



**Submission to Transport Canada, Environmental Policy**

**Response to the Public Consultation for the Development of Canadian  
Locomotive Emissions Regulations**

**VIA Rail Canada Inc.**

**February 14, 2011**

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**VIA Rail Canada**  
**New Locomotive Emissions Regulations**  
**To Be Introduced by Transport Canada in 2011**

**Background**

The Memorandum of Understanding (MOU), signed on May 15, 2007, established a framework through which the Railway Association of Canada (RAC), its member companies, Environment Canada and Transport Canada would address standards for emissions of air contaminants (CAC) and greenhouse gases (GHG) from railway locomotives operating in Canada. The purpose of this MOU was to provide a transitional framework until the Government introduces new regulations for emission standards in 2011.

The MOU was effective as at May 15, 2007 and was in force until December 31, 2010. As a member company of the RAC, VIA gave its commitment to the following standards with respect to remanufactured locomotives:

With respect to CAC: “Upgrade to Tier 0 (*Tier 0 as defined by the Environmental Protection Agency (EPA)*), upon remanufacturing, all medium horsepower locomotives built after 1972, beginning in 2010.”

With respect to GHG omissions: “*achieve GHG targets of 0.12 kg CO<sub>2</sub> per 1,000 passenger-km.*”

**Current Situation**

Subsequent to the signing of the MOU, VIA started remanufacturing its fleet of F-40 locomotives. These are medium horsepower units (3000), built between 1986 and 1987, and, according to the terms of the MOU, must meet the EPA Tier 0 emissions targets with respect to CAC.

As part of the remanufacture of the F40 locomotives, VIA is performing modifications that will result in overall fuel savings, therefore a reduction in all emissions. These modifications include the installation of a separate auxiliary generator, a layover heating system, and an automatic start/stop system to reduce idling.

As at December 2010, 23 remanufactured locomotives have been completed in the program. To comply to the EPA Tier 0 standards, the fuel injection timing must be retarded to meet the defined NO<sub>x</sub> levels. The original equipment manufacturer, Electro Motive Diesel (EMD) has designed a fuel injector kit that will result in compliance to EPA Tier 0 standards. These injector kits have been installed beginning with the 20<sup>th</sup> locomotive in the rebuild program. Therefore, at the completion of the rebuild program

almost half of the locomotives will be performing in compliance to the EPA Tier 0 standards. To ensure that the complete fleet of F40 rebuilt locomotives are compliant to the EPA Tier 0 standards, VIA will install fuel injector kits in unmodified locomotives, as each locomotive is entered into its regularly scheduled major maintenance program. In addition, it should be noted that even those locomotives without the fuel injector kit consume significantly less fuel as a result of the rebuild, therefore complying with the intent of the MOU.

### **VIA's Current Remanufacture Program of F40 Locomotives**

In 2007, the Federal Government approved a medium term capital funding program of \$516 million, which included the remanufacture of VIA's F40 locomotive fleet. At the time of the approval of this capital funding, VIA's design for the remanufactured locomotive demonstrated that the locomotive was able to achieve the standards outlined in the MOU, with the exception of the NO<sub>x</sub> emissions. Given the significant fuel savings resulting from the remanufacture, the overall emissions reduction conformed to the intent of the MOU.

In 2011, Transport Canada will develop and implement new emission regulations, under the *Railway Safety Act*. These regulations will be aligned with those of the U.S. EPA to limit the release of CAC and GHG emissions. Given that the rebuild program of the F40 locomotives is well underway, it will be extremely difficult to change the scope of work of the remanufacture of VIA's F40 locomotive fleet during the production schedule. Any change in scope will cause a significant increase in cost and delays to the program. The current remanufacture program is fully funded by the Government and Canada and there is no other potential source of funds. VIA would not be in a position to complete the work if new emissions regulations apply to the remanufacture of the locomotives already in process. Almost half of the locomotives have been completed. Standards beyond those to which the locomotives currently conform were not foreseen at the outset, when the prototype locomotive was designed in 2007.

### **Rail Diesel Cars**

VIA has six Rail Diesel Cars (RDC) in its fleet. Engines of the size used in the RDC do not follow EPA locomotive emissions standards as they have a horsepower less than 1000. They are measured against non-road engine emission standards. Cummins has, in the past, indicated that the RDC engines comply with a European standard, Euro 2.

### **Conclusion**

As part of the Stakeholder consultations that Transport Canada is currently conducting, VIA is formally requesting that Transport Canada exempt the current remanufacture of the F40 locomotives from the new emission standards that will be introduced in 2011 for the following reasons:

- The current funding provided by the Government of Canada for the remanufacture of these locomotives did not anticipate additional funds for new emissions standards. VIA has no other source of capital funding that would be required to complete the program, should these new emission standards apply.
- The remanufacture program is currently in full swing and approximately half of the locomotives have been delivered. Any change in scope would cause considerable delays to the program and hardship to the contractor.
- The remanufacture of these locomotives is designed to extend their useful life an additional 15 to 20 years. Any replacement locomotives for this fleet will necessarily conform to the emissions standards that are applicable when they are purchased.

With respect to the RDCs, VIA is also formally requesting that these units continue to be exempt from EPA locomotive emissions standards, given that they are currently measured against non-road engine emissions standards due to their low horsepower.