



REASSESSMENT OF THE RESPONSE FROM TRANSPORT CANADA TO RAIL SAFETY RECOMMENDATION R92-22

RAIL HEAD WEAR EXCEEDING SPECIFIED WEAR LIMITS

Background

At approximately 0243 mountain daylight time on 24 October 1990, Canadian Pacific Limited (CP) train No. 990/23, travelling at a speed of 45 mph derailed four locomotives, the next 21 cars and the 23rd car at Mile 10.43 of the Aldersyde Subdivision, near Nobleford, Alberta. There were no injuries as a result of this occurrence.

Investigation revealed that the cause of the occurrence was a break in the high rail of a three-degree curve at a pre-existing defect. The 40 year old rail had been in place for 10 years after it had been in service at another location

The Board concluded its investigation and released report R90C0124 in January 1993.

Board Recommendation R92-22 (19 January 1993)

The Board found that the rail head had worn in excess of safe wear limit standards. Therefore, the Board recommended that:

The Department of Transport review the adequacy of current railway practices with respect to timely corrective action when rail head wear exceeds specified wear limits.

R92-22

Response to R92-22 (21 April 1993)

Transport Canada advised that the Department, in co-operation with the railway industry, has initiated research with respect to the rail head wear limits. Preliminary results indicate that current standards may require modification and the Railway Safety Directorate will take appropriate action when definitive results are available.



Board Assessment of Response to R92-22 (17 May 1993)

Discussion with TC staff revealed that this research had been initiated prior to the issuance of the recommendation. However, there was no indication of the nature, scope, duration, or any hint of type of remedial action that may be required.

Apparently, TC has not taken any new initiative to ensure improved detection of defects in old track subject to heavy traffic, as a result of this recommendation. Therefore, the Board assessed the response as **Unsatisfactory**.

Additional Response to R92-22 (06 June 1994)

Transport Canada submitted an additional response to R92-22 and they advised that a study jointly funded by CP Rail, BC Rail and Transport Canada's Transportation Development Centre has determined that theoretical safe limits of rail wear are significantly higher than limits which are currently applied by the railways. The study concluded that the wear limits can be extended; however, the issue of residual stress, rail rotation and gauge widening must be taken into consideration. Rail Inspection practices and profile grinding also need to be examined before any decision affecting rail change out is taken. The Department indicated they were satisfied that the current procedures are suitable for predicting rail wear and determining timely replacement.

Board Reassessment of Response to R92-22 (September 1994)

After assessing the additional response from TC, the Board sent a letter of concern to the Minister of Transport, noting that the incidence of main track derailments due to track defects was not improving.

Additional Response to R92-22 (April 2001)

Transport Canada submitted an additional response in 2001 advising that the issue of "excessive rail wear" is being evaluated by the railway industry, FRA and TC's rail integrity research program. This research is continuing with a view to establishing reasonable limits for main track rail head wear.

Additional Response to R92-22 (June 2004)

Transport Canada submitted an additional response in 2004 advising that industry standards for rail wear limits will be included in discussions with the newly established RAC Track Safety Rules working group. It is also TC's intention, as part of its integrated program approach, to audit railway companies inspection and maintenance practices with respect to TSR requirements for rail wear limits.

Board Reassessment of Response to R92-22 (December 2005)

The Board has been made aware of more accurate laser technology being introduced into the measurement of rail head wear. However, there are still problems between detection and timing of corrective action remaining. Therefore the Board reassesses the response to this recommendation as **Satisfactory in Part**.

Additional Response to R92-22 (July 2006)

Transport Canada submitted an additional response in 2006 advising that a Track Safety Rules Symposium to develop a strategy to modernize the Track Safety Rules is being held in September 2006. It is anticipated that the existing rule regarding rail wear will be modified as a result of the symposium.

Board Reassessment of Response to R92-22 (August 2006)

Given the ongoing efforts of Transport Canada and the industry to establish safe rail head wear limits, and TC's efforts to regulate this matter, the Board therefore reassesses the response to recommendation R92-22 as **Fully Satisfactory**.

Next TSB Action (October 2006)

Because Transport Canada and the industry are actively addressing the safety deficiency associated with Recommendation R92-22, and are taking action which will substantially reduce or eliminate the deficiency, no further TSB action is necessary.

As the risks have been substantially reduced, this file is assigned an **Inactive** status.