Environment Committee Meeting

October 25, 2023

People. Goods.
Canada moves by rail.

Railway Association of Canada

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**.

Updated May 3, 2021

Railway Association of Canada

RAC Environment Committee Meeting 03-2023

Wednesday, October 25, 2023
7550 Ogden Dale Road SE
Calgary, AB
09:00 – 14:00 Mountain Time
MS Teams Link

Section	Topics	Lead	Time (MST)
1.	Introductory Remarks and Administrative Issues		
A.	Greetings and Call to Order	Chair	09:00
B.	Safety Briefing and Welcome	D. Huck	09:05
C.	Competition Compliance Guidelines	B. Chursinoff	09:10
D.	Approval of Meeting Minutes		
2.	RAC President's Report	M. Brazeau	09:15
3.	Industry Updates		
A.	Locomotive Emissions Monitoring	J. Thibault	09:25
B.	RAC Advocacy Update	K. Mason	09:30
C.	Transport Canada Innovation Centre	M. Krech	09:40
D.	Government of Quebec – Vegetation Mgmt.	B. Chursinoff	09:50
E.	RAC Dangerous Goods Update	S. Croome	10:00
F.	AAR Update	T. Romanosky	10:10
G.	EMS Project	B. Chursinoff	10:20
H.	Storage Tank Regulations	B. Chursinoff	10:30
I.	Environment Committee Survey Discussion	B. Chursinoff	10:40
J.	Flammable Liquids Bulk Storage Regulations	K. Roberge	11:00
4.	Committee Member Roundtable		
A.	Member reports (i.e., issues of compliance/non-compliance, research updates, sharing of best practices or new environmental initiatives, etc.)	All	11:30
5.	Other Business and Closing Remarks	Chair	11:50
6.	Lunch	All	12:00
7.	CPKC Hydrogen Locomotive Project Tour **PPE Required**	D. Huck	13:00
8.	Adjourn	All	14:00

Railway Association of Canada

RAC Environment Committee Meeting 2023-02

Thursday June 1, 2023
Virtual Meeting

Meeting Minutes

Attendees:

Francois Belanger (CN)
Bruno Riendeau (VIA)
Bennett Gibson (RAC)
Ben Chursinoff (RAC)
Cedric Smith (Pollution Probe)
Steve McCauley (Pollution Probe)
Kevin Houle (CPKC)
Stella Karnis (CN)
David Huck (CPKC),
Caroline Healey (RAC)
Cara LaRochelle (Delphi Group)
Jonathan Thibault (RAC)
James Skuza (Metrolinx)
Aaron Stadnyk (CN)
Marta Swiercz (Metrolinx)

Absent:
Nirwair Bajwa (CPKC), Arjun Kasturi (Metrolinx), Christian Belliveau (NBMR), Stéphanie Daneau (exo), Christina Demeter (Metrolinx), Ana Derksen (Metrolinx), Benoit Gringas (exo), Joe Van Humbeck (CPKC), Donna Jaques (ONTC), André Lapalme (GWRR), Jérémie Largeaud (GWRR), Luanne Patterson (CN), Sylvain Rodrigue (exo), Thomas Rolland (exo), Joe Viscek (ONTC), Emily Mak, Chair (SRY), Françoise Granda-Desjardins (VIA), Ted Jones (CPKC), Devin Sprinkle (AAR), Murray Macbeth (GWRR)

1. Call to Order & Opening Remarks

Ben Chursinoff called the meeting to order at 1:05pm ET.

1.1 Competition Law Compliance Policy – Forward statement

The Competition Guidelines, as adopted by the RAC Board of Directors, were read to the committee participants. The Guidelines explain that the policy emphasizes our organization's compliance with Canadian Competition Laws in all our meetings and activities.

2. Member Discussion

2.1. Overview & Background

Question - What is the focus of this meeting? What is the Rail Pathways Initiative?

The sole focus of this meeting is to discuss the upcoming Transport Canada workshop regarding the Memorandum of Understanding between Transport Canada and the Railway Association of Canada. The most recent MOU covered 2018-2022 and

established a framework to reduce rail emissions in Canada while advancing areas of research.

The Rail Pathways Initiative laid out the considerations for rail decarbonization. Phase 1 of the initiative developed a Landscape document that provides the current state of play. GHG emissions intensity are down by over 40% across the board, and the industry is engaged in decarbonization activities. Phase 2 of the initiative put forward an assessment methodology, assessment of technologies, and a road map for implementation. It is recognized that there is no clear, singular pathway to deep decarbonization. The assumption is that it will unroll in three "waves": 1) efficiency improvements, 2) renewable fuels, and 3) alternative propulsion.

The assessment framework looks at the cost, emission reduction potential, and challenges associated with different technologies, and gives them a rating out of 100. Their rating is relative to one another and should be reassessed every 2-5 years.

The report also recommends establishing a national Rail Decarbonization Committee to oversee the planning and execution of decarbonization initiatives, and a joint government-industry program. This program could support rail decarbonization activities in Canada.

2.2. High Level Objectives

Question - What are the most important areas to focus on in discussions with TC on the new MOU? Is there anything specific we should aim to achieve?

There needs to be large scale testing done with new technologies (like biofuels and hydrogen fuel cells), as well as supporting technologies. Adaptation resiliency is important to be prepared for changes that come with new technologies.

Receiving funding from TC (or federal government in general) is important, but we also need other forms of support from TC. The scope of the funding is just as important. We need other federal departments engaged to support the rail industry through these transitions (e.g., ECCC and NRCan).

Key message: federal government support needed for a) rail climate adaptation, b) funding support for decarbonization activities including R&D and implementation, and c) rail industry needs a supportive policy regime from the federal government.

2.3. Industry Priority Areas & Administrative

Question - What are industry priority areas for emissions reductions (CAC and GHG)? What does that look like in the next four years? What are industry priority areas for adaptation? Do you have any comments on the last MOU?

It is likely that TC will want emissions targets as was done in the past (intensity based and possibly absolute). The committee discussed the importance of acknowledging variability in the data. There is no interest in having CAC targets. Furthermore, the value of the current CAC reporting is limited as it is aggregated. The value is reporting on

specific CACs locations however pinpointing the data in that manner would be very challenging to accomplish.

The committee further discussed the challenges of having targets separate from individual company targets for 2030. Progress is incremental and there may be variability year to year. Targets need to account for individual targets set by companies to avoid duplication.

Discussions occurred around whether TC has met their commitments in the previous MOU. There is general sentiment that industry does all the reporting and meeting its targets but what exactly has TC achieved? This is an opportunity to change an MOU to have more reporting and targets created for government to report on, to demonstrate how it is supporting rail decarbonization.

An example of an MOU shortcoming is the exclusion of rail from the Clean Fuel Regulation. We need to ensure that regulations aren't negatively impacting the rail industry.

Key message: a new MOU must have reporting requirements on TC to demonstrate how it is supporting the industry in climate adaptation and emissions reductions initiatives.

2.4. Renewable Fuels

Question - Does industry agree that low-carbon fuels represent an interim solution? Do any stakeholders view them as a longer-term solution? What are the current and planned pilots to test renewables? Are there known gaps in planned and existing testing (such as for fuel types, applications and/or geographies?) What are the biggest challenges associated with renewable fuels? What options are preferred to overcome the price issue?

There are lots of tests being done with biofuels. We expect that biofuels will be around for a long time as a long-term pathway for steep emissions reductions. More testing, small and large-scale needs to be done with other renewables, such as hydrogen fuel cells. To make the transition to renewables, we need the financial aid from the government including a supportive policy environment. There must be more incentive to justify or overcome the price issue of biofuels (and policies to improve availability).

2.5. Modal Shift & Policy

Question - Are there clear opportunities to target shift from truck to rail (such as geographic or commodity based) that government could support to counter this expected trend? Are there any other suggested approaches to support modal shift? Emissions reporting has historically been on the basis of intensity. What are the concerns with reporting on absolute emissions?

Reporting obligations have been almost solely from the industry side. We have not held TC to their own standards. Instead of doing technical reports, and being the recipients of

information, internal analysis should be done to show the tangible actions that government is making to support the rail industry.
We should also shift away from standard emissions numbers, and track some more descriptive stats, such as growth in rail vs growth in truck, government and industry investments, pilot projects, and technology implementations. The objective of the MOU should be to improve technology, not lower emissions. Emissions reporting can continue as a nice to know. We should look at modal shift to find the lowest emission transport solution by using some of those better metrics. Industry has achieved a 40% reduction in emissions intensity since the 1990's, we now need to unlock the potential of the next major step which is increasing use of alternative fuels.

There used to be incentive outside of environmental to try and meet the emission targets. Now everything is going to cost money instead of save money. We should flip this MOU, so it is now TC supporting us as we transition into a new landscape.

For instance, VIA consumes millions of litres of fuel, we need to know how we can better use our fuel and modify our engines. We have recently bought and introduced 32 new engines. Before that, all the discussions were about obtaining new things instead of improving existing ones. We need to look at and scale the impact of short lines for what they can change and what large scale effect it would have.

Key messages: propose new metrics to be reported on in a new MOU (e.g., with less focus on emissions while focusing more on investments made by government and industry, pilot projects, and how is government supporting rail decarbonization).

3. Next Steps

Action Items – June 1, 2023	Lead	Status
1. Minutes: The meeting minutes are to be circulated within 21 calendar days	Bennett	Complete
2. Give a heads up to TC/Government that we are discussing major changes for this MOU	Ben	Complete
3. Look into more interesting, relevant metrics than GHG emissions/passenger-km	Jonathan	Ongoing

The meeting adjourned at 14:46 pm ET.

Railway Association of Canada

PEOPLE. GOODS. CANADA MOVES BY RAIL.

President's Report
Marc Brazeau, President & CEO

OUTNUMBERED BUT NOT OUTWORKED

6500+

Touchpoints with policymakers, members, and other stakeholders YTD

7x

Number of registrable federal lobby meetings compared to all of 2022

33%

Increase in the pace of touchpoints YTD 2023 compared to all of 2022

MORE:

- ✓ Evidence-based output and outreach to counter anti-rail advocacy
- ✓ Education provided to policymakers to bridge knowledge gap (grain briefings, emergency response course, Rail Ops Live, Rail 101)
- ✓ Personalized, high-impact communications (letters, submissions, etc.)
- ✓ Proactive policy development and communications (e.g., rate, dwell time analysis)

CURRENT LANDSCAPE

Wins

- Major campaign against extended interswitching; no harmful amendments to Bill C-47
- Alignment on “big ticket” ETC items with TC Rail Safety team
- New Express Entry eligibility for RTCs and rail carmen and women
- Delayed implementation of new Train Brake Rules to Dec. 1, 2025
- Invited to submit platform proposals to political parties
- Increased visibility on Rail Safety Week and successful “Youth in Rail” campaign
- Increased credibility through substantive, targeted advocacy and analysis

Risks

- Continuation or expansion of extended interswitching after 18-month pilot
- As proposed, TC’s Rail Review could lead to biased and negative outcomes
- TC could impose ETC regulations that do not align with industry recommendations and negatively impact operations
- Replacement worker ban passes and does not reflect the essentiality of rail supply chains
- Port governance changes proceed and negatively impact operations

Opportunities

- New Transport Ministers (CA, ON, MB, SK)
- TC open to reviewing rulemaking guidelines given TBR process
- Tourism Growth Strategy could lead to funding opportunities for RAC members
- Leverage increased U.S. support for shortlines/grade crossings
- Influence Supply Chain Office (new leader: Robert Dick)
- Secure TC formal endorsement of Proximity Guidelines
- Sign favourable MOU with TC on environmental initiatives

TOP PRIORITIES IN 2024

ADVOCACY

- Deliver impactful outreach aligned with member expectations
- Be constant presence on the political and non-elected fronts
- Strike right balance with governments to drive collaborative working relationships

COMMUNICATIONS

- Deploy messaging and campaigns that support effective advocacy, yield results
- Secure 3rd party validation of RAC facts and evidence
- Ensure ongoing updates to keep Board and Committees, members, and key stakeholders engaged and informed

HUMAN CAPITAL

- Attract, retain, and invest in RAC team members that are top performers
- Continue to provide opportunities for growth and competitive rewards

BUILD BEST-IN-CLASS ORGANIZATION CULTURE + DELIVER UNPARALLELED MEMBER VALUE

Railway Association of Canada

PEOPLE. GOODS. CANADA MOVES BY RAIL.

Jonathan Thibault
Manager, Economics, Data and Research

2021 Locomotive Emissions Monitoring Report

Trends since 2005 (base year)

Total Fuel & GHGs	-8.00%
Freight GHG Intensity	-25.90%
CACs	
NO_x	-47.4%
PM_{10}	-61.2%
CO	-7.8%
HC	-54.7%
SO_2	-99.0%

GHG Emissions Intensities

	2020 to 2021	Progress to 2022 target
Class I Freight	-1.2%	99.00%
Intercity Passenger	-18.0%	increase
Regional & Shortline	-4.0%	increase

Preliminary 2022 data indicates that Class 1 Freight emissions intensity was 12.62 kg/1,000RTK, which is a 7.0% reduction from 2017 – exceeding the MOU's 6% reduction target.

Fleet Modernization

Share of fleet	2020	2021
Meeting an emission standard	82.7%	82.9%
Tier 2+	12.7%	13.3%
Tier 3	9.8%	12.6%
Tier 4	8.4%	8.5%
Anti-idle equipped	82.8%	84.1%

Annual Emissions Factors

- For LEM reports 2023-onward, we will need to capture the carbon intensity of fuel in each year. Past LEMs used constant emissions factors, so higher blends did NOT factor into the calculations of rail emissions. This will need to change.
- Collaborate with government to establish annually-updated emissions factors: ECCC led? TC-RAC-ECCC jointly commissioned research? Navius?
- Industry led potential options:
    - Use provincial minimum figures for blends to obtain provincial EFs
    - Average biofuel/renewable fuel blend rate in member railway's total fuel consumption, or if available, blend rate by service, or by province of operation
    - Total fuel consumption of each type of fuel used (litres of *regular* diesel with min fed or provincial blending requirement + L of biodiesel + L of renewable diesel + L of HDRD, etc.)

Railway Association of Canada

Thank you - Merci

Comments or questions can be directed to:

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[2023-2030]

MEMORANDUM OF UNDERSTANDING BETWEEN TRANSPORT CANADA AND THE RAILWAY ASSOCIATION OF CANADA FOR REDUCING LOCOMOTIVE EMISSIONS

1.0 Objectives

The purpose of this Memorandum of Understanding (MOU) is to establish a framework through which the Railway Association of Canada (RAC), its member companies, and Transport Canada (TC) will collaborate to decarbonize the rail sector.

The MOU supports the following objectives to align government and industry efforts to reduce emissions within the Canadian rail industry:

- Align government and industry actions to develop the necessary framework to achieve net-zero by 2050.
- Advance decarbonization research and development including technology trials.
- Continue to advance efficiency measures in the Canadian rail sector to reduce greenhouse gas (GHG) emissions.
- Improve collaboration and information sharing to address emerging challenges, exchange best practices, support climate modelling, and inform the development of policies that support locomotive emissions reductions.
- Explore modal shift to rail opportunities to reduce GHG emissions in the transportation sector.
- Continue to report locomotive emissions data and initiatives through the Locomotive Emissions Monitoring Program.
- Increase the shared knowledge of emerging climate-related issues facing rail infrastructure through government-industry cooperation.

As the Government of Canada is taking a whole-of-government approach towards emissions reduction efforts, the MOU recognizes Environment and Climate Change Canada (ECCC) as a partner in several of the objectives described above.

2.0 Governance of the Memorandum

The following sections outline the governance structure for this MOU.

2.1 Management Committee

The MOU will be governed by a Management Committee comprised of senior officials (director or above) from the parties to the MOU, other federal government departments (including ECCC and Natural Resources Canada), representatives from railway

companies, and a representative of an environmental non-governmental organization. The Management Committee will be co-chaired by a representative from TC Environmental Policy and RAC. As the lead federal department for the MOU, TC commits to keeping other federal departments informed with respect to relevant activities and initiatives that result from the MOU.

The RAC and TC will select the environmental non-governmental organization representative. Other individuals (e.g., subject matter experts) may be invited to attend meetings from time to time, as required and agreed to by the Management Committee. The Management Committee will meet at least once a year, beginning in January 2024, to exchange information, discuss progress and issues, complete a year-end review of activities, and set out steps for the year. RAC and TC may request additional meetings as needed.

The functions of the Management Committee will include, but not be limited to, the following:

- Regularly meet to discuss policy issues, share priorities on research and development, oversee the work of the Review Committee, and approve work plans for achieving the objectives of this MOU.
- Provide direction for the Railway Research and Advisory Board (RRAB) Decarbonization Task Team and other relevant committees.
- Participate in the development of the Rail Climate Action Plan as appropriate, such as providing direction on content, reviewing commitments, and so forth.
- Make recommendations and review the MOU when necessary (e.g., following the publication of the Rail Climate Action Plan), in consideration of changes in the rail industry or the Canadian economy's impact on the MOU.
- Work together to identify and overcome barriers and implement action on opportunities to support rail sector decarbonization.
- Review and approve the annual LEM Reports and any other generated outputs.
- Review and approve communication strategies associated with the dissemination of MOU products, as appropriate.

2.2 Technical Review Committee

The Technical Review Committee membership will be determined and agreed upon by the Management Committee co-chairs. The Technical Review Committee will be co-chaired by a representative from TC Environmental Policy and RAC, and is responsible for the following:

- Support the Management Committee through development and implementation of work plans in support of MOU objectives.

- Meet on a quarterly basis, at a minimum, to review progress, discuss policy issues, research and R&D priorities, and initiatives supporting the MOU objectives.
- Share information, evaluate technology trials, and support modelling of sector emissions and target setting approach.
- Report to Management ~~Committee, and~~ liaise with the RRAB Decarbonization Task Team and AAR Decarbonization Working Group.
- Generate the annual Locomotive Emissions Monitoring (LEM) Reports and suggest improvements to the LEM Program, including emissions estimation methodologies as needed, and oversee and evaluate other reporting activities for products resulting from the MOU.
- Support the development of communication strategies associated with the dissemination of MOU products, as appropriate.

3.0 Context

Dating back to 1995, the Government of Canada and the RAC have collaborated to reduce locomotive emissions from the rail sector. This successful partnership has been governed through four consecutive Memorandum of Understanding between the Government of Canada and the rail sector (1995-2005; 2006-2010; 2011-2017; 2018-2022).

3.1 Global Climate Change

The Intergovernmental Panel on Climate Change (IPCC) found that current GHG commitments still leave a "substantial" gap, and it's likely that warming will exceed 1.5°C during the 21st century – making it more difficult to limit warming below 2°C. Human-caused climate change has already contributed to the planet's warming of about 1.1°C above pre-industrial levels in 2011–2020.[2]

Modelled pathways that limit warming to 1.5°C or 2°C involve rapid and deep and, in most cases, immediate GHG emissions reductions in all sectors this decade. While some future impacts of climate change are unavoidable and/or irreversible, they can be limited by deep, rapid and sustained global GHG emissions reduction.

The transportation sector must play a key role in achieving these reductions. In 2021, transportation accounted for approximately 22 percent of Canada's GHG emissions, with the rail sector accounting for approximately 1% of total GHG emissions in Canada.

[2] On March 20, 2023, the IPCC released its latest report, "AR6 Synthesis Report: Climate Change 2023," summarizing the current state of climate change and its widespread impacts and risks.

While the on-road transportation sector represents the bulk (79%) of transportation emissions[3], it will be essential to drive down emissions from all modes, including rail.

3.2 Government of Canada's Climate Response

Canada has committed to reducing greenhouse gas (GHG) emissions is 40-45% below 2005 levels by 2030. Canada also committed to achieving a net-zero emission economy by 2050, enshrined in the *Canadian Net-Zero Emissions Accountability Act*.

Most recently, in March 2022, the Government of Canada released its 2030 Emissions Reduction Plan (ERP), a roadmap outlining a sector-by-sector path for Canada to meet its 2030 and 2050 emissions reduction goals, including a commitment to develop a Rail Climate Action Plan.

Canada recognizes rail is an environmentally friendly mode of transport that supports climate ambitions, economic prosperity, and well-being, and that encouraging a modal shift to rail creates immediate GHG reduction opportunities within the transportation sector.

3.3 Canadian Rail Sector Climate Actions

Rail accounts for less than 4 percent of Canada's transportation GHG emissions.[5] Yet, the rail sector moves nearly 70 percent of intercity ground freight and more than 100 million people annually (pre-pandemic)[6], making it the least GHG intensive mode of ground transportation.

Canada's rail sector is committed to doing its part to improve its fuel efficiency, enhance the resiliency of rail infrastructure, and reduce emissions in Canada. Since 2005, the freight rail industry has improved its fuel efficiency by more than 25 percent, and intercity passenger rail fuel efficiency improved by over 30% by 2019.[7] As the most fuel-efficient mode of ground transportation, the sector supports the focus on shifting passenger and freight traffic to lower-emitting modes of transportation.

Rail is one of the sectors in which emissions are difficult to abate, requiring major transformational and technological change (i.e., alternative fuels and alternative propulsion) to see substantive emission reductions. To date, Canadian railways have made significant investments in infrastructure, fleet modernization, innovative fuel saving technologies, operational improvements, and the piloting of various low-carbon

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[3] National Inventory Report (2023), https://publications.gc.ca/collections/collection_2023/eccc/En81-4-2021-1-eng.pdf
[5] National Inventory Report (2023), https://publications.gc.ca/collections/collection_2023/eccc/En81-4-2021-1-eng.pdf
[6] Railway Association of Canada, *Rail Trends 2020*, p.13-14.
[7] *Railway Association of Canada, Locomotive Emissions Monitoring Report 2021*. The onset of the COVID-19 pandemic negatively impacted intercity passenger rail fuel efficiency in 2020.

fuels and alternative propulsion technologies. The rail sector acknowledges the importance of the next decade in mitigating the impacts of climate change through the reduction of locomotive emissions, and the need to ensure that Canada's rail system becomes more resilient to extreme events such as wildfires, flooding, and extreme heat and cold.

4.0 Reducing Greenhouse Gas Emissions

TC and the RAC agree to work together to identify opportunities and address barriers to reducing rail sector GHG emissions. Forms of collaboration can include but are not limited to:

- formal and informal information sharing;
- joint and supported research;
- research, development, and demonstration projects;
- policy development; and
- engagement on design and implementation of support programs.

Specific topics of collaboration may include, but are not limited to, the following areas:

- advance research and knowledge in rail infrastructure climate resiliency; options to support modal shift; alternative fuels, alternative propulsion, and other clean technology; and innovation; identify gaps in current funding opportunities for rail to inform government strategies for advancing rail sustainability;
- develop government supports for rail emission reductions and improve GHG reporting accuracy through year specific GHG emissions factors;
- promote the environmental benefits and strong emission performance of Canada's railways through reports, education campaigns, and other methods of communications; and
- engage with the shortline railway sector to identify support requirements to advance decarbonization.

4.1 Net-Zero Vision

This MOU represents a shared vision of working towards net-zero GHG emissions by 2050 for the Canadian rail sector. Both parties understand the significance of monitoring, reporting on, and reducing rail sector emissions, and are committed to collaborating on emissions reduction opportunities.

Under this MOU, TC and RAC and its members will pursue short-term emission reduction opportunities (2023-2030); pursue actions to improve renewable fuels use and advance trials of zero-emission technologies; improve fuel efficiency; and explore other decarbonization strategies. The Government of Canada invites individual railway signatories to join the Government of Canada's Net Zero Challenge, and other net-zero initiatives as appropriate.

4.2 Modelling Pathways to Net-Zero

The Government of Canada recognizes the efforts of RAC members to disclose emissions and encourages a continuation of these efforts as the industry plans for 2030 and beyond.

To develop well-informed GHG reduction targets that are ambitious and reasonably achievable, TC and the RAC will work together to provide data to:

- develop modelled pathway(s) to net-zero for the ~~sector;~~
- better understand the investment requirements in zero-emission technologies;
- and support the development of additional rail decarbonization initiatives, such as the Rail Climate Action Plan.

4.3 Key Milestones on the Path to Net-Zero

This MOU sets the following aspirational goals to help guide TC and the RAC in transforming Canada's rail sector into a sustainable, net-zero mode of travel and freight. These aspirational goals will necessarily evolve and be updated as the collaborative work of the MOU advances. With these aspirational goals, TC and the RAC are committed to a journey of innovation, environmental stewardship, and leadership in rail decarbonization.

4.3.1 Reducing Greenhouse Gas Emissions by 2030:
While recognizing that modal shift from on-road to rail could increase rail emissions while reducing overall transportation sector emissions in the years to come:

- Class 1 freight railways commit to reducing emissions intensity in accordance with their Science Based Targets (SBTi) targets, and to achieve absolute emissions reductions by 2030.

- Passenger railways, shortline and regional railways, and Transport Canada will continue to work with other federal departments, provincial and municipal governments, academia, and other key stakeholders to reduce emissions by 2030 and support the adoption of low-carbon and zero-emissions technologies.

4.3.2 Advancing Low-Carbon Fuels in the Canadian Rail Sector:
This MOU sets an aspirational goal of 10 to 20 percent of renewable fuels use within the rail sector by 2030, to send a clear signal that the rail sector will require significant volumes of sustainable low-carbon fuels to achieve its vision of net-zero by 2050.

Achievement of this goal is dependent on the availability and price of these fuels, as well as trials to advance technical and operational knowledge. In support of this goal, TC and the rail industry will aim to increase investments in locomotive engine testing and trials for low-carbon fuels, and broadly share the results within the sector.

4.3.3 Advancing Zero-Emission Technologies for Canada's Rail Sector:
This MOU recognizes the importance of accelerating zero-emission technologies over the coming decades to reach net-zero. To support this transition:

- TC and RAC members will work together to accelerate the retrofitting and upgrading of locomotives in railyards and mainline freight locomotives and work to advance net-zero technology.

- TC will explore options for new federal measures and support programs to assist in the transition to a net-zero rail sector.

4.3.4 Promoting Modal Shift Opportunities:
This MOU sets an aspirational goal of achieving rail's potential to reduce transportation sector emissions through modal shift, both for passengers and freight. In support of this goal:

- TC and RAC members will seek to increase investments to modernize and expand the services of the rail network, such as increasing intermodal hubs and freight rail access to industries.

- TC will work to increase ridership opportunities, including through the High Frequency Rail project, and in working with other levels and government and stakeholders to promote a coordinated and complementary operation of Canada's passenger rail network.

5.0 Reducing Criteria Air Contaminant Emissions

The RAC will continue to encourage its members, including those not covered by the *Locomotive Emissions Regulations* (LER), to improve their CAC emissions performance.

Through this Memorandum, the RAC will continue to report on annual CAC emissions, in a manner and format that is agreeable to all parties, with a view to leverage the data railways provide to collaborate on future initiatives, tools, or actions that address air quality knowledge gaps.

6.0 Research & Development Commitments

Research and development (R&D) are vital for decarbonization. TC and the RAC commit to working together to prioritize research and generate evidence in line with this MOU's objectives.

Through this MOU, TC and the RAC commit to the following items:

- TC will provide an annual update on rail RD&D projects and programs related to rail decarbonization to the Management Committee.
- RAC and its members will provide an annual update on future research priorities that support the MOU objectives to the Management Committee.
- TC will establish Rail Decarbonization Task Team under the Railway Research Advisory Board (RRAB) in which RAC members are invited to participate, as a mechanism for enhancing rail decarbonization-related research collaboration between research bodies, industry, and federal departments, including coordinating strategic research direction and results sharing between the RRAB and the Management Committee.
- TC and the RAC will work with other federal government departments and agencies to support alignment of research with priority areas identified by the Management Committee.
- Collaborate to advance knowledge of climate risks to rail infrastructure, and identify and promote collaborative mechanisms to enhance climate resiliency and supply chain efficiency of Canada's rail network.
- TC, ECCC, and RAC will collaborate on a research project to develop an understanding of the GHG and air quality impacts of modal shift towards rail, including a quantification and a policy analysis where possible.
- TC, ECCC, and RAC will collaborate on a research project to assess the gaps in current knowledge and reporting on CAC emissions profile.

7.0 Rail Climate Action Plan

This MOU recognizes the critical need for government-industry collaboration to advance decarbonization technology in the rail sector. Collaboration under the previous MOU included technology assessments and a decarbonization roadmap, and an emphasis on fuel efficiency improvements.

As a next step, TC will lead the development of a Rail Climate Action Plan, which will set out additional actions and measures to support the decarbonization of the rail sector in line with Canada's net-zero by 2050 commitment, along with supporting GHG reductions by 2030.

The collaborative activities set out in this MOU will be important enablers for the development of the Rail Climate Action Plan, including through working together to inform the development of ambitious and achievable interim GHG reduction targets.

TC's role includes fostering partnerships among rail stakeholders, coordinating efforts across transportation modes, and leveraging infrastructure and energy synergies. In developing the action plan, TC will explore options to overcome barriers and accelerate the rail system's sustainability transition.

8.0 Annual Reports

The following sections outline the reporting and verification requirements for this MOU. The first report will be for calendar year 2023 and the last report will be for the year 2030.

8.1 Contents and Production of Annual Reports

The RAC and the Technical Review Committee will be responsible for developing a Locomotive Emissions Monitoring (LEM) report for each year of the agreement. Each report will include:

- General information on the rail sector (reporting railways, network map, etc.); the sector's contribution to transportation-related emissions reductions; and R&D and other actions taken by the RAC, its members, and the Government of Canada (including an overview of funded/supported rail projects) to reduce GHG and CAC emissions from locomotives, advance new/zero-emission technologies, and climate change adaptation efforts.
- Detailed information on the composition of the locomotive fleet (OEM, model, tier level, engine, horsepower, year of manufacture, type of operation); names of the Canadian railway companies included in the report and their province(s) of operation; freight and passenger traffic levels (gross tonne-kilometres, revenue tonne-kilometres, intercity passenger-kilometres); fuel consumption; fuel efficiency; and GHG and CAC emissions.

The RAC will be responsible for the production design and coordination of materials to produce the annual reports, and Transport Canada will be responsible for the translation of the annual reports.

The annual reports will be supported by a data filing from RAC to TC and ECCC for internal analysis; this includes data used to prepare the annual report and the fuel usage data by region/railway segment.

The final report under the Memorandum (i.e., 2030 reporting year) will include a summary of the parties' accomplishments over the total reporting period including GHG and CAC emissions reductions, and TC and other departments' contributions towards achieving the objectives of the MOU.

8.2 Review and Approval of Annual Reports

The Review Committee will collaboratively produce each annual report.

Each annual report will be approved by the Management Committee.

8.3 Dissemination of Annual Reports

Each annual report shall be published jointly by the parties to the Memorandum and released to the public as soon as possible, once approved. The parties will jointly develop a communications strategy to maximize outreach and disseminate annual reports. As part of this strategy, TC will share the annual reports with ECCC and other relevant federal departments and agencies.

The RAC will be the copyright holder of all rights in, and to, the annual reports. TC will be the licensee of any copyright held by the RAC in the annual report. The parties will jointly publish the annual reports, which will remain publicly available.

9.0 Duration

The MOU will come into force upon signing by the duly authorized representatives of TC and the RAC and will endure until [December 31, 2030], unless it is terminated at an earlier date. The party that is terminating the MOU will give six months prior formal written notice to each signatory.

10.0 Third Party Verification

A qualified auditor will be given access at least once over the duration of the MOU to audit the processes and supporting documentation pertaining to the MOU. Parties to the MOU will select the appropriate auditor and will share audit costs equally. The scope, mandate, and publication of the audit will be decided by the Management Committee.

11.0 General Provisions and Signatures

This MOU is a voluntary initiative that expresses in good faith the intentions of the parties. It is not intended to create nor does it give rise to legal obligations of any kind whatsoever. As such, it is not enforceable by law. The government reserves the right to develop and implement regulatory or other measures it deems appropriate to achieve clean air and climate change goals. Conversely, signatory parties reserve the right to review and reassess performance targets in correspondence with evolving government policies, operating procedures or market conditions. This Memorandum will not constrain the parties from taking further actions relating to GHG and CAC emissions or fuel use that are authorized or required by law.

The parties recognize that the information provided pursuant to the Memorandum will be governed by the applicable legislation concerning protection and access to information.

Dated at _____ this _____ day of _____ 2023.

_____

Minister of Transport

_____

President and CEO, Railway Association of Canada

Appendix A – List of Materials Referenced

[all linked materials to be listed here, including all MOUs which will be posted on RAC website]

1. ***Climate Change 2023 Synthesis Report*. 2023. IPCC.** https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.
2. ***National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada*. 2023. Environment and Climate Change Canada.** https://publications.gc.ca/collections/collection_2023/eccc/En81-4-2021-1-eng.pdf
3. ***A Healthy Environment and a Healthy Economy*. 2020. Environment and Climate Change Canada.** https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/climate-plan/healthy_environment_healthy_economy_plan.pdf
4. ***Hydrogen Strategy for Canada*. 2020. Natural Resources Canada.** https://natural-resources.canada.ca/sites/nrcan/files/environment/hydrogen/NRCan_Hydrogen%20Strategy%20for%20Canada%20Dec%2015%202200%20clean_low_accessible.pdf
5. ***2030 Emissions Reduction Plan*. 2022. Environment and Climate Change Canada.** https://publications.gc.ca/collections/collection_2022/eccc/En4-460-2022-eng.pdf
6. ***CP Rail Climate Strategy*. CPKC.** https://sustainability.cpr.ca/downloads/CP_Rail_Climate_Strategy.pdf
7. ***CN Climate Action Plan*. 2021. CN Rail.** https://www.cn.ca/-/media/Files/Investors/Investor-Events/CN-Climate-Action-Plan-EN.pdf?la=en&hash=6AEC5F0B00ECB1A5DBD7525EDDAB78B28943A1F6
8. ***Sustainability Plan 2021-2025*. 2022. VIA Rail.** https://corpo.viarail.ca/sites/default/files/media/pdf/Sustainability/VIA%20Rail_2022%20Sustainability%20Plan%20Progress%20Highlights.pdf
9. ***G7 Transport Ministerial Declaration*. 2023. European Commission.** https://transport.ec.europa.eu/system/files/2023-06/2023-06-19-G7_Transport_Ministerial_Declaration.pdf
10. Damage Control: Reducing the costs of climate impacts in Canada. 2022. Canadian Climate Institute. https://climateinstitute.ca/wp-content/uploads/2022/09/Damage-Control_-EN_0927.pdf
11. *Joint Statement by Transport Canada and the U.S. Department of Transportation on the Nexus between Transportation and Climate Change*. February 2021. https://www.canada.ca/en/transport-canada/news/2021/02/joint-statement-by-transport-canada-and-the-us-department-of-transportation-on-the-nexus-between-transportation-and-climate-change.html

Appendix B

RAC MEMBER COMPANIES
(As of _____)

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Communications Action Plan Checklist

#	Required	Complete?
1	Have we determined what information is crucial to the EMS that is required to be communicated internally?	Yes ☐ No ☐
2	Have we determined what information is crucial to the EMS that is required to be communicated externally?	Yes ☐ No ☐
3	Have we determined the frequency at which these communications will take place?	Yes ☐ No ☐
4	Have we determined who is required to receive the information that is being communicated?	Yes ☐ No ☐
5	Have we assigned responsibility for who will be communicating the information?	Yes ☐ No ☐
6	Have we determined a process for how the information will be communicated? (Internal training, contractor packages, new visitor sign in package, intranet, public website etc.)	Yes ☐ No ☐
7	How do we ensure all information we are communicating is accurate and up to date? This is especially important when multiple departments are responsible for communicating information. As changes and updates are made, we want to ensure that the correct information is being provided.	Yes ☐ No ☐
8	Have we communicated compliance obligations to all of those who have the potential to impact them or who can be impacted by them?	Yes ☐ No ☐
9	Do we have a process in place for responding to communications from the public or from internal employees regarding the EMS?	Yes ☐ No ☐
10	Are these communications well documented? Example, inquires from the public, internal inquires, complaints from neighboring properties etc.	Yes ☐ No ☐
11	Is there a plan in place to communicate objectives, environmental achievements, etc. to the public or interested stakeholders?	Yes ☐ No ☐

Communications Action Plan Checklist

Tips

Developing a Communications Action Plan in accordance with EMS Guidance Section 3.4.4:

Communication and Awareness

- Awareness and communication efforts should include:
  - Understanding the Environmental Policy
  - Importance of conforming to the requirements of the EMS
  - Employee and contractor contribution to the effectiveness of the EMS
  - Benefits of improved environmental performance
  - Responsibilities and accountabilities within the EMS
  - Significant environmental aspects and associated impacts of work activities
  - Identified risks and opportunities to be addressed in relation to work activities.
  - The consequences of the departure from EMS requirements, including the organization's compliance obligations.
- Establish processes for internal and external communication, including:
  - What information needs to be communicated?
  - When or under what circumstances it needs to be communicated
  - To whom it needs to be communicated
  - How it will be communicated
- Respond to relevant questions, concerns, or other inputs about the EMS and maintain records of the communications received.

Considerations for Communication and Awareness

- Examples of methods to increase awareness of the EMS can include:
  - Including details of the Environmental Policy, legal and other requirements, environmental aspects and impacts and general EMS information in orientation materials for new employees, contractors and visitors.
  - Promotional signs and banners throughout operations and common gathering areas
  - Information campaigns that provide information regarding the EMS with regular frequency
  - Brown bag sessions
  - Include EMS information as part of discussions at health and safety committee meetings.
  - Intranet announcements
  - Formal EMS training

Communications Action Plan Checklist

Steps to developing a Communications Action Plan:

1. **Define what will be communicated:** Take into consideration things like improving awareness internally and externally, promoting sustainable efforts or achievements that can enhance the railway's reputation, communications to achieve compliance, etc.
2. **Identify who the information will be communicated to-** categorize the groups of individuals internally and externally who require information pertaining to the EMS to be communicated to them.
3. **Develop a Content Calendar-** to ensure all information relevant to the EMS is communicated to the correct individuals and in a timely manner, use the RAC content calendar to decide how information will be shared. This content calendar can also outline selected communication channels and assign responsibility to those who are required to communicate the information.
4. **Regularly Review and Adjust-** We want to ensure all information that is being communicated is accurate and ensures compliance. Review the internal and external communications and evaluate if all information is accurate, is compliant with current legislation, meets industry standards, and assess the effectiveness of the communication efforts. This step may include training for those employees responsible for communicating information internally and externally.

Railway Association of Canada / Association des chemins de fer du Canada	Effective Date:	Approved by (First, Last, Title):
Issuing Department: Environment and Programs	**Revision Date:**	**Date Approved:**
Title: Content Calendar- Communications Action Plan	**Version Number:** 1	**Signature:**

Content Calendar- Communications Action Plan

Title of Communication	Recipient of Communication	Responsible Person/ Department	Frequency
Environmental Policy	• New hires • Existing personnel (when necessary) • Contractors • Visitors • External stakeholders	• HR • Manager/ Supervisors • Procurement • Visitor Escorts • Communications Department	• New hires- (new hire package) • Existing employees-when changes occur to the policy (email communication/ distribution) • Existing employees- if deemed necessary from a competency evaluation (manager/ supervisor review) • Contractors- (contractor package) • Visitors- (part of initial sign in and policy acknowledgement) • External Stakeholders- (Website communication or public visibility of RAC policy) update when changes are made
Compliance Obligations	• New hires • Existing personnel • Contractors • Visitors	• Managers/Supervisors • Visitor/ contractor Escorts	• New hires- (new hire package) • Existing personnel – annual review (part of environmental regulations and compliance training) and if deemed necessary from a competency evaluation (manager/ supervisor review) • Contractors/ Visitors- (first visits, annual review with escort- obligations applicable to them)
Environmental Objectives	• New hires • Existing personnel • Contractors • Visitors • External Stakeholders	• Managers/Supervisors • Visitor/ contractor Escorts • Communications Department	• New hires- (new hire package) • Existing personnel – annual review (part of General Environmental Management System Training) and if deemed necessary from a competency evaluation (manager/ supervisor review) • Contractors/ Visitors- (first visits, annual review with escort- objectives applicable to them) • External Stakeholders- (Website communication or public visibility of objectives) update when changes are made

Railway Association of Canada / Association des chemins de fer du Canada	Effective Date:	Approved by (First, Last, Title):
Issuing Department: Environment and Programs	**Revision Date:**	**Date Approved:**
Title: Content Calendar- Communications Action Plan	**Version Number:** 1	**Signature:**

Environmental Aspects and Impacts	• New hires • Existing personnel • Contractors • Visitors • External Stakeholders	• Managers/Supervisors • Visitor/ Contractor Escorts • Communications Department	• New hires- (new hire package) • Existing personnel – annual review (part of General Environmental Management System Training) and if deemed necessary from a competency evaluation (manager/ supervisor review) • Contractors/ Visitors- (first visits, annual review with escort- aspects and impacts applicable to them) • External Stakeholders- (Website communication or public visibility of objectives) update when changes are made
EMS Working Team Meetings	• Existing employees (summary information as applicable) • Top management	• EMS Working team members	• Monthly or as required to communicate changes
Intranet Publications	• All internal employees	• EMS working team members • Communications department	• Ongoing- used to disclose information regarding the EMS to any existing internal employee
Updates to any EMS Policies or Procedures	• All internal employees • Contractors (as applicable) • Visitors (as applicable)	• EMS working team members • Communications department	• Ongoing- used to disclose information regarding the EMS to any exciting internal employee
Public Promotions (sustainability reports, environmental achievements, participation in public events)			
Health and Safety Committee Meetings			

Railway Association of Canada / Association des chemins de fer du Canada	**Effective Date:**	**Approved by (First, Last, Title):**
Issuing Department: Environment and Programs	**Revision Date:**	**Date Approved:**
Title: Content Calendar- Communications Action Plan	**Version Number:** 1	**Signature:**

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Documented Information Checklist

#	Required	Complete?
1	Do we ensure that all policies, procedures, and action plans required by our EMS are documented?	Yes ☐ No ☐
2	Is all relevant documentation reviewed, updated, and approved on a scheduled basis to ensure continued accuracy and suitability?	Yes ☐ No ☐
3	How do we ensure no documentation is in circulation that may contain outdated information?	Yes ☐ No ☐
4	Does all of our documentation contain an identification and description? (ex. Title, date, owner)	Yes ☐ No ☐
5	Is the documentation kept in appropriate formats to prevent destruction or loss? While paper and printed copies are appropriate for distribution, ensure that electronic or backup files of these documents are kept.	Yes ☐ No ☐
6	Are all documents easily accessible to those who may require them or those who should be aware of their information?	Yes ☐ No ☐
7	Do we document control of changes? (Version control)	Yes ☐ No ☐
8	Are there set retention times on any of our documentation? Are records properly disposed of once they reach that retention time?	Yes ☐ No ☐

Documented Information Checklist

Tips

Considerations for Documented information in accordance with the EMS Guidance document 3.4.5:

Documented information

- **In general, EMS documentation should be:**
  - Easily located
  - Periodically reviewed, revised as necessary, and approved for use
  - Available (current versions) at all locations where they are applicable
  - Removed when they are obsolete and assured from unintentional use, and
  - Reviewed for legal retention requirements.
- When determining what EMS information should be documented, consider the size and culture of the organization. Smaller organizations may rely on less formal methods such as on-the-job training or training classes, whereas larger organization may find it beneficial to codify practices in documentation such as operating procedures or work instructions.

Considerations for Documented Information

- **Documentation examples include:**
  - EMS Manual
  - Environmental Policy
  - Permit authorizations
  - Inspection records
  - Sampling results
  - Internal and external audit reports
  - Training agendas and records of completion
  - Records from an incident
- **The following techniques can be used to manage documents in a controlled manner:**
  - Include a unique identifier (e.g. ID number and date) and title
  - Consistent format (e.g. document template) and media (e.g. electronic, paper).
  - Establish a review and approval mechanism, including who has approval authority
  - Distribute to those who need it in a format they can readily access
  - Identify a revision schedule and keep a record of any revisions

Documented Information Checklist

Upon continuous development and implementation of the EMS, at a minimum the following documentation should be created, implemented, maintained, and updated when considering certification:

- 4.3-Scope of the EMS
- 5.2-Environmental Policy
- 6.1.1-Risks and Opportunities
- 6.1.2-Environmental Aspects
- 6.1.2-Environmental Impacts
- 6.1.2-Criteria for Determining Significant Environmental Aspects
- 6.1.2-Significant Environmental Aspects
- 6.1.3-Compliance Obligations
- 6.2.1-Environmental Objectives
- 7.2-Evidence of Competency
- 7.4.1-Communication Evidence
- 7.5.1Documented information determined by your company as necessary for the effectiveness of the EMS
- 8.1-Operational Planning and Control- documents to provide evidence that the processes within the organization have been carried out as planned
- 8.2-Emergency Response- documents to provide evidence that the processes within the organization have been carried out as planned
- 9.1.1-Monitoring and Measurement-Evidence of the monitoring, measurement, analysis and the evaluation results
- 9.1.2-Evaluation of Compliance Results
- 9.2.2-Internal Audit Programme and Results
- 9.3-Evidence of a conducted management review
- 10.2-non-conformities, planned actions and results of corrective actions
- Any additional documentation deemed necessary by law or internally by the organization

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Compliance Obligations Checklist

#	Required	Complete?
1	Have we determined all compliance obligations related to our environmental aspects?	Yes ☐ No ☐
2	Have we determined how all our compliance obligations apply throughout various departments?	Yes ☐ No ☐
3	Have we made these compliance obligations easily accessible to those that are affected by them?	Yes ☐ No ☐
4	Are those that can have an affect on our compliance obligations and those that are affected by it trained and aware of their responsibilities?	Yes ☐ No ☐
5	If asked, are staff able to explain the compliance obligations relevant to their work?	Yes ☐ No ☐
6	Do we take these compliance obligations into account when establishing, implementing, and maintaining the EMS?	Yes ☐ No ☐
7	Are the compliance obligations documented?	Yes ☐ No ☐
8	Are the compliance obligations reviewed on a scheduled frequency?	Yes ☐ No ☐
9	Do we have a way to monitor new and redacted regulations as well as changes to current regulations?	Yes ☐ No ☐
10	If the compliance obligations are posted in areas throughout various buildings, are these documents controlled?	Yes ☐ No ☐
11	Are contractors, or other visitors made aware of their compliance obligations prior to coming on site?	Yes ☐ No ☐

Compliance Obligations Checklist

Tips

Steps to Identify legal requirements in accordance with EMS Guidance Section 3.3.3:

1. **Collect information-** using the data collected from your aspects and impacts list, consider the legal and other requirements each of those aspects could be subject to.
    - Identify requirements for all jurisdictions in which the railway operates, including local, provincial/territorial, indigenous, federal and international.
    - Include contractual obligations with vendors, customers, and other transportation companies.
    - Review regulatory inspections that have occurred that may have highlighted unfamiliar requirements.
    - Identify any voluntary commitments that have been made by the organization with respect to environmental matters (e.g. MOU on locomotive emissions, Responsible Care).
    - Determine legal obligations for all relevant operations at the organization such as switching, storage, transloading, repair, etc.

2. **Consider what is applicable-** review what portions of the regulations you are subject to. Regulations are typically vast and cover a wide variety of operations so you may not be subject to everything under the regulation.
    - Use in-house legal resources to determine legal obligations.
    - Compile a list of known environmental approvals in place at the organization.
    - Consult with legal counsel to evaluate any missing obligations.

3. **Understand your requirements-**once you are aware of what regulations and other obligations apply to you, take the time to understand them and your responsibilities. Ensure the responsibilities are communicated to those affected by it.
    - Use e-mail notifications, periodic meetings, guidance documents, memos, or other means of communication to inform appropriate staff of laws, regulations, and policy changes that affect operations.

4. **Maintain your registry-** document all relevant compliance obligations (legal and other) and ensure these are reviewed on a set frequency ensuring all changes are captured, including changes to regulations as well as applicability to your organization.
    - Participation in the Railway Association of Canada Environmental Affairs Committee is a mechanism to stay up to date on changing legal and other requirements.
    - Subscription to environmental legislation monitoring services.
    - Many organizations create a legal register to document, monitor and evaluate what systems are in place to meet obligations.

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Environmental Policy Checklist

#	Required	Complete?
1	Does the policy reflect top managements goals and strategic direction of the organization?	Yes ☐ No ☐
2	Does the policy reflect the scope of the Environmental Management System (EMS)?	Yes ☐ No ☐
3	Was top management involved in the review and signing of the environmental policy?	Yes ☐ No ☐
4	Does top management participate in scheduled reviews of the environmental policy to ensure it still accurately reflects the strategic direction of the organization?	Yes ☐ No ☐
5	Does the policy include a commitment to the protection of the environment including pollution prevention?	Yes ☐ No ☐
6	Does the policy include a commitment to fulfill its compliance obligations (legal and other)?	Yes ☐ No ☐
7	Does the policy include a commitment to continual improvement of the EMS?	Yes ☐ No ☐
8	Did you consider other commitments that could be meaningful and achievable for the organization?	Yes ☐ No ☐
9	Is the policy communicated within the organization?	Yes ☐ No ☐
10	If asked, are staff able to explain the environmental policy?	Yes ☐ No ☐
11	Is the policy maintained as documented information?	Yes ☐ No ☐
12	Is there a date of implementation as well as a date of last review on the policy? If not on the policy, is it documented somewhere that the policy is reviewed on a regular basis?	Yes ☐ No ☐
13	Is the policy signed/ endorsed by top management? (President, CEO, COO etc)	Yes ☐ No ☐
14	If the policy is posted in locations throughout various buildings, are these documents controlled?	Yes ☐ No ☐
15	Is the policy available to interested parties? (Is it included in contractual agreements? Is it posted on the company's public website? It is part of a health, safety and environment package provided to contractors?)	Yes ☐ No ☐

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Environmental Policy

STEP 1: Include a brief description of the company and the scope of the Environmental Management System). This can include:

- A statement of who you are, and what you do.
- Who the policy applies to

STEP 2: Next state your main commitment(s) or objective(s) and acknowledge your organizations impact on the environment.

Example: At RAC, we are committed to the protection of the environment and biodiversity. We understand that human activities can have negative impacts on the environment and are committed to taking measures to prevent degradation of these natural systems. We work to minimize our environmental footprint by implementing sustainable practices and complying with relevant environmental regulations. We are committed to continual improvement of our Environmental Management System and improvement of our environmental performance.

To minimize environmental impacts concerning our activities, products and services, we will:

- Comply with applicable legal and other requirements to which the company subscribes related to its environmental aspects and impacts.
- Prevent pollution, conserve resources, and reduce waste.
- Provide training for employees to limit the impact of our operations on the environment.
- Encourage positive environmental behaviour throughout our supply chain.

STEP 3: This policy was last updated on DD/MM/YYYY and will be reviewed MM/YYYY. This policy is the responsibility of top management at RAC.

Endorsed by
(Signature)

_____

(Name and Title)

DATE:

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Identification of Aspects and Impacts

#	Required	Complete?
1	Do we have a process for identifying environmental aspects?	Yes ☐ No ☐
2	When identifying environmental aspects do we consider all our activities, products, and services that we can control as well as those we can influence?	Yes ☐ No ☐
3	Have we thoroughly documented all environmental aspects of our activities, products, and services within the defined scope of our environmental management system?	Yes ☐ No ☐
4	In what ways do we account for changes, including planned or new developments, as well as new or modified activities, products, and services, when determining environmental aspects?	Yes ☐ No ☐
5	How do we address abnormal conditions and reasonably foreseeable emergency situations when identifying environmental aspects?	Yes ☐ No ☐
6	Have we established criteria which allows us to distinguish between environmental aspects that have or could have a significant environmental impact, also known as significant environmental aspects?	Yes ☐ No ☐
7	Do we ensure effective communication of our aspects and especially our significant environmental aspects across different functions within our organizations? All individuals involved with the operation of the organization should be aware of the organization's significant environmental aspects, especially those that apply directly to their work environments. This is including but not limited to, employees, contractors, visitors etc.	Yes ☐ No ☐
8	Do we maintain up to date documented information about our environmental impacts that are a direct result of our aspects?	Yes ☐ No ☐
9	Do we maintain a list of significant environmental aspects and the criteria used to determine them?	Yes ☐ No ☐
10	If the aspects and impacts are posted in areas throughout various buildings, are these documents controlled?	Yes ☐ No ☐
11	Are the aspects and impacts reviewed on a scheduled frequency?	Yes ☐ No ☐

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Identification of Aspects and Impacts

Tips

Steps to Identify environmental aspects and impacts:

1. **Create a team-** with different departments and functions within the organization to ensure various perspectives during the identification process.
2. **Define your scope-** clearly define the scope and set boundaries for what will and will not be included in the EMS. There is more flexibility when adopting an EMS vs certification.
3. **Collect information**-Collect data about the organization. You can review existing documentation, conduct interviews with various departments, and gather input from internal or external stakeholders. Consider all products and services offered.
4. **Consider a life cycle perspective-** from raw materials to end of life impacts.
5. **Understand your impacts-** consider things like air emissions, water discharges, waste, energy use etc. (More suggestions outlined below) anything you can think of that can have an impact on the environment as a result of your products and processes.
6. **Assess the significance of these aspects-** determine which aspects are significant to your organization based on frequency, environmental impact, regulatory enforcement, etc.
7. **Review and verify-**once all the aspects have been identified, meet with all groups who are impacted or can have an impact on these environmental aspects to review for accuracy and understanding of their roles and responsibilities.
8. **Work towards continuous improvement-** monitor and assess your impacts on a set frequency to assess the accuracy of the scoring, review or update control methods or assign new goals and objectives.

EMS Guidance Section 3.3.2:
To assist in aspect and impact identification, consider if any of the organization's activities influence the following:

- Air emissions and impacts to municipalities/communities (e.g. locomotive emissions, emissions from stationary combustion equipment or mobile sources)
- Greenhouse gas emissions (e.g. locomotive and vehicle emissions, heating and cooling)
- Generation of waste and waste disposal (e.g. absorbent, batteries, fuel and oil filters, grease, oily water, railway ties, solvents, used oil)
- Stormwater and wastewater effluent (e.g. discharges from oil-water separators, wastewater treatment plants, surface runoff)
- Noise emissions and vibrations
- Use of chemicals (e.g. adhesives, aerosol cleaners, corrosion inhibitors, soaps, solvents, wastewater treatment chemicals)
- Aquatic resources (e.g. culverts, bridge maintenance, in-stream works)
- Vegetation management (e.g. brush cutting, herbicides)
- Consumption of water (e.g. locomotive, railcar and equipment washing)
- Energy usage and fuel systems
- Raw material and natural resource use
- Property management (e.g. property transactions and tenant oversight)

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Objectives and Planned Actions Checklist

#	Required	Complete?
1	Are the objectives we have set consistent with our environmental policy?	Yes ☐ No ☐
2	Are the objectives measurable where possible?	Yes ☐ No ☐
3	Are the objectives communicated to those who influence achieving them?	Yes ☐ No ☐
4	Do these objectives have planned actions associated to them for how they will be achieved, monitored, and evaluated?	Yes ☐ No ☐
5	Have we determined who is responsible for the development and delivery of the objectives?	Yes ☐ No ☐
6	Have we set target dates for achieving these objectives?	Yes ☐ No ☐
7	Have we considered any risks or opportunities that stem from our environmental aspects as potential objectives?	Yes ☐ No ☐
8	Have we determined all the resources necessary to achieve these objectives? (Monetary, time, personnel etc.)	Yes ☐ No ☐

Objectives and Planned Actions Checklist

Tips

Developing Environmental Objectives in accordance with EMS Guidance Section 3.3.5:

The following should be evaluated when developing environmental objectives:

- Environmental Policy (ensure goals are aligned with policy)
- Identification of Aspects and Significant Environmental Aspects
- Environmental Performance
- Available Resources
- Compliance Obligations
- Risks and Opportunities
- Organizational Requirements
- Identified Non-conformities.

Specific objectives and goals can be made for different operational groups within the organization, a process, or a project. Encouraging and allowing this enables an organization to control higher risk activities and enable more effective benchmarking. This also enables an organization to have different maturity levels of the management system within different operational groups.

Steps to developing an Environmental Objectives and Planned Actions List:

1. **Collect information-** using the data collected from your aspects and impacts list, compliance obligations list, and the strategic direction of the organization (typically outlined in an environmental policy) determine any risks or opportunities that may stem from these lists to begin creating a separate list of potential goals towards improvement.
2. **Gather Input-** gather input from stakeholders including internal staff, investors, external partners, top management etc. to gather insights on priorities or collect additional ideas for improvement.
3. **Define your objectives-** based on the information, determine which of these suggested goals may be achievable within your set timeframe. Maybe you plan to review all objectives at the end of the year, you don't necessarily need to try and achieve every idea that is brought forward, just try to consider the ones that are achievable based on the resources you have available at that time. If at the end of the year you wish to set new objectives, you can revisit this initial list you created or revert to step 1.
4. **Make your objectives SMART-** make sure that each objective is specific, measurable, achievable, relevant, and time-bound.
5. **Plan your actions-** outline your plans for achieving these goals so that they can be monitored and measured for effective implementation.
6. **Assign resources-** assign the necessary resources to each environmental aspect, this can be budget, responsible individuals etc.
7. **Monitor and review-** regularly monitor the process to ensure your goals are being implemented successfully, or if a change in action plan needs to be made.
8. **Continual improvement-** the EMS is all about continuous improvement, use the data collected from your performance measurement and adjust any actions based on lessons learned or changes to circumstances.

As expected, Environment and Climate Change Canada (ECCC) received a substantial number of comments on the *Storage Tank Systems for Petroleum Products and Allied Petroleum Product Regulations* (the Regulations) from various stakeholders. While most comments aligned with those filed by the Railway Association of Canada, there were some that were noteworthy due to the conflict presented between opposing views or due to their potential impact on the railway industry. These are presented below for further discussion.

Railway Industry Specific Comments

1. Services to Federal Works and Undertakings (Railways)

ECCC received feedback about improving some of the application provisions of the Regulations. Included in this feedback was the need to clarify the interpretation of Paragraph 2(1)(b) which is the application clause for federal works and undertakings such as railways.

> 2(1) These Regulations apply to any storage tank system located in Canada in which petroleum products or allied petroleum products are stored and
>
> (b) that is operated to provide a service to, or belongs to, a federal work or undertaking that is
>
> i) a port authority set out in the schedule to the *Canada Marine Act*,
>
> ii) an airport within the meaning of subsection 3(1) of the *Aeronautics Act*, or
>
> iii) a railway.

Comments raised the need to ensure this is made clear as it is subject to a lot of interpretation. It will be important for the rail industry to remain engaged on this item to ensure any proposed revision is clear and acceptable within the industry.

There has been confusion over interpreting "provide a service to" when it comes to this section. Further clarity is required to define what a relevant service would be. Storage tank systems operated by transloading, facility maintenance, intermodal and equipment maintenance companies for example, can be captured by this definition if they are providing a service to a federal railway company. However, since the railway company does not own or operate these storage tank systems it must be clear that compliance is the responsibility of these companies, not the railways themselves. It can be challenging for these businesses to understand potential overlap between the federal Regulations and any provincial or local requirements. This is particularly relevant in provinces that require provincial registration for fuel deliveries. Many railway facilities also lease property to businesses with storage tank systems. However, their business may not provide a direct service to the railway company. Based on the current definition these would not be expected to be covered by the Regulations. As railway property is private land as opposed to federal land these businesses would then need to comply with provincial or local laws related to their storage tank systems instead.

2. Definition of Storage Tank System – Including Dispensers up to the Nozzle and Relocations

The report recognized the railway industry's need for an exemption in the event they included dispensers up to the nozzle as part of a storage tank system due to the unique and specific industry standards. This

potential change should still be monitored in future releases to determine how they apply so that it is appropriate to railway owned and operated storage tank systems. Comments to ECCC also include the need to clarify requirements for relocating storage tank systems. As this can be a common practice within the railway industry, particularly for smaller systems it will be important to continue to monitor this area.

3. Qualifications for Installers – Bulk-Type Railroad Storage Tank Systems

The report also recognized the industry's comment that current storage tank installer certification programs do not include requirements for bulk-type railroad storage tank systems and the need for more flexibility on who can perform installations. This is a positive step but as with all regulatory change, it will be important to continue reviewing proposed changes.

Comments with Conflicting Views

4. Indoor Storage Tank Systems

Some comments indicated that adding indoor storage tank systems to the application of the Regulations may provide better environmental protection. Others however, indicated that these systems pose a low risk for releases, and they are difficult to upgrade for design requirements or to meet inspection and/or testing requirements. It was recommended to complete an assessment of the risk of fuel releases from these systems to help determine whether adding them to the Regulations would actually mitigate any risks.

Indoor storage tank systems, particularly those in locomotive and car maintenance facilities are common in the railway industry. Many of these systems are incorporated into the building design. As a result, it will be important for the industry to continue engaging on the regulation of these tanks.

5. Providing Emergency Plans to Local Fire Departments

Half of the comments received by ECCC indicated it is acceptable to ensure a copy of the emergency plan is supplied to the local fire department. The other half however, highlighted obstacles that would increase the administrative burden. We heard how impractical it would be given the significant variations in local fire departments.

Given the number of jurisdictions that the railway companies operate in, and the number of storage tank systems owned this would be a sizable administrative challenge for both the railway companies and the fire departments themselves with questionable benefit. Emergency plans can change quite often as well due to changes in storage tank systems at facilities. The railway companies already have existing relationships with regional and local fire departments due to the transportation of dangerous goods.

6. Maintenance and Service Records

Half of the comments received anticipate a low impact if new requirements were imposed on operators to keep records of the work maintenance and service work performed on storage tank systems. The other half expected a significant amount of effort.

We heard that the impacts of imposing record keeping of maintenance and service work would vary depending on the following factors:

- nature of the reporting system
- the amount of required information
- the frequency of reporting

The railway industry should continue to engage on the need for accepting electronic records as well as to ensure record-keeping requirements are appropriate to the nature of the storage tank system.

Other Relevant Comments

7. Environmental Risk Requirements

Several comments received by ECCC suggested adding requirements to help protect health and the environment, especially in sensitive areas. Examples included:

- including a minimum distance for systems near bodies of water and sensitive areas regardless of their capacity;
- installing overfill protection and an emergency shut-off-switch at multiple locations for systems near bodies of water;
- add additional engineered barriers or safeguards to further contain any spills;
- prescribe further requirements to mitigate release risks when the project is not subject to the Impact Assessment Act;
- specify the location of the PTA at a reasonable distance from sensitive areas;
- specify the use a physical barrier or protective equipment; and
- prescribe training programs and procedural requirements for fueling boats and other equipment in or near sensitive areas.

While additional requirements in relation to sensitive environments including aquatic environments make sense in general, details will be important. For example, many rail facilities are near surface water where minimum distances may be challenging. Consideration should be given to other protective infrastructure such as drainage systems with stormwater treatment in these scenarios. Flexible options as opposed to strict requirements should be an important consideration to deal with the diversity of situations that may exist.

8. System Maintenance Requirements

Comments were received by ECCC on adding regular activities to ensure that a system is operated and maintained properly. These activities include:

- a visual inspection program;
- a routine fuel polishing; and
- an annual performance inspection

While operations and maintenance programs are an important part of any asset management approach, it will be important to ensure that the changes do not prescribe a one-sized fits all approach. For example, routine fuel polishing or annual performance inspections may make sense in some jurisdictions or for certain storage tank systems, but not all.

Next Steps

"Overall, there was general support for improving the Regulations. Several key issues and challenges were raised which will be taken into consideration during ECCC's continued analysis."

According to the report the recommendation from the regulatory stock review plan (2019-2029) is to amend the Regulations and that further engagement will be aligned with future regulatory initiatives.

Further target consultations are mentioned in the regulatory stock review plan to engage more fully with industry, stakeholders, governmental organizations, Indigenous people and organizations, and other interested parties from the general public.

The ECCC Forward Regulatory Plan 2023-2025 provides information on regulatory initiatives that ECCC aims to propose or finalize in the next two years through:

- Pre-publication in *Canada Gazette*, Part I
- Final publication in *Canada Gazette,* Part II

It may also include regulatory initiatives that are planned to come forward over a longer time frame.

Based on a review of the regulatory plan, there is no mention of the storage tank regulations. As a result, while further targeted consultations may occur in that timeframe, any anticipated regulatory developments would be expected post-2025.

Railway Association of Canada | Association des chemins de fer du Canada

Training and Awareness Checklist

#	Required	Complete?
1	Have we determined the necessary competence of individuals doing work under our control which influences our overall EMS? Take into consideration those who can influence our compliance obligations, environmental aspects, and objectives.	Yes ☐ No ☐
2	Do we have a way to ensure that these individuals are competent based on appropriate education, training, or experience? Ex. are we conducting in-house training? Are we asking for verification of licenses from contractors, etc.	Yes ☐ No ☐
3	Have we determined the training needs associated with our environmental aspects and the relevant roles within our organization?	Yes ☐ No ☐
4	Have we taken action to evaluate the competence and effectiveness of the training that individuals are provided? In other words, is there a measurable way for us to determine if someone is competent based on their training? This may include something like an evaluation, a practical test or something with a scoring evaluation.	Yes ☐ No ☐
5	Is training re-assigned where deemed appropriate or necessary?	Yes ☐ No ☐
6	How do we ensure that individuals new to the organization, contractors or visitors are aware of their impact on the EMS and their associated responsibilities?	Yes ☐ No ☐
7	Do we maintain documented information as appropriate for evidence of competence? This could include things like training records, certifications, evaluations etc.	Yes ☐ No ☐
8	Have we considered re-training for those employees who may have negatively impacted the EMS?	Yes ☐ No ☐

Training and Awareness Checklist

Tips

Considerations for Training and Awareness in accordance with the EMS Guidance document (Competence) 3.4.3:
Competency is needed to complete responsibilities and fulfil roles which will enable achievement of environmental objectives and plans. Competency of individuals should be evaluated regularly, and training provided for those who need to maintain or upgrade their competency. Training plans can be established to provide a level of assurance for consistent knowledge within the organization for various roles and responsibilities. Training plans and minimum qualification expectations should include all internal and external parties who may have responsibilities under the EMS, including part-time employees and contractors.

Competency requirements:

- Documentation of competency requirements provides a level of assurance that all personnel are aware of what is required for different roles and responsibilities.
- Competency for roles can be met by providing training for environmental management tasks, employing individuals with education that is applicable to the tasks and through work experience.
- Records of training need to be retained to provide evidence of competency.
- Continual improvement within the system may also identify additional training needs based on non-conformances or changes in the intended objectives of the EMS.

Considerations for Competency:

- Consider creating job profiles with competency requirements listed. This enables workers to evaluate what training is required and makes hiring for staff easier.
- Succession planning for roles will integrate roles, responsibilities, competency, and role objectives which documents what competency looks like for the role, including other job requirements.
- A centralized function, such as Human Resources, can be involved in tracking and evaluating competency and will likely have experience doing so for other regulatory requirements such as training for Transportation of Dangerous Goods and WHMIS.

Railway Association of Canada / Association des chemins de fer du Canada	Effective Date:	Approved by (First, Last, Title):
Issuing Department: Environment and Programs	**Revision Date:**	**Date Approved:**
Title: Training Attendance and Evaluation	**Version Number:** 1	**Signature:**

Training Attendance & Evaluation Report

Title of Training:		**Date of Training (dd/mm/yy):**	
Training Conducted by:		**Time of Training:**	

Course Content

Brief description of the course content/ intent of training:

Name of Participant/ Job Title	**Signature of Participant**	**Assessment of Competency** Check all that apply			**Further Training Required?**	**Signature of Trainer/ Supervisor**
		On Job Performance	Personal Discussion	Theory Test		

REMARKS

Signature of Trainer/ Supervisor & Date:

In May 2023, Ken Roberge reached out to Transport Canada regarding the need to annually test locomotive fueling dispensing hoses due to a TC inspection at a federal rail facility in Canada where testing results were requested by the inspector. This would be the drop hoses that come off the stanchion and then are attached to the fueling nozzle at a fixed fuel facility (see photo below).

The requirement comes from Part IV of the *Flammable Liquids Bulk Storage Regulations* (C.R.C. c. 1148) which are under the Railway Safety Act. As you know these are one of the regulations that TC has been reviewing that we have been following as it has quite a bit of impact on bulk storage tank systems for the railways. Part IV deals with piping and transfer equipment. Subsection 40(3) reads:

40(3) The hose, as assembled for use, shall be tested for leaks at twice the maximum working pressure before being put in service and should be tested annually thereafter at 1 ½ times the working pressure and visually inspected once a month.

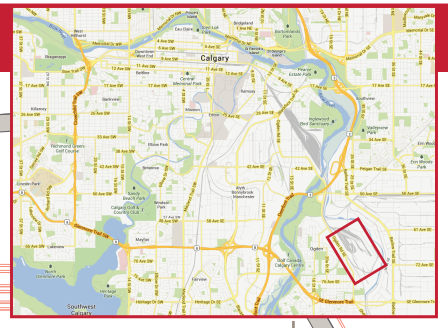
As this is under the piping and transfer equipment part of the Regulation the industry has always interpreted this to only apply to product transfer hoses that are used to offload diesel fuel (or other flammable liquids) from trucks or tank cars to bulk storage tanks (see example photograph below). That is fairly standard in industry and in like industries (i.e., fuel trucks that fill tanks on railway property test their transfer hoses annually). To my knowledge the industry is not testing locomotive fuel dispensing hoses under this requirement.

Finally on August 3, I received a response from Michel Beland (cc to Ian Crevier and James Cresswell) as follows:

“Our view is that a dispensing hose has essentially the same function as a transfer or offloading hose and can be subject to daily wear and handling damage. We feel that these hoses should also be visually inspected for damage or defects before use and periodic requalification.”

I believe this is something for the Environment Committee to review to provide a more formal response to Transport Canada on as I believe it would be quite a change to have to annually requalify these smaller hoses. While I do know some will simply replace them, I don’t know that industry could comfortably say that they are all replaced annually thereby precluding the need to retest them. I am happy to discuss this further with members of the committee as necessary.

E. H. Harrison Campus



EAST ENTRANCE

OGDEN DALE RD SE

61st AVENUE SE

HANSEN

ARROW

BLDG 6

P6-N

P6-S

BLDG 8

OGDEN DALE RD SE

AUTO COMPOUND

BLDG 7

1881 LODGE

BLDG 5

P5

BLDG 3

P3

P7

SOUTH ENTRANCE

OGDEN DALE PL SE

EVRAZ

BLDG 2

P2

BLDG 9

BLDG 11

BUILDING 1

P1-N

P1-S

BLDG 10

P10

P Main N

P Main S

OGDEN DALE RD SE

MAIN ENTRANCE
7550 Ogden Dale Road SE
Calgary AB T2C 4X9

OGDEN RD SE

68 AVE SE

69 AVE SE

OGDEN RD SE

- Ogden Station
- Health & Wellness Facility
- Reception
- CP Police
- Help Tower
- Muster Point
- Ogden Memorial Square
- Pedestrian Walkway
- Waterfall

Building 1 Head Office
Building 3 Royal Canadian Pacific
Building 5 CP Police Service HQ
Building 6 Training Centre
Building 8 Mail Centre

0 100 200 300 400 500 metres
(6 minute walk)

AUG 20, 2018