

Oliver Stewart
Senior Executive, RAIB Relationship and
Recommendation Handling

Telephone 020 7282 3864

E-mail oliver.stewart@orr.gsi.gov.uk

30 April 2020



Mr Andrew Hall
Deputy Chief Inspector of Rail Accidents
Cullen House
Berkshire Copse Rd
Aldershot
Hampshire GU11 2HP

Dear Andrew,

RAIB Report: Train dispatch accident at Elstree & Borehamwood station on 7 September 2018

I write to report¹ on the consideration given and action taken in respect of the recommendations addressed to ORR in the above report, published on 1 May 2019.

The annex to this letter provides details of actions taken in response to the recommendations and the status decided by ORR. The status of recommendations 1 & 2 is 'Progressing'.

ORR will advise RAIB when further information is available regarding actions being taken to address these recommendations.

We will publish this response on the ORR website on 1 May 2020.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Oliver Stewart', written over a horizontal line.

¹ In accordance with Regulation 12(2)(b) of the Railways (Accident Investigation and Reporting) Regulations 2005

Oliver Stewart

Initial consideration by ORR

1. Both recommendations were addressed to ORR when the report was published on 1 May 2019.
2. After considering the recommendations ORR passed recommendation 1 to Govia Thameslink Railway (GTR) and recommendation 2 to the Rail Delivery Group (RDG) asking them to consider and where appropriate act upon them and advise ORR of its conclusions. The consideration given to each recommendation is included below.
3. This annex identifies the correspondence with end implementers on which ORR's decision has been based.

Recommendation 1

The intent of this recommendation is to reduce the risk of a passenger trap and drag accident by enhancing driver management processes to include checks that drivers spend sufficient time observing the platform- train interface during the train dispatch process.

Govia Thameslink Railway (GTR) should:

Develop suitable guidance to drivers on the time needed to safely observe the platform-train interface, both before closing the train doors and for the final train safety check after the doors have closed (this time is expected to vary with train length, platform passenger density etc.

Enhance its driver competence management system by implementing a procedure to routinely monitor the safety of train dispatch, and take appropriate remedial action where necessary. The monitoring procedure should include (but not be limited to) consideration of:

- direct observation of the train dispatch process and the time taken before and after closing the doors;
- analysis of data from on-train data recorders to check sufficient time is spent in the final train safety check; and
- analysis of station and on-train CCTV.

This recommendation may be applicable to other train operating companies.

ORR decision

4. We consider the approach being taken by GTR to be appropriate to meet the requirements of the recommendation. GTR have demonstrated progress towards implementing the recommendation by issuing the revised professional driving policy and providing an update on work around monitoring procedures and determining sufficiency of time to undertake the safety check.

5. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, GTR has:

- taken the recommendation into consideration; and
- is taking action to implement it

Status: *Progressing*. ORR will advise RAIB when further information is available regarding actions being taken to address this recommendation.

Information in support of ORR decision

6. On 12 December 2019 Govia Thameslink Railway provided the following initial response:

GTR Response

1 (a)

Following the incident at Elstree & Borehamwood, GTR produced a series of operational notices to drivers which instead of actual timings, endorsed a positive safety culture where we support drivers to take longer over this check, possibly delaying train departure, when required by risks perceived on the monitors (see attached examples).

Our revised Professional Driving Policy (PDP) identifies the key risks, as being the potential for passengers being caught in the train doors when the train departs and of them falling between the platform and the train. The driver's dynamic risk assessment is further supported by the identification of more vulnerable passengers and emphasis on taking time to carry out their train safety check, before departing the station. The PDP also has guidance in place in respect to the arrangements for when the images presented to the driver are not adequate to ensure safe train dispatch. This section of the PDP will be further expanded, beyond the potential of faulty systems to include environmental conditions that may make it more difficult to be sure (as examples):

- *High contrast areas (light/shade) in the PTI*
- *Sunlight shining on in cab DOO monitors or bright glare*
- *Bodyside reflections making it more difficult in discerning a clear PTI*

We are in consultation with driver reps for revisions made to the PDP (please see accompanying extract of the revised PDP), that brings the expectations of professional operations within the PTI into one place.

1 (b)

To ascertain how long GTR drivers typically take to complete their train safety checks, we analysed over 1600 mid journey station stops (see attached spreadsheet). We found that in 60% of DCO dispatch procedures the driver took more than 5 seconds or more to complete the train safety, this is the time between

door interlock being obtained and power selected to move the train forward. We found in 7% of checks completed in less than 3 seconds, but pending the research which we hope will provide some indicative values for a train safety check, we have felt it inappropriate to prescribe a minimum time, instead GTR have reiterated guidance where drivers assess a range of local factors and use an image scanning technique to sequentially Z (check) through the images (see examples of notices published).

To enhance our competence management and instil a more consistent standard in the thoroughness of the train safety check, driver Competence Development Managers (CDM) use positive feedback to reinforce the need to take time in checking it's safe to depart. This affirmation is provided face to face during observed assessments and in writing in the case of unobtrusive assessments. If indicative values are validated we will be in a stronger position in taking affirmative action in respect to timings, and to that end GTR are sponsoring research through the RSSB whose desired project output is:

- A definition of the minimum time requirement to scan CCTV monitors in seconds, with different values presented for different numbers of monitors scanned.*
- Techniques to safeguard the time taken to perform the train safety check using DCO in cab CCTV monitors and increase the levels of reliance*
- The system and functional requirements for potential technologies and their benefits that could be deployed to safeguard or improve the time taken to perform the train safety check using DCO in cab CCTV monitors and the level of safety reliance.*

The time taken between door interlock attained and train moving is still being monitored as part of our unobtrusive assessment regime and we are now considering options of telematics available through remote condition monitoring, to broaden our capability to measure the performance of the full establishment of drivers

7. Regarding 1 (a), on 9 April 2020 GTR provided the following update in response to us asking when the Professional Driving Policy would be published:

The PDP was issued and circulated in January 2020 with the revisions illustrated above. Contextual briefing of the information concerning this update and changes within is planned as part of the current cycle of Driver STUD day. This has obviously been impacted by social distancing requirements of COVID-19, however Competence Development Managers have been briefed fully and use it in their activities.

8. Regarding 1 (b), on 9 April 2020 GTR provided the following update in response to us asking when the monitoring procedure expected to be implemented and what progress is being made to determine sufficiency of time to undertake the safety check.

We continue to work with Siemens on the development of telematics and already have the detailed functionality and specification for remote access and reporting of

(for example) Doors closed to Wheel moving prioritised as a regular feed. Unfortunately the work to implement this has not progressed at the pace first planned, as the recent priority (as a result of COVID-19) has been in other areas such as intelligence for train loading data to track passenger movements on our network.

Manual remote monitoring of the drivers performance in this area has continued. Recently there has been a heavier leaning toward unobtrusive monitoring in order for us to maintain the social distancing requirements, so activities, such as, OTDR and rear cab rides increased.

We continue to work jointly with RSSB on progressing the research idea concerning times for train safety checks. This has been evaluated against the RSSB/DfT research funding criteria and successfully progressed to the next stage of specification, business case and prioritisation for investment approval by RSSB, which we continue to sponsor.

Recommendation 2

The intent of this recommendation is to reduce the risk of trap and drag accidents at stations by identifying and assessing technology to support train dispatch staff in deciding when it is safe to dispatch the train and using this research to derive future design guidance and/or requirements.

The Rail Delivery Group (RDG), in conjunction with RSSB, should:

Commission research into practicable ways of enhancing the detection of passengers and belongings that are trapped, or at risk of becoming trapped, in train doors during the dispatch process. A key objective of this research should be to assess the potential for new and emerging technology to support dispatch staff (such as drivers, guards and platform staff) in their decisions about when it is safe to dispatch trains. This should include consideration of:

- current requirements in standards and specifications;
- recent research undertaken on the subject;
- improvements to existing door control systems, such as door portal light beams and obstacle detection systems; and
- the potential use of image recognition systems to spot hazards during train dispatch.

If suitable design improvements or solutions are identified by the above research, RDG and RSSB should record and then disseminate the findings to relevant Standards Committees and industry groups with a view to their incorporation into future standards and specifications.

ORR decision

9. As per the recommendation, RDG (through POSG) have made a request to RSSB to carry out research into practicable ways of enhancing the detection of passengers and belongings that are trapped, or at risk of becoming trapped, in train doors during the dispatch process. This first part has completed and the results fed back to POSG (what is out there now and how effective is it). Next steps are RDG imminently to commission the research project into ways of detecting trapped passengers/belongings.

10. The RSSB knowledge analysis has been done for door closing solutions, but is only considering systems which assist the driver. Our understanding is that the recommendation is about all staff involved in dispatch. We have asked RDG to clarify this point and provide an update on timescales on the work being done by RSSB.

11. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, RDG has:

- taken the recommendation into consideration; and
- is taking action to implement it by

Status: Progressing. ORR will advise RAIB when further information is available regarding actions being taken to address this recommendation.

Information in support of ORR decision

12. On 9 October 2019 the Rail Delivery Group (RDG) provided the following initial response:

We have discussed at our Safety Forum meeting in June and agreed to request RSSB to undertake a “research into practicable ways of enhancing the detection of passengers and belongings that are trapped, or at risk of becoming trapped, in train doors during the dispatch process.” as per the recommendation in the report.

The request for research has been agreed, submitted and accepted by RSSB who have started with a literature review.