
Manitoba	0	0	0	1	1	1
Saskatchewan	0	0	0	0	0	1
Alberta	2	0	0	2	1	3
British Columbia	1	0	1	1	1	2
Northwest Territories	0	0	0	0	0	0

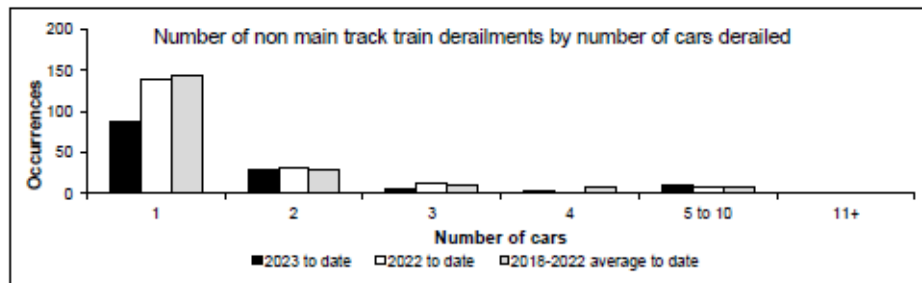
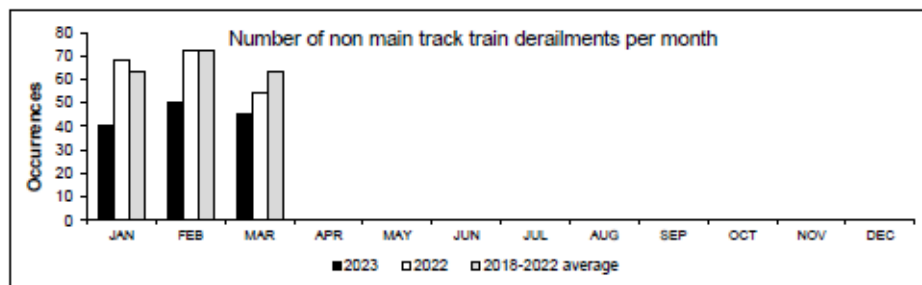


Data extracted 18 April 2023

All 5-year averages have been rounded. The totals sometimes do not coincide to the sum of these averages.

Monthly rail transportation occurrence statistics
March, 2023
Table 5
Non-main track derailment accidents and incidents by province

	March			Year to date (March)		
	2023	2022	2018-2022 average	2023	2022	2018-2022 average
Canada	45	54	63	135	194	197
Newfoundland	1	0	1	4	3	4
Nova Scotia	1	0	0	2	2	2
New Brunswick	0	1	2	0	6	4
Quebec	6	17	17	21	34	40
Ontario	11	8	11	31	34	34
Manitoba	5	7	7	15	32	22
Saskatchewan	4	7	8	16	32	22
Alberta	12	7	10	23	27	36
British Columbia	5	7	9	23	24	34
Northwest Territories	0	0	0	0	0	0
Canada - with dangerous goods involved	2	6	7	12	27	28
Newfoundland	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	1	1
Quebec	0	0	1	1	2	5
Ontario	0	3	2	4	8	5
Manitoba	0	2	1	2	8	5
Saskatchewan	0	0	0	1	4	2
Alberta	1	1	2	3	3	6
British Columbia	1	0	1	1	1	4
Northwest Territories	0	0	0	0	0	0



Data extracted 18 April 2023

All 5-year averages have been rounded. The totals sometimes do not coincide to the sum of these averages.

ANNEX A – PRESENTATION

11. Transport Canada – Innovation Centre – Jim Lothrop



Transport Canada Rail RD&D Program Update

Railway Association of Canada
Safety Operations and Management Committee

CENTRE >>>>
D'INNOVATION
CENTRE

Jim Lothrop, Director General
Matt Krech, Chief, Rail RD&D
Innovation Centre
May 9th, 2023



Transport
Canada

Transports
Canada

Canada

- **Update Innovation Centre Rail RD&D Activities**
 - Update on Rail Climate Change Adaptation Program
 - RD&D Work Plan Status Update
- **Key Project Updates**
 - Technology Demonstration Railcar for Advanced Track Inspections
 - Assessment of Technologies for Monitoring and Mitigating Fire Risk
 - Assessment of Hydrogen-Diesel Combustion Systems for Railway Locomotives



RAIL CLIMATE CHANGE ADAPTION PROGRAM (R-CCAP)

Program Objectives: Transport Canada launched the R-CCAP program from 2022/23 to 2023/24 to support research, development, and implementation of innovative new technologies, tools, and approaches to help address the increasing risks and impacts of climate change on Canada's rail sector. In so doing, the program will also help enhance the safety and resilience of supply chains.



Launch Call for
Proposals

(Summer 2022) -
COMPLETE

Develop
Contribution
Agreements

(Early 2023) - IN
PROGRESS

Program
Performance Review

(Spring 2024)

Project Proposal
Submissions

(Sep 2022) -
COMPLETE

Project Execution

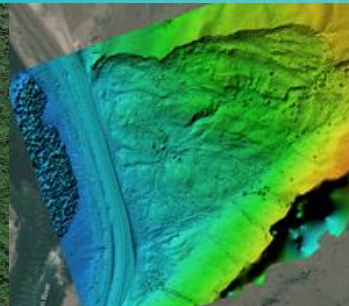
(Winter 2023 –
Winter 2024)

Results
Dissemination

(Ongoing)

R-CCAP Eligible Project Categories

- 1) Risk Assessments:** Research and engineering studies that help railways better understand the risks and impacts of climate change on their rail network and improve design, maintenance, training, and operational practices.
- 2) Monitoring Technologies:** Testing, trialing, and implementing innovative technologies to enhance the inspection and monitoring of climate risks (e.g. fires, flooding, vegetation conditions, landslides) on the rail network.
- 3) Mitigation Measures:** Evaluating new design or maintenance practices, technologies, or alternative materials to address adaption challenges (e.g. flooding, permafrost degradation, more extreme operational temperatures and temperature variations).





RAIL CLIMATE CHANGE ADAPTION PROGRAM (R-CCAP)

- From the first Call for Proposal, 20 projects across Canada (totalling \$5.4M) were selected for funding (see Annex A for full project details).
- The program covered an excellent geographic spread, from key corridors impacted by the 2021 atmospheric rivers and forest fires in Western Canada, to vulnerable short-lines in the Prairies, to the Iron Ore region of Eastern Canada :
 - National scope (3)
 - British Columbia (2)
 - Alberta (1)
 - Saskatchewan (7)
 - Manitoba (2)
 - Ontario (2)
 - Quebec (2)
 - Newfoundland and Labrador (1)
- The program was particularly well subscribed by shortline railways (15/20 projects)



The Canadian rail system currently has

43,065

route-kilometres of track

Canadian National (CN) owns

› **50.8%**
(21,878 km)

Canadian Pacific (CP) owns

› **30.4%**
(13,094 km)

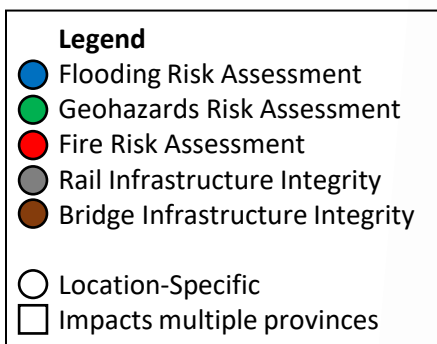
Other railways own

› **18.8%**
(8,094 km)





RAIL CLIMATE CHANGE ADAPTION PROGRAM (R-CCAP)





RAIL CLIMATE CHANGE ADAPTION PROGRAM (R-CCAP)

- The suite of projects funded include:
 - Implementation of **geohazard monitoring systems** to leverage field data and enable better maintenance/resource allocation and early emergency response
 - Risk assessments of **culvert and drainage systems** to identify design and maintenance improvements to prevent flooding and washouts
 - **Assessment of bridge integrity** and reliance to climate change impacts using innovative and experimental technologies (drone monitoring, 3D geotextiles, biotic soil amendments)
 - **Assessment of infrastructure integrity e.g.** increasing risks of buckling forces due to higher average temperatures; and, trials of alternative track materials (recycled plastic ties, polyurethane soil stabilization)
 - **Assessment of fire risk** using LiDAR scanning and risk reduction planning.



➤ INNOVATION CENTRE RAIL RD&D – WORK PLAN STATUS



	'Safe' Research Theme Projects and Description (I)	FY 2022-2023	FY 2023-2024	FY 2024-2025
Resilience and Adaptation				
	Railway Ground Hazard Research Program (RGHRP)	→	Project Execution	
1	The Railway Ground Hazard Research Program (RGHRP) is a collaborative effort among industry, academic institutions and the federal government to develop and evaluate scientific and technical solutions to help railways manage the risks associated with ground hazards, including round hazard risk identification & analysis, landslide investigation, round hazard event triggers, technology for evaluating, monitoring & predicting ground hazards, seismic rock fall detection, heavy axle loading on soft subgrades, risk mapping of sensitive clays, ballast fouling, risk estimation for railways and landslides			
	Enhanced Landslide Monitoring and Assessment Tools & Technologies (Phase III)	→	Project Execution	
2	A test of landslide monitoring technologies (drone imaging, interferometric synthetic-aperture radar, real-time kinematic positioning, etc) to reduce the risks landslides pose to railways by developing a better understanding of their causes and behaviour. These technologies are being tested at world-class instrumented field sites along key rail corridors in the Thompson River valley and Assiniboine River valley.			
	Cold Weather Air Brake and Automatic Parking Brake (APB) Research		Project Execution	
3	The development of a Cold Weather Brake Research Lab to test the performance of air brake system within a simulated train consist under a range of controlled temperature conditions in a climatic chamber. The lab will facilitate will advance scientific knowledge and understanding of brake performance and automated parking brake systems under cold weather conditions as well as develop recommendations to improve design, testing, operation, and maintenance practices.			
	Cold Climate Railway RD&D - Tie Plate Icing	→	Project Execution	
4	A test plan on the phenomenon of ice accumulation (i.e. ice jacking) between the base of the rail and tie plate under specific winter conditions (wind and precipitation or repeated freeze-thaw cycles). The project is aiming to better understand the root causes and the effects of tie plate icing on track performance and train operation safety, potential methods for identification and monitoring, and potential remedial methods and actions.			
	Cold Climate Railway RD&D - Ultrasonic Testing	→	Project Execution	
5	A test plan on the phenomenon of ultrasonic wave propagation changes in colder temperatures. The project is aiming to quantify ultrasonic signal attenuation as a function of temperature, better understand impacts on flaw detection capabilities, and develop best practices and guidance for industry.			
	Cold Climate Bulk Cargo Carry Back		Execution	
6	A study to better understand the current state of freight goods carry back (frozen material that cannot be removed from railcars during unloading). The project will aim to understand the industry's baseline state, mitigation measures/best practices, and quantify the performance of potential mitigation measures to improve safety, reduce equipment wear, and improve fuel economy.			
	Assessment of Technologies to Monitor Fire Risk	Execution		
7	Identify and assess the elements of railway operations that are most prone to fire risks; and evaluate existing technologies that the railroads have currently developed to reduce fire risks, and new and emerging technologies that can potentially be applicable in railway operations to reduce fire risks and build resiliency.			
	Drone Based Fire Risk Assessment		Execution	
8	Develop and test algorithms for quantifying fire risk along rail lines using drone-based LiDAR and camera system data and a drone software platform that enables automated data acquisition, processing, and rapid sharing capabilities through a standardized process.			

Work Plan for 2022-25: Safe: Human Factors, Grade Crossing, and Trespassing Research Theme

	'Safe' Research Theme Projects and Description (I)	FY 2022-2023	FY 2023-2024	FY 2024-2025
	Human Factors, Grade Crossings, and Trespassing			
9	Cognitive Impacts of In-Cab Warning Systems (Phase II): An assessment of existing research, design guidelines, and standards and best practices for in-cab warning systems. Develop a testing protocol using VIA Rail simulators for a proof-of-concept audible alert system to prevent over speeding and analyze the impacts of deployment of the audible alert systems.	→ Project Execution		
10	Grade Crossing Safety Technology & Trespassing Incident Reduction A study of the interplay between grade-crossing and trespassing safety and a review of the capabilities and limitations of emerging technologies (e.g. infrastructure-to-vehicle (I2V) communication applications, sensor applications) to increase safety and situational awareness around high risk areas. The project will also aim to assess technology performance and safety impact in winter conditions.	Planning	Project Execution	

➤ Work Plan for 2022-25: 'Efficient' Research Theme

	'Efficient' Research Theme Projects and Description (II)	FY 2022-2023	FY 2023-2024	FY 2024-2025
	Integrating Innovative Technology			
11	Automated/Semi-Automated Machine Vision Inspection Systems (AMVIS) A study to identify and review evidence and research pertaining to the effectiveness of remote and automated/semi-automated rolling stock inspection portal technologies in terms of probability of flaw detection, reliability, repeatability, and reproducibility. This project will also aim to identify the operational conditions (e.g. car types, train speeds, lighting, snow and ice accretion, temperature range, etc.), which have the greatest impact on technology performance, and make recommendations for advancing technology readiness	→ Project Execution		
12	Technology Demonstration Railcar for Advanced Track Inspections The development of a technology research platform to assess the effectiveness and limitations of emerging track inspection technologies instrumented on a railcar and develop analytic techniques to provide incremental insight on track conditions using multiple sensor platforms which may include: autonomous track geometry measurement systems (ATGMS), wheel contact forces (instrumented wheelset), in-train force measurements (instrumented couplers), acceleration (accelerometers), and car body motion/brake performance (air pressure monitors), etc.	Planning	Project Execution	
13	Challenges and Opportunities for Automation of Rail Operations A study of the challenges and opportunities for automation of rail operations in Canada including those pertaining to enabling communication technologies, grade-crossing safety, human factors, interoperability, emergency response, cybersecurity, cold weather and climate change, as well as potential to increase rail network performance.	→ Execution		
	Leveraging Tools, Data, and Analytics			
14	Canadian Academic Centre of Expertise on Rail Research (Canada ACERR) A collaborative research program supported by government, industry, and the Rail Research Advisory Board (RRAB) which carries out state-of-the-art research addressing Canadian emerging industry priorities such as: assessing infrastructure performance; ballast quality and degradation; cold weather performance of rail and rolling stock; quantitative risk management for railways; and optimizing rail operations and control systems. The program advances innovative technologies and solutions to better understand their applicability for improving the safety, reliability, and economic competitiveness of rail transportation. The program consults on an biannual basis to identify research needs.		Project Execution	
15	International Collaborative Research Initiative (ICRI) The International Collaborative Research Initiative (ICRI) on Rolling Contact Fatigue (RCF) and Wear of Rails and Wheels is an informal collection of academics, consultants, researchers, and engineers working in, or having significant involvement with, the international railway industry. The ICRI is advancing projects on wear mapping, damage modeling, safety, surface damage quantification, friction studies, rail profile scoring, and tools to quantify economic benefits from investing in new technologies.	→ Project Execution		
16	Development of a Holistic Drone-Based Railway Bridge Inspection Tool This project aims to combine the use of various technologies that have been piloted through the Innovative Solutions Canada program into a single inspection and data output tool that incorporates all forms of imaging and inspection approaches. This includes: image stitching, point cloud development, automated flights for data capture, acoustic sensing, visual and thermal imaging, algorithms to assess and identify defects in concrete structural components, and ultrasonic thickness inspection technology.		Execution	
17	A Holistic Model of Transportation Accessibility A study of how information, communications, and transportation technologies may interact to create transformational accessibility changes that may impact mobility patterns, urban corridors, and accessibility to economic opportunities.		Execution	

➤ Work Plan for 2022-25: 'Clean' Research Theme

	'Clean' Research Theme Projects and Description (III)	FY 2022-2023	FY 2023-2024	FY 2024-2025
	Exceeding 2030			
19	Locomotive Emission Testing during Revenue Operations Testing and evaluating locomotive emissions during revenue operation and developing a baseline greenhouse gas and criteria emissions profile for locomotives during revenue service in summer and winter conditions. The project will also aim to assess the performance and emission profile of alternative propulsion fuels (e.g. renewable diesel) against the baseline.	Planning	Execution	
20	Experimentation Fund - Feasibility Study of Hydrogen Diesel Combustion Experimentally test and investigate the combustion performance and emission profile of a heavy-duty hydrogen/diesel dual fuel combustion engine under locomotive operating conditions. The project will also aim to evaluate maximum blend rates at various engine loads and impacts of adjustments to diesel injection timing.	Project Execution		
	Net-Zero 2050			
21	Phase I Hydrail and Battery Locomotives: Assessment of Risks, Mitigation Strategies, and Analysis of Applicable Standards A Failure Modes and Effect Analysis of the hazards and risks associated with introducing and/or retrofitting current locomotives in Canada with hydrail and battery technologies. The project will also aim to assess codes, standards, and strategies that may be applicable to mitigating the identified risks.	➤Execution		
22	Phase II Hydrail and Battery Locomotives: Assessment of Risks, Mitigation Strategies, and Analysis of Applicable Standards Produce a risk management framework for hydrogen and battery locomotive which follows nationally accepted guidelines (e.g. ISO 31000:2018) and document hazards, estimate their risk, and evaluate risk mitigation techniques using a nationally accepted methodology (e.g. ISO 12100:2010, CSA EXP11:20).	Project Execution		

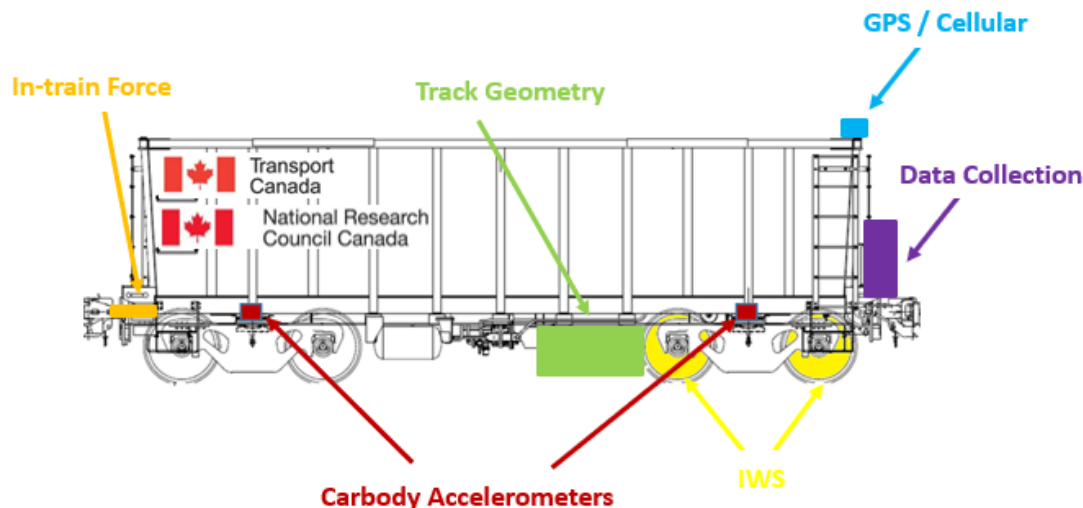
➤ INNOVATION CENTRE RAIL RD&D PROJECT UPDATES



1. Technology Demonstration Railcar for Advanced Track Inspections (New)

Objective: Assess the effectiveness and limitations of emerging track inspection technologies instrumented on a railcar and develop analytic techniques to provide incremental insight on track conditions using multiple sensor platforms.

- Multiple technologies will be explored for integration: autonomous track geometry measurement systems (ATGMS), wheel contact forces (instrumented wheelset), in-train force measurements (instrumented couplers), acceleration (accelerometers), car body motion/brake performance (air pressure monitors, among others).
- Rail Data Integration and Analytic System (RDIAS) developed to perform raw data cleaning, location aligning, data filtering, data analytics and the presentation of results via a visual dashboard. Physics-based algorithms are applied to extract safety and performance information from wheel/rail force data.
- **Next steps:** Convene a Rail Research Advisory Task team to prioritize initial technologies to be instrumented for testing and identify test partners.





2. Assessment of Technologies for Monitoring and Mitigating Fire Risk (Ongoing)

Objective: Identify the elements of railway operations that are most susceptible to causing sparks and fires and identify existing and emerging technologies that the railways could deploy to mitigate fire risk.

- In the examination of Transport Canada safety data over a ten-year period the most common occurrences of fire were right-of-way fires, which included grass fires and tie fires, followed by fires associated with electrical and mechanical components of the locomotive.
- The FRA safety data over a nine-year period showed the most common occurrences of fires were associated with electrical and mechanical components of the locomotive.
- The technology scan identified promising options for further testing and analysis: air sampling smoke detectors, optical smoke detectors, heat sensors, multi-criteria detectors on locomotives, cameras facing right-of-way, wayside thermal cameras, UAVs, automated spray or fire suppression foam systems, low sparking brake shoes, dynamic brake systems.

Next steps: Develop quantitative risk assessment/modeling technique to validate areas of highest concern and work with industry through RRAB to prioritize technologies of interest for further development and testing.

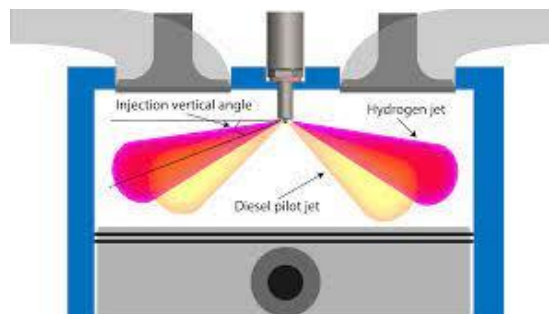
Rank	Cause of Highest Concern in Train Operations	Cause of Highest Concern in Maintenance Activities
1	Locomotives (tractive efforts, exhaust, soot accumulation, etc.)	Rail Grinding
2	Braking (sparks, overheating, etc.)	Sparking (welding, etc.)
3	Wheels, Axles and Bearings	Curve Patch Profiling
4	Operations (speed, curves, etc.)	Laying of Rail Crossties (creosote, tie storage)
5	Equipment Age	Track and Frog Replacement
6	Wayside Detector System Malfunction	Leftover Debris
7	Hazardous or Flammable Cargo	Timber Bridges and Tunnels



3. Assessment of Hydrogen-Diesel Combustion Systems for Railway Locomotives (Complete)

Objective: Experimentally test and investigate the combustion performance and emission profile of a heavy-duty hydrogen/diesel dual fuel combustion engine under locomotive operating conditions.

- The maximum hydrogen energy fraction reached during the test ranged from 25% (at 75% engine load) to 50% (at 25% of engine load) with limitations due to high peak pressure – these results indicate that the technology may perform best in operating environments with large amounts of time at idling and lower notch conditions (e.g. switcher locomotives).
- CO₂ emissions decreased linearly with increasing hydrogen energy fraction. PM and CO were also observed to decrease with increasing hydrogen energy fraction.
- Increasing hydrogen energy fraction caused NO_x emissions to increase compared to the diesel base case. Aftertreatment such as exhaust gas recirculation (EGR), or selective catalytic reduction (SCR) may be required.
- Retarding diesel injection timing may be helpful to increase hydrogen energy fractions - however, there is a trade off in engine efficiency, PM, and CO emissions, which improve with the advancement of diesel injection.
- **Next steps:** Final report to be published in Spring 2023. Further work to optimize performance at higher engine loads, reduce NO_x emissions, and investigate hydrogen slip will be considered.



Thank you/Questions?

Jim Lothrop
Director General, Innovation Centre
Transport Canada

Matt Krech
Chief, Rail and Aviation RD&D, Innovation Centre
Transport Canada

➤ ANNEX A: Rail Climate Change Adaptation Program Projects

Canada-Wide Projects

Washout Hazard Risk Assessment and Monitoring System Deployment

Applicant: Canadian National Railway

Total Federal Contribution: \$300,000

This project will reduce the impact of flooding on Canadian National Railway Company's rail network by creating a proactive washout (i.e., flooding) risk management system, including a site inventory process, risk management methodology, and an automated risk monitoring system.

Remote Sensing Integration for Geohazard Management

Applicant: Canadian Pacific Railway

Total Federal Contribution: \$230,000

This project will create a data-informed risk-based remote sensing platform to monitor, assess risk, implement preventative action, and support mitigation project prioritization.

Climate Physical Risk Assessment for Canadian Pacific Rail Network

Applicant: Canadian Pacific Railway

Total Federal Contribution: \$230,000

This project will undertake a pilot study, specifically to design and test a program for evaluating climate risks, using climate data and field observations across 2,700 km of Canadian Pacific Railway's rail network in British Columbia.

Projects in British Columbia and Alberta

Water Level Sensor Technology for Remote Monitoring of Flood Risk on Rail Bridges (BC)

Applicant: Southern Railway of British Columbia

Total Federal Contribution: \$298,595

This project will install water level sensors along the rail line to enable remote monitoring of river water levels near rail bridges in the southern British Columbia region. Project data will provide real-time information about the status of water levels, and provide notifications when levels threaten the structural safety of bridges.

Climate-Induced Ground Hazard Risk Assessment Tool (BC)

Applicant: Canadian National Railway

Total Federal Contribution: \$300,000

Canadian National Railway will develop a real time climate hazard risk assessment program specifically targeting ground conditions such as landslides, rockfalls, sinking, or freezing and thawing of snow/ice.

Development of an Effective Method to Monitor Track and Buckling Risk (AB)

Applicant: Canadian Pacific Railway

Total Federal Contribution: \$260,000

This project will develop a climate hazard (e.g., landslides, rockfalls, sinking, erosion, or snow/ice conditions) risk assessment tool for a section of track in a high-risk area prone to severe weather events that can disrupt rail service. The tool will help monitor hazards in real-time and aid in proactively identifying warning signs of a geohazard for proactive mitigation and faster response time.

Projects in Saskatchewan

Bridge Erosion Mitigation and Monitoring

Applicant: Big Sky Railway

Total Federal Contribution: \$237,217

The project will use laser scanning, drone monitoring, and timber condition monitoring for monitoring the structural integrity of Big Sky Rail's bridges. These monitoring technologies will help to determine areas and rates of deterioration due to rot as a result of rising water levels, runoff, and extreme weather.

Bridge Erosion Mitigation and Monitoring

Applicant: Last Mountain Railway

Total Federal Contribution: \$241,177

This project will use monitoring technologies to assess the structural integrity of Last Mountain Railway's bridges and to determine areas and rates of deterioration. Success of the proposed project will lead to technology advancements in bridge risk monitoring that could be implemented by other Canadian railways or transportation infrastructure owner/operators.

Engineering and Trial Placement of Recycled Materials - Railway Ties

Applicant: Stewart Southern Railway

Total Federal Contribution: \$293,600

This project will design, manufacture, and implement an alternative railway tie to respond to the decreased availability of standard wood ties, the rising costs associated with acquiring new wood ties, and recycling used wood ties. The new design uses recycled plastic, will be shipped and installed at test sites, and will be monitored throughout the course of the year to examine durability and placement through four seasons to determine how the ties will perform in different climatic conditions.

Projects in Saskatchewan

Culvert Assessment and Replacement on Great Western Railway

Applicant: Great Western Railway

Total Federal Contribution: \$249,409

This project seeks to mitigate the risks that torrential rain and flash flooding events pose to culverts along the Great Western Railway's lines in southwest Saskatchewan. The project will assess and replace high-priority culverts with newer and more effective designs.

Innovative Soil Stabilization: Bridge Backwall Repair Using Polyurethane Foam

Applicant: Northern Lights Rail

Total Federal Contribution: \$76,000

The proposed project will replace four damaged bridge backwalls at two different bridge sites using a combination of traditional rock, timber, geotextile, and polyurethane materials. The replaced backwalls will be monitored for erosion for a period of 8-9 months via visual inspections.

Projects in Saskatchewan

Culvert Assessment and Replacement on Red Coat Rail

Applicant: Red Coat Road and Rail

Total Federal Contribution: \$249,409

This project will assess and replace high-priority culverts with newer and more effective designs. These culverts will be identified using visual inspections and track maintenance records. A secondary visual inspection will also be conducted after a high-precipitation event to form a proactive maintenance plan of the new culvert designs.

Southern Saskatchewan Climate Resiliency Project

Applicant: Great Sandhills Rail

Total Federal Contribution: \$292,105

This project will conduct geotechnical assessments, excavations, and install innovative geotextile technologies to stabilize and improve roadbed drainage along portions of track that are highly susceptible to the impacts of climate change.

Projects in Manitoba

Hydrology Incident Prediction and Response System

Applicant: Hudson's Bay Railway Corporation

Total Federal Contribution: \$300,000

This project will use satellite and drone data to better predict and respond to rail incidents caused by water movement issues. These issues include atmospheric rivers, plugged culverts, overland flooding, and thawing snow/permafrost.

Integral Railway Infrastructure Framework to Mitigate Climate Change Impacts on Permafrost

Applicant: Hudson's Bay Railway Corporation

Total Federal Contribution: \$300,000

This project will develop and employ a Railway Infrastructure Monitoring Framework, comprised of innovative track inspection equipment and various imaging technologies, such as Ground Penetrating Radar and satellite technology to measure ballast/substructure conditions, entrapped ice water occurrences, ground movement, and water levels in proximity to rail embankments

Projects in Ontario

Integrating Satellite and Instrumented Hi-Rail Truck Data Into Water Inspection

Applicant: Ontario Northland Transportation Commission

Total Federal Contribution: \$300,000

This project involves using remote sensing technologies such as drones, satellite imagery, hi-rail trucks, and data analysis to monitor regional water level changes along Ontario Northland's rail right-of-ways, in order to better assess potential risks to their rail infrastructure.

Northern Ontario Short Line Flood Monitoring Project

Applicant: Agawa Canyon Railroad

Total Federal Contribution: \$297,209

This project focuses on reducing risks associated with extreme weather conditions on the Agawa Canyon Railroad, by using specialized flood monitoring technologies at 10 different sites along a 392 km stretch of track. The flood monitors will provide an advance warning system for high-water events that could pose a risk to the integrity of the track bed, enabling proactive intervention.

Projects in Quebec, Newfoundland and Labrador

Study of Hydraulics and Hydrology of the Entire Tshiuetin Railway Network (QC)

Applicant: Tshiuetin Inc.

Total Federal Contribution: \$300,000

This project will perform a flood risk evaluation of its infrastructure, and subsequently develop and implement a maintenance and infrastructure replacement plan. This will include conducting a field survey of existing culverts, and using a digital tool to identify potential improvements to culvert design and/or maintenance practices to improve drainage/water level management.

Fire Risk Research and Risk Elimination Program (QC)

Applicant: Tshiuetin Inc.

Total Federal Contribution: \$300,000

This project aims to study fire risk along the length of the track in northern Québec. It involves the development of a fire risk reduction plan, a fire preparedness plan, and a protection plan to prevent fire-causing railway activities. High risk areas will see maintenance work done to reduce risks, and a training plan will be developed to reduce fire risk posed by operational activities.

IOC Geohazard Management System Upgrade (NL)

Applicant: Iron Ore Company of Canada and QNS&L Railway

Total Federal Contribution: \$300,000

This project will upgrade Iron Ore Company's existing geohazard management system for assessing and managing geohazards (e.g., landslides, rockfalls, sinking, erosion, or snow/ice conditions) and ability to analyze climate change related data sources

**Railway Association of Canada
SAFETY & OPERATIONS MANAGEMENT GENERAL COMMITTEE (SOMC)
SOMC TERMS OF REFERENCE**

1. Name

The organization shall be known as the Safety & Operations Management Committee (SOMC) of the Railway Association of Canada (RAC).

2. General Mandate

The general mandate for this Committee is to provide the RAC and its sub-committees with direction, guidance and resources to carry out essential industry activities related to safe train operations, security, sustainability, regulatory affairs, proximity management, cross-border harmonization and essential RAC operating services.

3. Officers

There shall be a Chair and Vice-Chair, elected by its membership. Their terms of office shall normally be 2 years. The positions can alternate, or new officers elected after each 2 year term.

The RAC will provide permanent secretarial services for the committee. The Secretary will record the events of the proceedings including but not limited to discussion topics, resolutions, action items and responsibilities. The Secretary will draft minutes of the meeting and forward them to the Chair for approval/distribution within 30 calendar days

An officer from the RAC will be appointed to the Committee as a member and will assist in the management of the Committee.

4. Duties of Officers

The Chair shall be responsible for the general supervision of the affairs of the Committee, preside at meetings and be empowered to call special meetings as conditions warrant. The Chair will act as Committee spokesperson to the RAC Board and other organizations as required. The Vice-Chair shall perform duties of the Chair whenever the Chair is unable to perform the duties of his/her office.

5. Duties of the Safety and Operations Management Committee

5.1 Oversee the activities of all SOMC sub-committees. Review and provide feedback on sub-committee annual reports.

5.2 Review annual strategic plans and budgets for Operations and Regulatory Affairs department of RAC and provide feedback and approvals as necessary.

5.3 Monitor and direct the development and implementation of various rules and regulations under their mandate including new rules or revisions to existing rules related to train

operations, regulations related to railway emissions, proximity management, data collection, Transportation of Dangerous Goods, etc. and related MOU's, guidelines and best practices.

- 5.4 Monitor US regulations, operating practices, sustainability programs and technologies and develop appropriate strategies for efficient cross-border operations and harmonization as appropriate.
- 5.5 Delegate appropriate representation from their organizations on various SOMC sub-committees, working groups and task forces.
- 5.6 Provide appropriate human resources and funding for special initiatives and projects (e.g., industry conferences, research, proximity, medical guidelines, etc.) as necessary.
- 5.7 Foster an open environment of sharing safety and program strategies and successes, new technologies and procedures where appropriate and generally spearhead ideas that enhance the development of all member company's operational initiatives.
- 5.8 Ensure that regulators overseeing railway activities and other agencies with an interest in the SOMC mandate are made sufficiently aware of railway activities and strategies. The Committee will also promote voluntary approaches for operational management rather than prescriptive regulatory approaches.
- 5.9 Review, assess and support safe work practices and guidelines related to health, safety and risk management within the industry.
- 5.10 Monitor industry accident/incident recommendations, statistics, trends and emerging issues and identify other related improvement opportunities.
- 5.11 Liaise as required with other organizations involved in the promotion of operational efficiency in the industry, including AAR, ASLRRA and others.

6. Reporting Relations and Liaison

The Safety and Operations Management Committee will report to the RAC Board of Directors. The Committee will ensure effective liaison between RAC sub-committees and working groups (e.g., Mechanical Committee, Track Safety Standards Working Group, environment Committee, etc.) on matters which are of mutual interest and benefit.

7. Membership

- 7.1 Membership is open to all RAC member companies. Persons shall be appointed by their respective companies and shall serve until the person notifies the Chair of his/her resignation. Membership will be of special interest to those with responsibilities in the functions of safety and security, railway operations, regulatory affairs, risk management, etc.
- 7.2 A member who is unable to attend a meeting should send a representative who shall be counted in determining a quorum and be permitted to vote in place of the regular member.
- 7.3 Decisions will be made on a consensus basis. Non-consensus will be addressed by the RAC Board of Directors.

8. Frequency of Meetings

- 8.1 The Operations Committee shall meet on a bi-annual basis or on a schedule to be determined by the Committee. Special meetings may be called in response to significant developments.

Meetings may be held by telephone or video conference at the discretion of the members.
- 8.2 A quorum shall consist of the Chair (or Vice-Chair) and 50% of members. The Vice-Chair will be recognized as a member when not acting as Chair.

Approved – May 2020