

Transport Salaried Staff's Association

Devonshire Buildings, 16-17 Devonshire Square, London EC2M 4SQ

t 020 7387 2101

f 020 7383 0656

e enquiries@tssa.org.uk

Ian Prosser CBE
HM Chief Inspector of Railways
and Director of Railway Safety
Office of Rail Regulation
Office of Rail and Road
25 Cabot Square
London
E14 4QZ

11th March 2022

By email to: ian.prosser@orr.gsi.gov.uk

Dear Ian,

Re: RAIB Report into Carmont Derailment: Corrosion in Mark 3 carriages

I am writing to you regarding the RAIB's Report into the Carmont Derailment that took place on 12th August 2020.

I have a number of concerns in relation to the various findings of the Report but am contacting you about the crashworthiness of the Mk 3 carriages involved in the derailment.

The Report looked at a number of features of how the carriages performed in the derailment, noting issues such as :

- Inadequate 'Alliance' couplers
- The absence of bogue retention fittings meaning that instead of slowing a vehicle, they become detached in the crash, acting as a potential obstruction that can then add to vehicle body damage and casualties
- broken windows, through which passengers can be ejected
- the effects of fire from carriage batteries

www.tssa.org.uk

Members' helpdesk **0800 3282673**

General Secretary **Manuel Cortes**

Page 1 of 3

tssa

All of these factors have been apparent from other derailments but still the industry continues to use HSTs and their Mk 3 vehicles that date from the 1970s. Inevitably, the same kind of outcomes were seen again in the Carmont Derailment.

In Paragraph 71 to 73 (and additionally at Paragraphs 491 to 501) the RAIB also identified the issue of “significant” corrosion in the damaged areas of the Mk 3 coach structures, saying it was “unsurprising” given the age of the vehicles. The concern was that the extent of the corrosion may have caused a loss of survival space, particularly in the vestibule end of leading Coach D where the collision pillars collapsed in the derailment. Corrosion was also seen as a potential issue in the way that the coach structures deformed although problems of insufficient welds and crush effects were also identified.

The problem of localised corrosion had been picked up by Wabtec when they carried out extensive refurbishment work on the ScotRail HST carriages in 2019 but, in the absence of formal criteria, engineering judgment was used in deciding the tolerability of the corrosion and the extent of repairs that were required. The Report comments that:

“There are no photographic records of the work actually done and the pillars were too severely damaged in the accident for a meaningful retrospective assessment of this work...”¹ but “the loss of material due to corrosion of the pillars would have weakened the body-end structure to some extent.”²

As you will be aware, the RAIB Report goes on to make two specific recommendations:

- Recommendation 18: corrosion limits in maintenance and overhaul plans to be based on an adequate engineering analysis so that ageing rail vehicles retain their structural integrity to original design standards;
- Recommendation 19: to evaluate the additional risk to train occupants associated with the continued operation of HSTs, which entered service before modern crashworthiness standards were introduced in July 1994.

I am aware that the HSTs and their Mk3 carriages continue to be used by many train operators besides Abellio ScotRail (eg, GWR, Cross Country) on busy services which can also involve people standing in vestibule ends. The RAIB’s Report at Paragraph 461 comments on how the Carmont Derailment could have resulted in a ‘significantly higher’ casualty toll because the usual number of passengers travelling in normal times could be between 25 and 50 people

¹ Paragraph S73

² Paragraph 498

My concern is that we cannot wait until the recommendations are actually put in place and, as such, I am calling on you to instruct rail companies across Britain - including ScotRail - to withdraw their Mk 3 vehicles from passenger service because of the risk they pose to passengers being able to survive in derailment conditions.

I look forward to your response.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. Cortes', is enclosed within a thin black rectangular border.

Manuel Cortes
General Secretary