



REASSESSMENT OF THE RESPONSE TO RAIL SAFETY RECOMMENDATION R06-01 - R04T0008

RAIL TRAFFIC CONTROL WORKLOAD

Background

On 14 January 2004, at approximately 1942 EST, Canadian Pacific Railway train 239-13, travelling westward, derailed 11 car platforms transporting 18 containers at Mile 178.20 of the Belleville Subdivision. The derailment occurred just east of the overpass at Garden Street in Whitby, Ontario. Some of the rail car platforms and containers fell onto the roadway below, striking a southbound vehicle and fatally injuring the two occupants.

RTCs are responsible for moving rail traffic expeditiously and safely across the system. However, RTCs are also responsible for slowing or stopping train movements that may be affecting safe train operations, bearing in mind that train movements are not to be unnecessarily delayed. At times, particularly when operational conditions are deteriorating, these latter two responsibilities can be in conflict. When this occurs, RTCs are trained to seek the advice of their supervisor, the Assistant Manager of Rail Traffic Control.

However, conditions such as extreme weather can cause a general deterioration in operations and supervisors may be required to leave their station and make urgent events a priority. This makes supervisors less accessible, which increases the likelihood that, as in this occurrence, a developing unsafe condition will not be identified and rectified.

During the time leading up to the occurrence, both the RTC and his supervisor experienced a very high level of workload. The procedures and guidelines that were in place and designed to assist them in reaching the conclusion that train 239 had a defective wheel which was breaking rails, did not provide them with clear, unambiguous clues. In this situation, and without a written record to aid memory, these experienced employees did not diagnose the problem in sufficient time to stop the train safely.

High levels of workload are not uncommon in the rail traffic control area. For example, inclement weather, broken rails, defective crossings, train derailments, and trespasser accidents may combine with regular, but high intensity, operational workload to increase the RTC's workload towards unmanageable levels. Although these circumstances are relatively common for rail traffic control operations, very high workload results in an increased risk of errors.

Some railway companies around the world train their rail traffic control staff to seek out the assistance of other experienced RTCs when direct supervisors are not immediately available. Staff and management are trained and experienced in recognizing signs of excessive workload and to seek assistance before operational conditions deteriorate to the point that safe train operation is compromised.

Canadian railways do not have similar protocols and training. When operational conditions are deteriorating, RTCs may neither be properly trained nor have access to the effective supervisory resources to enable them to balance competing responsibilities. The Board is of the opinion that, when failures occur in this environment, it is imperative that unsafe conditions be recognized and appropriate intervention be taken. Therefore, the Board recommends that:

The Department of Transport work with the Railway Association of Canada to implement rail traffic control protocols and training that will recognize periods of high workload and make safety paramount.

R06-01

Response to R06-01 (July 2006)

Transport Canada agrees in principle with the intent of this recommendation and will work together with the rail industry to examine periods of high rail traffic control workload activity, in the context of this recommendation and in the context of other regulatory initiatives that may impact this area.

Board Assessment of Response to R06-01 (August 2006)

In its reply, Transport Canada has agreed in principle with the intent of the Recommendation. TC has agreed to work together with the railway industry to examine periods of high rail traffic control workload activity, in the context of this recommendation and in the context of other regulatory initiatives that may impact this area. Given that TC has accepted this recommendation and that no safety improvements have yet resulted from TC's efforts, the Board assesses the response to Recommendation R06-01 as **Satisfactory Intent**.

Additional Response to R06-01 (August 2007)

TC indicated that a qualified outside consultant was hired to conduct a study to examine RTC workload.

Additional Response to R06-01 (October 2007)

TC indicated that upon recent review and discussion with TSB of the specific requirements of the Rec, they have determined that a comprehensive study is not warranted.

Additional Response to R06-01 (February 2008)

A ministerial section 19 order, pursuant to the *Railway Safety Act* has been issued to the railway in regards to the formulation of new rules for the training of railway personnel including Rail Traffic Controllers. TC considers this recommendation closed.

Board Reassessment of Response to R06-01 (March 2008)

In a meeting with TSB, TC indicated that they acknowledge there are periods of Rail Traffic Controller work overload. The formulation of new rules for RTC training is not considered to be adequate to mitigate the risks associated with this safety deficiency. Furthermore, by considering this recommendation closed TC now rejects the safety deficiency. Therefore the Board reassesses the response to this recommendation as **Unsatisfactory**.

Additional Response to R06-01 (January 2010)

On June 23, 2009, TC approved the *Rules Respecting Minimum Qualification Standards for Railway Employees*. The rules will come into effect once the *Railway Employee Qualification Standards Regulations*, CTC 1987-3 (SOR/97-150) are repealed. The new Railway Qualification and Training rule will, for the first time, include the occupational category of Rail Traffic Controller. TC will thus formally assess the qualification program for rail traffic controllers, with specific regard to these protocols. The new rule is approved, but does not come into effect until early 2010, when it is felt the QSOC regulation can be repealed.

Additional Response to R06-01 (June 2010)

TC has indicated that during Tier 1 audits of CN and CP scheduled for Fall 2010, TC will be evaluating the qualification program for RTC controllers.

Board Reassessment of Response to R06-01(16 September 2010)

TC has indicated that the deficiency file is reopened and that TC will be formally assessing the qualification program for rail traffic controllers once the new Rules come into effect. However, no specific protocols have yet been established concerning the recognition of periods of high workload. As TC's audit may provide some progress on this issue, the Board reassesses the response to Recommendation R06-01 as **Satisfactory in Part**.

Additional TC Response to R06-01 (October 2011)

Transport Canada is working with the RAC and industry to develop a written procedure for periods of high RTC workload. There has been an informal process in place but TC has requested to the RAC that the process become formalized.

Additional TC Response to R06-01 (December 2011)

TC has evaluated the approaches at both CP and CN to address the issue of RTC workload. It was concluded that the railways have processes in place to provide an equivalent level of safety that will address the deficiency.

CP Response to R06-01 (January 2012)

The rail traffic control offices of CP in Calgary and Montreal use a prediction matrix to recognize a period of high workload that will require additional resources at the RTC desks. In 2011 there were 61 occurrences when high workload was recognized and additional resources were implemented by splitting the desks in the Montreal office. There were 225 occurrences in the Calgary RTC office when the matrix was used to successfully quantify the magnitude of the workload in advance, which allowed for planned distribution of work.

CN Response to R06-01 (January 2012)

CN does not have a written process in place for monitoring RTC workload. The RTC office manager, Chief RTC or a working RTC can identify high work load occurrences. Detailed records are not kept of each address to a high workload occurrence. However, there were at least 432 occurrences of splitting the RTC desks to address potential workload increases associated with track work programs, recovery from disruptions, or due to the presence of a new less experienced RTC.

Board Reassessment of Response to R06-01 (February 2012)

TC has evaluated how RTC workload at both CP and CN is being addressed and is satisfied with the processes in place and the resultant level of safety. CP has provided details of protocols established for the prediction and recognition of periods of high workload. CN has provided information detailing how they have addressed the safety deficiency. As the industry has taken safety action which will substantially reduce or eliminate the safety deficiency, the Board reassesses the response to Recommendation R06-01 as **Fully Satisfactory**.

Next TSB Action

This file is assigned **Closed** status.