

**2011-2015**

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

**1.0  
Objectives**

This Memorandum of Understanding (“Memorandum”) establishes a framework through which the Railway Association of Canada (RAC), its member companies listed in Appendix A, and Transport Canada will address emissions of criteria air contaminants (CAC) and greenhouse gases (GHG) from railway locomotives operated by Canadian railway companies in Canada.

**This Memorandum:**

- includes measures, targets and actions, which will further reduce CAC emissions and GHG emission intensity from rail operations and help protect the health and environment for all Canadians as well as address climate change;
- recognizes the successes of the original 1995-2005 Memorandum between the RAC and Environment Canada and the subsequent 2006-2010 Memorandum between the RAC, Transport Canada and Environment Canada addressing emissions produced by locomotives during rail operations in Canada;
- reflects targets and action plans from the rail industry’s emission intensity reduction and fleet renewal strategies for the period 2011-2015;
- supports the Government of Canada’s commitment to reduce Canada’s total GHG emissions by 17 percent below 2005 levels by 2020<sup>1</sup>. In addition, it will support the Government of Canada’s environmental agenda, including policy frameworks for Clean Air and Clean Transportation and the Federal Sustainable Development Strategy;
- supports RAC policies and programs to manage fuel use and address locomotive emissions;
- supports the locomotive emissions initiative under the Joint Action Plan for the Canada-United States Regulatory Cooperation Council; and
- includes a scope for joint targeted research and development (R&D) activities with the Railway Research Advisory Board in support of a multi-year research agenda.

**2.0  
Duration of the Memorandum**

This Memorandum will come into force upon signing by the duly authorised representatives of the RAC and Transport Canada, and will endure until December 31, 2016<sup>2</sup>, unless it is terminated at an earlier date. The party that is terminating the Memorandum will give six months prior formal written notice to the other party.

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<sup>1</sup> This commitment was reaffirmed under the Cancun Agreements on December 11, 2010 in Cancun, Mexico at the 16<sup>th</sup> conference of the parties to the United Nations Climate Change Conference, which was initially agreed to under the Copenhagen Accord.

<sup>2</sup> The MOU covers performance from 2011 – 2015. Data collection processes typically begin 6 months after the calendar year ends and the final report is to be prepared by December 31 the following year. For example the data collection process for the 2015 report would begin in July 2016 and the final report would be prepared by December 31, 2016.

### **3.0 Criteria Air Contaminant Emissions**

Despite major growth in rail traffic, CAC emissions intensity, including, particulate matter, carbon monoxide, hydrocarbons, sulphur oxides and nitrogen oxides have been steadily decreasing. Further reductions in CAC emissions are expected to be achieved under this Memorandum, which builds upon the previous Memoranda referenced in Section 1.0.

In parallel to the signing of this Memorandum, Transport Canada is developing regulations to control CAC emissions under the *Railway Safety Act*. The proposed regulations would be aligned with United States regulations (Title 40 of the Code of Federal Regulations of the United States, Part 1033<sup>3</sup>) and would apply to federal railway companies operating in Canada.

#### **3.1 CAC Emission Reduction Commitments by the RAC**

Until such time that new Canadian regulations to control CAC emissions are introduced, the RAC will encourage all of its members to continue to conform to United States emission standards (Title 40 of the Code of Federal Regulations of the United States, Part 1033).

For the duration of the Memorandum, the RAC will encourage all of its members to adopt operating practices aimed at reducing CAC emissions (i.e. nitrogen oxides, particulate matter, carbon monoxide, hydrocarbons and sulphur oxides).

As the new Canadian regulations will not apply to all RAC members (e.g. commuter railways), once these regulations take effect, the RAC will encourage all of its members to continue to conform to appropriate CAC emission standards for the duration of the Memorandum.

Transport Canada will undertake compliance promotion activities with affected stakeholders, including education and outreach related to the regulatory requirements.

### **4.0 Greenhouse Gas Emissions**

Climate change is a major challenge for Canada's transportation sectors. The Government of Canada has committed to reducing Canada's total GHG emissions by 17 percent below 2005 levels by 2020. In 2010, the rail sector accounted for approximately 4 percent of total Canadian transportation GHG emissions<sup>4</sup> and transported about 71 percent of total Canadian surface freight<sup>5</sup> (i.e. tonne-kilometres reported for domestic traffic in Canada by rail and for-hire trucking carriers).

Under the previous Memorandum, 2010 GHG emissions intensity targets were met by Class I freight, regional and short lines and intercity passenger operations. Building on this, further reductions of GHG intensities are expected to be achieved under this Memorandum.

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<sup>3</sup> United States *Locomotive Emissions Control Regulations* can be found at [http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr1033\\_main\\_02.tpl](http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr1033_main_02.tpl)

<sup>4</sup> Environment Canada, National Inventory Report 1990-2010, 2012, [http://www.ec.gc.ca/publications/A91164E0-7CEB-4D61-841C-BE8BAA223F9/Executive-Summary-2012\\_WEB-v3.pdf](http://www.ec.gc.ca/publications/A91164E0-7CEB-4D61-841C-BE8BAA223F9/Executive-Summary-2012_WEB-v3.pdf)

<sup>5</sup> Transport Canada, Transportation in Canada 2011 Statistical Addendum, Tables RA7 and RO17, <http://www.tc.gc.ca/media/documents/policy/Stats-Addend-2011-eng.pdf>

#### 4.1

#### GHG Emission Intensity Reduction Commitments by the RAC

For the duration of the Memorandum, the RAC will encourage all of its members to make every effort to reduce the GHG emission intensity from railway operations.

The GHG emission targets, expressed as kilograms (kg) of carbon dioxide equivalent (CO<sub>2</sub>eq.) per productivity unit, for the rail industry are:

Carrier Class	Percent Reduction Target (by 2015)	2015 Target	Productivity Unit
Class I Freight	6% reduction from 2010	15.45	kg CO <sub>2</sub> eq. per 1,000 revenue tonne kilometres
Intercity Passenger	6% reduction from 2010	0.11	kg CO <sub>2</sub> eq. per passenger-kilometre
Short Lines	3% reduction from 2010	14.75	kg CO <sub>2</sub> eq. per 1,000 revenue tonne kilometres

Unlike the previous Memoranda, commuter railways will not be subject to a target, but will continue to report on their performance and efforts to reduce GHGs.

Emission targets will be measured against 2010 industry levels and achievement of the targets will be determined at the end of the Memorandum.

The RAC will prepare, in cooperation with its members, a GHG emission intensity reduction plan within six months of signing the Memorandum.

#### 5.0

#### Research & Development Commitments

Research and development (R&D) work on new technologies and operational practices and the rail sector's ability to implement these innovations are important elements to consider in support of policy and regulatory development.

In coordination with the Railway Research Advisory Board, the RAC and Transport Canada will identify R&D activities that support this Memorandum. R&D activities will support a multi-year research agenda related to the reduction of emissions from the rail sector, which will inform future policy development.

#### 6.0

#### Reporting

The following sections outline the reporting and verification requirements for this Memorandum.

#### 6.1

#### Annual Reporting

The RAC will prepare an annual report for each year of the agreement. This report will describe the performance under this Memorandum and will include:

- a summary of the actions and annual progress undertaken by the RAC's members to conform with all applicable emission standards and to adopt operating practices that reduce CAC emissions;
- a summary of the annual progress that the RAC and its members have made towards meeting targets for GHG emission intensity as set out in Section 4.1;

- a summary of the actions undertaken by the RAC to inform its members about practices or technologies that reduce emissions of CACs and GHGs; and
- summary of R&D activities.

The annual reports will also include detailed reporting on data, such as:

- the names of the Canadian railway companies that report under the Memorandum, and their provinces of operation;
- a table describing locomotives that meet the emission standards;
- the composition of the locomotive fleet by model, year of manufacture, horsepower, engine model, and duty type;
- the gross tonne-kilometres, revenue tonne-kilometres and total fuel consumption data for railway operations during the reported calendar year;
- estimates of the annual emissions of nitrogen oxides, hydrocarbons, sulphur oxides, particulate matter, carbon monoxide, nitrous oxide, methane, carbon dioxide (CO<sub>2</sub>), and carbon dioxide equivalent (CO<sub>2 eq.</sub>), emitted during all rail operations in Canada; and,
- fuel consumption and emissions data will be listed separately and aggregated as follows: passenger, freight, and yard switching services.

Each annual report will be approved by the Management Committee (Section 7.1). Each annual report shall be published jointly by the parties to the Memorandum and released to the public as soon as possible, once approved, including publication on Transport Canada and the RAC websites. The RAC will be the copyright holder of all rights in, and to, the annual report. Transport Canada will be the licensee of any copyright held by the RAC in the annual report. The first report will be for calendar year 2011 and the last report will be for the year 2015.

The Technical Review Committee (see section 7.2) will develop a detailed production schedule for the annual reports within six months of the signing of this Memorandum.

## **6.2**

### **Third Party Verification**

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

## **7.0**

### **Management of the Memorandum**

The following sections outline the governance structure for this Memorandum.

## **7.1**

### **Management Committee**

The Memorandum will be governed by a Management Committee comprised of senior officials from the parties to the Memorandum, Environment Canada and a representative of an environmental non-governmental organization. The Director General of Environmental Policy of Transport Canada and the Director General of Energy and Transportation of Environment Canada, or its delegates, will represent the federal government. The RAC and its member companies listed in Appendix A will be represented by the RAC's Chair of the Environment Committee, and its Vice-President, Operations and Regulatory Affairs, or their delegates.

The RAC and Transport Canada will select the environmental non-governmental organization representative. Other representatives may be invited to attend meetings from time to time, as agreed to by the Management Committee. The Management Committee will meet at least once a year.

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

- review and approve the annual report before its publication;
- conduct, as necessary, a review of the Memorandum to assess any significant changes to the Canadian rail industry, or the Canadian economy in general, that could have an impact on the ability of the RAC and its member companies to respect the terms of the Memorandum;
- make recommendations that it deems necessary to improve the Memorandum;
- oversee the work of a Technical Review Committee (Section 7.4); and
- review and make recommendations on R&D activities to support implementation of the Memorandum.

## **7.2**

### **Technical Review Committee**

A Technical Review Committee supports the Management Committee and is responsible for the oversight of reporting and verification activities. The Technical Review Committee includes representatives from the RAC, Transport Canada, Environment Canada, CN, Canadian Pacific, VIA Rail Canada Inc., Metrolinx and a technical representative from the selected environmental non-governmental organization.

Other representatives may be invited to attend meetings from time to time, as agreed to by the Technical Review Committee. The Technical Review Committee will meet at least once a year and in line with Management Committee meetings and the various projects underway.

The functions of the Technical Review Committee will include, but not necessarily limited to, the following:

- oversee reporting and verification activities;
- review and verify annual data submitted to Transport Canada by the RAC;
- review as necessary the methodology used for estimating emissions and recommend changes, when appropriate;
- review actions undertaken to achieve the goals of the Memorandum; and undertake any other activities as requested by the Management Committee; and
- propose R&D activities that support the Memorandum.

## **8.0**

### **Supporting the Memorandum**

#### **8.1**

Transport Canada will support the RAC's efforts to reduce CAC emissions by providing technical advice on emission reduction technologies and best practices;

#### **8.2**

At its discretion, Transport Canada and the RAC may organize one or more workshops on emission reduction opportunities and environmental best practices in the railway industry. These workshops would be coordinated with the United States Environmental Protection Agency and the Association of American Railroads as appropriate.

#### **8.3**

Transport Canada will work with the RAC to address any barriers that may impede emission performance in the railway industry.

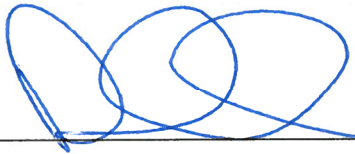
**9.0**

**General Provisions and Signatures**

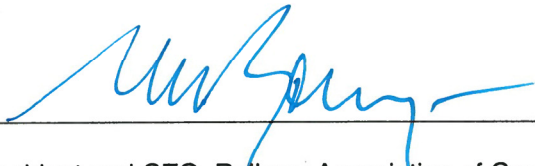
This Memorandum is a voluntary initiative that expresses in good faith the intentions of the Parties. It is not intended to create nor does it give rise to legal obligations of any kind whatsoever. As such, it is not enforceable by law. The government reserves the right to develop and implement regulatory or other measures it deems appropriate to achieve clean air and climate change goals. Nothing in this Memorandum will constrain the Parties from taking further actions relating to CAC and GHG 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 Ottawa this 30 day of April 2013.



Minister of Transport, Infrastructure and Communities



President and CEO, Railway Association of Canada

## Appendix A

### RAC MEMBER COMPANIES PARTICIPATING IN THE MEMORANDUM (As of April 30<sup>th</sup>, 2013)

6970184 Canada Ltd.	Metrolinx
Agence métropolitaine de transport	Montréal, Maine & Atlantic Railway, Ltd.
Alberta Prairie Railway Excursions	New Brunswick Southern Railway Company Limited
Amtrak	Nipissing Central Railway
Arcelor Mittal Mines Canada	Norfolk Southern Railway
Arnaud Railway Company	Ontario Northland Transportation Commission
Barrie-Collingwood Railway	Ontario Southland Railway Inc.
Canadian Pacific	Orangeville Brampton Railway
Cape Breton & Central Nova Scotia Railway	Ottawa Valley Railway
Capital Railway	Prairie Dog Central Railway – Vintage Locomotive Society
Carlton Trail Railway	Québec Gatineau Railway Inc.
Central Manitoba Railway Inc.	Québec North Shore and Labrador Railway Company Inc.
Charlevoix Railway Company Inc.	Roberval and Saguenay Railway Company, The
CN	Romaine River Railway Company
CSX Transportation Inc.	Société du chemin de fer de la Gaspésie
Eastern Maine Railway Company	South Simcoe Railway
Essex Terminal Railway Company	Southern Ontario Railway
Goderich-Exeter Railway Company Limited	Southern Railway of British Columbia Ltd.
Great Canadian Railtour Company Ltd.	St. Lawrence & Atlantic Railroad (Québec) Inc.
Great Sandhills Railway Ltd.	Sydney Coal Railway
Great Western Railway Ltd.	Toronto Terminals Railway Company Limited, The
Hudson Bay Railway	Trillium Railway Co. Ltd.
Huron Central Railway Inc.	Tshuetin Rail Transportation Inc.
Keewatin Railway Company	VIA Rail Canada Inc.
Kelowna Pacific Railway Ltd.	Wabush Lake Railway Company, Limited
Kettle Falls International Railway, LLC	West Coast Express Ltd.
Labrador Iron Mines	