Transportation Safety Board of Canada | Bureau de la sécurité des transports du Canada

REASSESSMENT OF THE RESPONSE TO RAIL SAFETY RECOMMENDATION R02-03

Emergency response plans

Background

On 30 December 1999, at approximately 1900 eastern standard time, Canadian National (CN) Ultratrain, train No. U-783-21-30, was travelling westward from Saint-Romuald, Quebec, on the north track of the Saint-Hyacinthe Subdivision. At Mile 50.84, near Mont-Saint-Hilaire, Quebec, cars from train No. U-783-21-30 derailed, fouling the adjacent south track. CN train No. M-306-31-30 which was travelling eastward on the south track at the time, collided with the cars of train No. U-783-21-30 as they derailed. The two crew members on train M-306-31-30 were fatally injured in the accident. Approximately 350 families living within a two-kilometre radius of the accident site had to be temporarily evacuated. Two locomotives and 61 cars were damaged in the accident. Approximately 2.7 million litres of hydrocarbons spilled and caught fire, damaging private and public property.

The introduction of unit trains carrying liquid hydrocarbons through urban areas creates unusual operating conditions that are not adequately addressed by the existing safety regulations. Although the accident occurred in a sparsely populated area, the Ultratrains's route takes it through many urban areas where the risk is much greater. The Transportation of Dangerous Goods Regulations already take these risk factors into consideration for products included in Schedule I, and consequently, require specific emergency response plans for the transportation of these products. However, neither the shippers nor the transporters are required to establish specific emergency response plans for unit trains, such as the Ultratrain, because the hydrocarbons carried are not listed in Schedule I.

The Board concluded its investigation and released report R99H0010 on 24 September 2002.

Board Recommendation R02-03 (24 September 2002)

A comprehensive emergency response plan based on TC's document TP 9285, where roles, resources and priorities for emergency response are well defined ahead of time, would undoubtedly enhance the emergency response and alleviate post-accident risks. Without a similar emergency response plan, it is difficult to ensure immediate implementation of the appropriate action in the event of an accident involving dangerous goods. Therefore, the Board recommends that:

> Transport Canada review the provisions of Schedule I and the requirements for emergency response plans to ensure that the transportation of liquid hydrocarbons is consistent with the risks posed to the public.
>
> R02-03

Response to R02-03 (19 December 2002)

Transport Canada (TC) indicated that they support this recommendation and that they have already begun a review as recommended by the Board. TC's Emergency Response Assistance Plan (ERAP) program is in place so that shippers of certain dangerous goods can provide specialized knowledge to local emergency response authorities at the scene of an accident.

Examples of dangerous goods requiring specialized knowledge as well as unique tools or techniques include chlorine, plutonium, propane or anhydrous ammonia. However, TC indicated that they will review the possibility of extending this requirement to shippers of large quantities of other dangerous goods, such as hydrocarbons.

In light of the TSB recommendation, a discussion paper was developed and presented in November 2002 at both the Federal-Provincial/Territorial Transportation Dangerous Goods (TDG) Task Force and the TDG General Policy Advisory Council meetings. The discussion paper provided an overview that describes the central purpose of ERAPs and the current criteria used to mandate ERAP use. In addition, the discussion paper outlined the possible new criterion of large quantities of flammable commodities requiring an ERAP; and provided a General Policy Advisory.

Board assessment of the response to R02-03 (18 February 2004)

TC provided the TSB with additional information indicating that TDG personnel met with both CN and Ultramar. CN and Ultramar delivered a TransCAER Community Awareness and Emergency Response program to the communities along the route of the unit train. CN and Ultramar completed and delivered to Transport Canada, in January 2004, a detailed, voluntary, Emergency Response Plan. This plan was reviewed by the Remedial Measures Specialists at Transport Canada.

Board assessment of the response to R02-03 (15 April 2004)

TC agreed with TSB's recommendation and submitted information to the TDG Task Force and TDG General Policy Advisory Council to initiate further action. TSB assessed this response as **Satisfactory Intent**.

Board reassessment of the response to R02-03 (22 December 2005)

With the emergency response plan communicated to the communities adjacent to the travelled route of the Ultra train, and the plan reviewed by TC, the response was reassessed by TSB as **Satisfactory in Part**.

Response to R02-03 (28 July 2006)

TC indicated that they have drafted the following amendment to the TDG Regulations:

> A person must have an emergency response assistance plan in accordance with Section 7.1 of Part 7, Emergency Response Assistance Plan before offering for transport or importing in a single train thirty-four or more rail tank cars containing dangerous goods with a UN Number of UN 1202, UN 1203, or UN 1863 when the rail tank cars average 70 per cent full.

Board reassessment of the response to R02-03 (28 August 2006)

TC has drafted an amendment to the TDG regulations which extends the requirement for shippers of large quantities of other dangerous goods, such as hydrocarbons to provide ERAPs to Emergency Response authorities on site. This amendment suggests guidelines that will apply before offering for transport or importing in a single train 34 or more rail tank cars containing the applicable dangerous goods, when the cars average 70 per cent full.

However, only 3 UN numbers were identified (1202, 1203 and 1863) as flammable products pertaining to this discussion. TSB is not clear why all flammable products should not fall under the same amendment with respect to the provisions of ERAPs to emergency response authorities.

A second concern is that the amendment applies only when a single train contains a minimum of 34 tank cars carrying hydrocarbons, and the rail tank cars average 70 per cent full. On 24 June 1981, there was a derailment of 11 cars at mile 182.64 of CN's Newmarket Subdivision. Eight of the 11 cars contained gasoline or fuel oil. One car lost lading immediately, and another one was leaking through a puncture. The ensuing fire was sufficiently intense to weaken the integrity of and ignite the remaining cars. An evacuation of the area was required. In this situation, because there were only 8 cars containing flammable contents, an ERAP would not have been required.

Due to these 2 concerns and as the amendment has not yet been finalized, the Board has reassessed the response as **Satisfactory Intent**.

Response to R02-03 (20 February 2008)

Amendments to the TDG regulations have been finalized and made effective 20 February 2008, which prescribe that shippers of large quantities of liquid hydrocarbons provide ERAPs.

Board Reassessment of Response to R02-03 (28 August 2008)

The amendments have been finalized and the Board has reassessed the response as **Fully Satisfactory**.

Next TSB action

The Board considers that further action is unwarranted, and the status of this assessment response is changed to **Inactive**.