



TRANSPORT ACTION ONTARIO

(formerly Transport 2000 Ontario)

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Dear Ms. Chadha:

Followup to Toronto Rail Safety Meeting – Dragging Equipment Detectors and Automatic Equipment Identifiers

Thank you to you and to Minister Garneau for your participation in the Rail Safety Meeting held in Toronto on April 27. We greatly appreciated the Minister's willingness to answer all questions in a frank and complete manner.

There were two questions raised from the floor by our members that need more description. They relate to Dragging Equipment Detectors (which the Minister was unfamiliar with, and asked for more information) and a new application for Automatic Equipment Identifiers. The details are provided below.

Dragging Equipment Detectors – Regulations Governing Placement Locations

A significant fraction of derailments are due to loose or dragging equipment on the train being snagged by the track. Dragging Equipment Detectors (DEDs) are in use by the Class One railways in Canada, but the location of their placement has a significant impact on their effectiveness and value to safety.

To simplify, DEDs are effectively a steel "tent" mounted on a track tie. If an object becomes broken or loose, and therefore hits the steel "tent," a notice is sent to the locomotive engineer that identifies the car that set off the DED. The locomotive engineer is to stop the train upon receiving such a notice and investigate the offending car to determine the cause of the DED being tripped.

Deraillments caused by a broken part on a railcar or another stray object that has somehow been snagged to the undercarriage normally happen at a point where such objects come into contact with a fixed object along the track, such as a turnout or diamond where the fixed object in question is an intersecting rail for another direction of travel. DEDs are capable of detecting such hazards in time if they are placed at approach signals. Approach signals are located at a distance sufficiently removed from turnouts and diamonds that the train can stop prior to reaching the turnout or diamond. In some complex areas, it may have value to also have DEDs near home signals, or signals that are located next to a diamond or turnout, as the vibrations from crossing diamonds and turnouts can cause a recently damaged component to come loose, allowing the hazard to be detected as soon as it materializes.

Currently, for Class One railways, DEDs are placed at regular intervals along the track but not coordinated with signals. DEDs are not usually used by Class Two railways. Regulations governing the placement locations for DEDs and mandating their implementation in defined locations within a certain distance of an area meeting a certain density threshold would provide a significant layer of protection in Canada's urban areas.

Automatic Equipment Identifiers – Make Information Available to First Responders

Automatic Equipment Identifiers (AEIs) could be described as barcode readers for freight railcars, although they now use radio frequency transmitters to boost reliability and resistance to dirt. They are typically found near yards for use by yardmasters to reassemble trains as operations require. AEIs read freight cars passing by at regular service speed and compile a spreadsheet of the train, identifying each railcar along with the contents of each railcar. Railways also track their shipments with this system.

Without any new physical infrastructure, this information could be made available to first responders. While Transport Canada Protective Directive 32 provides historical data to first responders about shipments with quarterly updates, first responders do not have real-time information about any trains passing through their area at any given time, and rely on past data to determine what the contents likely are but without confirmation until a disaster happens. First responders would also be without data in the event of a derailment involving an "extra," or an unscheduled freight train that is put into service on short notice to meet one-off or limited time circumstances.

Providing an ICT regime that provides first responders access to the real-time data collected by AEIs from trains in their area would provide them accurate information about a train's contents immediately in the event of any incident involving said train. The availability of the information can be time-limited by local area to minimize the amount of information first responders would have to search through in the event of an incident, allowing them to find the relevant information quickly without having to rely on confirming information with the railway after receiving a call about an incident.

Making this information available would have no infrastructure costs and would only involve a software arrangement with participating first responders. Confidentiality arrangements would involve the same participants as those in Protective Directive 32. Such an initiative can be completed in a matter of months, with the stroke of a pen being all that is required by the Government of Canada.

We would be pleased to discuss both these matters with you and your staff in more detail.

Yours truly,

Peter Miasek

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