Marshalling issues, fatigue cited as risk factors in CP Rail Stoney Creek Bridge derailment

The Transportation Safety Board of Canada (TSB) investigation into the Jan. 13, 2015 CP Rail derailment on the Stoney Creek Bridge near Rogers Pass has found that marshalling issues and fatigue management were risk factors in the derailment.

*By **Aaron Orlando** - Jul 8, 2016*

Derailed train cars hang precariously off the Stoney Creek Bridge near Rogers Pass after a Jan. 13 CP Rail derailment. Photo: Transportation Safety Board of Canada image.

The Transportation Safety Board of Canada (TSB) investigation into the Jan. 13, 2015 CP Rail derailment on the Stoney Creek Bridge near Rogers Pass has found that marshalling issues and fatigue management were risk factors in the derailment.

The report found that the derailment happened when several lighter cars on the train "stringlined" on the bridge. Basically, the empty cars were too light. When they were pulled through the curve at the bridge on an ascending slope, they popped off the rails and snapped into a straight line due to the force of being pulled between the engine and the weight of the cars downhill behind them. They were left hanging beside the 90-metre drop from the bridge to the canyon below. (See image above)

The TSB report says the westward train was originally scheduled to pass through the Mount Macdonald Tunnel, but due to congestion it was rerouted to the Connaught Tunnel, which has a steeper grade leading to the tunnel.

This decision was key.

Marshalling is the act of assembling the train from the various kinds of cars — for example, empty cars, full cars, coal cars, chemical cars, and potash cars. Marshalling is done under 'train area marshalling' instructions, or 'TrAM.'

Read the full Transportation Safety Board of Canada report into the Stoney Creek Bridge derailment here

Each train is then approved to travel on portions of the track for which it is rated. The TrAM rating system runs from 1 through 6. Generally, the higher the number, the more difficult the section of

the track. A section of the flat Prairies could be rated 1, while a winding mountain pass could be rated a 6.

The westward track to the Mount Macdonald tunnel is rated TrAM 3, while the steeper track to the Connaught Tunnel — where the train was rerouted — is rated TrAM 5.

“The train crew did not, however, completely recheck the consist for TrAM Area 5 restrictions, as required by CP’s GOI,” the TSB reports states.

That put the train in violation of TrAM area 5 regulations, including maximum tonnage exceeded on four cars, and not enough tonnage on four cars.

However, the report notes that the crew (a conductor and engineer) had checked the TrAM rating when they departed, but that the decision to reroute the train had come from the rail traffic controller (RTC).

The report notes a blind spot in existing procedures. The crew on the train must check the TrAM rating before departure, or when the route changes, and if there is an issue, it needs to be communicated through the RTC to the director. Railway rules put the decision with the director, who oversees the rail traffic controller operations.

The TSB report states: “The train crew was aware that the director had been involved in the discussions for rerouting the train. No specific concerns had been expressed regarding train operations for the Connaught route by the director. At CP, when trains are rerouted, there would typically be a discussion between the RTC and the director. However, there were no formal policies or instructions specifically requiring the train crew or the RTC to check for TrAM violations when a train is rerouted.”

The report said this policy gap led to issues: “In this occurrence, the director believed that the train crew would recheck the train consist for TrAM violations. As the train crew members believed that the revised routing was operationally acceptable for their train and that it had been considered by the RTC and the director, the train consist was not further checked for TrAM area violations relevant to the Connaught track.”

Train marshalling issues, and fatigue have been flagged as a big concern for local railroaders. In this Revelstoke Review story by Aaron Orlando from July, 2013, Revelstoke railroaders expressed their deep concerns about marshalling practices and safety in the mountains.

Fatigue

The report found that the engineer and conductor had appropriate rest. It focuses on the director at the time, who had been called into an overtime shift, and had not slept for 22 hours at the time the director was consulted about rerouting the train that derailed.

Risk findings

The report focused on three main findings as to risk:

-the train consist was not reverified after the route change

-the train had a significant number of empty cars, which increased the risk of derailment in mountain-grade territory

-employees in the rail traffic control centre in a can be in a fatigued state if policies are not considered, and that the director of rail traffic control was in a fatigued state.

What happens next?

The TSB report notes CP Rail has made changes to equipment that can automatically detect and alert for TrAM violations. The company has also changed their policy to require the director of rail traffic control to know and understand TrAM area zones in their territory.

Comments

3 comments

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