

Transport Canada and the Transportation of Dangerous Goods By Rail NTSB Safety Forum

23 Apr 14



Regulating Dangerous Goods In Canada

- ▣ TDG Act 1992 (amended in 2009)
- ▣ TDG Regulations (TDGR),
 - Clear Language 2002, as amended from time to time
- ▣ Pre-consultation
 - Transport Dangerous Goods General Policy Advisory Council (TDG GPAC)
- ▣ Regulatory Process:
 - Canada Gazette I, 30-75 days comment period
 - Disposition of comments. Back to CG I
 - Publication in Canada Gazette II (sets “in force” date)
- ▣ Safety Standards referenced in TDGR

Policy Instruments

- TC has several instruments at its disposal including the use of:
 - Protective Directions (TDG Act)
 - Emergency Directives (RS Act)
 - Regulatory development under the TDG Act and/or the Railway Safety Act

ERAP

- ▣ 1979 Mississauga train derailment
 - 60 tons of chlorine released
 - 3 LPG cars released
 - 250,000 evacuated
- ▣ Public Inquiry (Grange Commission)
- ▣ Emergency Response Assistance Plans established (ERAP)
- ▣ “No person shall import, offer for transport, handle or transport dangerous goods that require an ERAP unless that ERAP has been approved by Transport Canada”

ERAP Purpose

- ▣ Public Safety
- ▣ Provides for specialized assistance available to local responders
- ▣ Minimize consequences
- ▣ Rationale:
 - Local authorities not adequately equipped to handle large dangerous goods incidents
 - Not first response; handle DG only after critical incident is stabilized

Canada, the AAR and USA

Means of Containment

- ▣ Tank Car approval delegated to AAR by Safety Standard
- ▣ Currently, no US/Canada reciprocity on containers.
- ▣ Upcoming standard allows for reciprocity
- ▣ R&D Collaboration with FRA
- ▣ MoC with PHMSA (2012)
- ▣ Collaboration through AAR TCC

TP14877, A Transport Canada Safety Standard

- ▣ Means of Containment for the transport of DG by Rail
- ▣ Not developed by a SDO but by TC, published in December 2013
- ▣ Follows the same consultative and consensus rules as SDO
- ▣ Would replace CGSB43.147-2005 as amended in 2008
- ▣ Last meeting in February 2013: it is a pre-Lac-Mégantic consensus

Tank Car Safety Initiative

- ▣ TC/DOT 111 Class was improved only for specific DG and mostly through the AAR
 - ▣ Sulphuric acid cars top fitting protection, lower-level top-fitting protection for PG I and II in 2010, CPC1232 in 2011, etc.
- ▣ High rate of breaching (18/20 in Casselton, 60/63 in L-M, etc) is worrisome
- ▣ Performance-based criteria to allow flexibility and competitiveness in new designs and retrofits.

Transport Canada Action to Date

- ▣ Following the tragedy at Lac-Mégantic, Transport Canada, took immediate action by issuing:
 - Emergency Directive requiring minimum 2 crew for all trains transporting one loaded tank car or more of dangerous goods and more stringent provisions for unattended trains,
 - Ministerial Order requiring railway companies to submit revised Rules, making these requirements permanent,
 - Protective Direction to any person who imports or offers for transport crude oil to conduct classification testing if the current tests had not been performed prior to July 7, 2013, and
 - Protective Direction requiring railway companies to share information with municipalities, which will further support municipal emergency planners and first responders.
- ▣ Accelerated regulatory action on Rail Safety & TDG

Current Focus

- ▣ Following the Lac Megantic tragedy two organizations have provided recommendations;
 - Transportation Safety Board
 - ▣ TSB is an independent agency, created by an Act of Parliament which conducts independent investigations to make findings as to causes and contributing factors
 - TDG General Policy Advisory Council
 - ▣ Members of the council represent the Canadian Association of Fire Chiefs, the Canadian Association of Chiefs of Police, the Federation of Canadian Municipalities, aboriginal communities, labour unions, and a variety of industry associations.

TSB Recommendations

- ▣ Three recommendations issued 23 January 2014;
 - ▣ Require that all Class 111 tank cars used to transport flammable liquids meet enhanced protection standards that significantly reduce the risk of product loss when these cars are involved in accidents.
 - ▣ Require emergency response assistance plans for the transportation of large volumes of liquid hydrocarbons
 - ▣ Set stringent criteria for the operation of trains carrying dangerous goods and require railway companies to conduct route planning and analysis

Transport Canada's Follow-up on TSB Recommendations

- ▣ Transport Canada has 90 days in which to respond to TSB
- ▣ Response is expected to be made today by the Minister of Transport
- ▣ Responses have taken into account:
 - recommendations of the TSB
 - recommendations of TDG GPAC Working Groups
 - the results of close collaboration and shared technical analysis between Transport Canada and our DOT colleagues
 - consultations with stakeholders

TDG GPAC Working Group Reports

- ▣ Three Working Groups established by the Minister of Transport:
 - Means of Containment (DOT/TC 111) Working Group
 - Testing and Classification Working Group
 - Emergency Response Assistance Plan (ERAP) Working Group
- ▣ All reports submitted to the Minister on 31 January

Working Group Recommendations

- ▣ Means of Containment (DOT/TC111)
 - “ ...meet enhanced protection standards that significantly reduce the risk of product loss when these cars are involved in accidents.”
 - TP-14877 standard should include all new tank cars in Class 3 service for Packing Groups I, II and III and be sent to Canada Gazette II.
 - Consideration of a new, better specification tank car for Class 3 to be developed with US DOT and the AAR

Working Group Recommendations

- ▣ Means of Containment (DOT/TC111)
 - Prioritization of pre-CPC-1232 DOT 111 tank cars in crude oil service to be looked at for retirement, reassignment or retrofit.
 - Review train operations involving the shipments of crude oil in relation to the current MOC.
 - Consideration be given to a solution that is a North American solution

Transport Canada's Follow-up on Means of Containment

- ▣ TP14877 expected in CG II before end of year
 - CPC1232 level
- ▣ Close collaboration with PHMSA and on-going technical discussions on enhanced tank car specifications for Class 3.
- ▣ Collaboration with AAR, Industry and the US DOT on technical standards for retirement, repurposing and retrofit of pre-CP1232 cars.
- ▣ Review of train operations.

Working Group Recommendations

- ▣ Testing and Classification
 - Establish the 20psia (38C) RVP upper limit for all crude offered for transport by rail
 - Ensure that sampling frequency and test methods are adequate for the purpose of classification.
 - TVP test for Packing Group assignment of crude on rail recognized at the UN level.
 - ▣ Working with Industry develop a true vapour pressure field testing instrument and method
 - Look at Toxicity and Corrosivity of Crude Oil

Transport Canada's Follow-up on Classification

- ▣ Testing and Classification
 - Collaboration with CCQTA and NRCan on new sampling and testing protocol toward new ASTM methods to characterize crude oils
 - A TC-funded extensive campaign of sampling and analysis.
 - Active technical collaboration with PHMSA on classification.
 - Regulatory amendment published 11 Jan 14.

Working Group Recommendations

- ▣ Emergency Response Assistance Plan (ERAP)
 - Expand ERAPs regime;
 - ▣ All flammable liquids (TDG GPAC recommendation)
 - ▣ Hydrocarbons in large quantities (TSB recommendation)
 - Extend authority to activate an ERAP
 - Communication and Information Sharing with Municipalities, Aboriginal Communities, Provinces and Territories
 - Establish a continued working group on ERAPs

Transport Canada's Follow-up on ERAPs

- ▣ Emergency Response Assistance Plan (ERAP)
 - Review of Class 3 products that would require an ERAP, focusing on higher risk products first
 - Consideration of a dedicated working group on ERAP to focus on:
 - ▣ Activation of ERAPs
 - ▣ Enhanced communications and information sharing
 - ▣ Development of standard incident command systems and best practices
 - ▣ Coordination with CANUTEC (Canada's TDG Emergency Center)
 - ▣ Exercises and training, building on TransCAER and other programs

Next Steps

- ▣ Transport Canada is committed to working with the TSB, all levels of government, the rail industry, counterparts in the U.S., and other key stakeholders to examine, identify, and implement further improvements to railway safety and the transportation of dangerous goods in Canada.
- ▣ To this end, additional practical steps to reduce risks will continue to be taken as further information emerges.