

Oliver Stewart
RAIB Recommendation Handling Manager



28 October 2022

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

Dear Andy,

RAIB Report: Derailment of a freight train near Wanstead Park, London on 23 January 2020

I write to provide an update¹ on the action taken in respect of recommendation 2 addressed to ORR in the above report, published on 16 November 2020.

The annex to this letter provides details of actions taken in response to the recommendation and the status decided by ORR. The status of recommendation 2 is **'Implemented'**.

We do not propose to take any further action in respect of the recommendation, unless we become aware that any of the information provided has become inaccurate, in which case I will write to you again.

We will publish this response on the ORR website on 31 October 2022.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Oliver Stewart', written in a cursive style.

Oliver Stewart

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

Recommendation 2

The intent of this recommendation is to reduce the risk of defective rail vehicles entering service; it is likely that work already started by VTG will assist implementation of this recommendation.

VTG should review and improve monitoring of maintenance activities on individual rail wagons to detect repetitive maintenance requirements which may indicate an underlying fault which is not being addressed.

This recommendation may apply to other Entities in Charge of Maintenance.

ORR decision

1. VTG are progressing towards a more digitalised and integrated platform for purchasing, recording, and monitoring of serialised components across all wagon fleets. VTG have taken ownership of procurement and traceability and have put in place resource and equipment to do this.
2. VTG has established 'VTG Connect', a monitoring system to digitally track components, based on RFID tag locations, mileage and other data (such as WILD sites), which can be mapped against a route. VTG is also improving the tracking of components with their suppliers, with the plan to have all large components managed in this way by the close of 2022 using PAMS (Parts and Materials). VTG have also taken repair, overhaul and refurbishment in house, in order to monitor equipment against fleet types.
3. Overall, the systems and processes VTG have put in place should improve the monitoring of maintenance activities and the identification of underlying faults that could lead to an incident of a similar nature to the derailment at Wanstead Park.
4. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, VTG has:
 - taken the recommendation into consideration; and
 - has taken action to implement it

Status: Implemented.

Previously reported to RAIB

5. On 15 November 2021 ORR reported the following:

VTG has provided a response setting out improvements made to the monitoring of maintenance activities aimed at identifying underlying faults that could lead to an incident like the derailment at Wanstead Park. We will discuss the specific issue of detection of repetitive maintenance requirements on individual wagons with VTG before considering if the recommendation has been implemented.

Update

6. The following report summarises the engagement ORR has had with VTG in relation to Wanstead Park rec 2:

Nic Bowler and I met with VTG on the 25th Mat 2021 to discuss arranging a joint inspection relating to various matters including the outstanding recommendations relating to Wanstead Park.

At that meeting Nigel Day (Engineering Director) along with Colin Denman (new Managing Director) Russ Campbell (Fleet Engineer), and Phil Sharpe (TUV Rhineland – VTGs ECM Certification and Assessment Body) discussed and showed us the strategy for improvement through digitalisation providing better maintenance and condition control.

We were advised that VTG operates daily review meetings of fleet activities to identify issues in real time. The monthly Engineering Reports also continues reported to looking to make a step change in the level of monitoring.

VTG were keen to point out that this new digitalisation programme had already started before Wanstead but would readily respond to the issues arising out of the Wanstead derailment.

This results in a system called 'VTG Connect', which forms the basis of the monitoring system, taking the information from RFID tag locations, mileage and other data (WILD sites) which can be mapped against a route. It was anticipated that wheel pan failure(s) could be tracked and monitored. We were also advised that an App is being developed for use by staff to use. We understand being developed by 3 Square For use on I pads.

VTG is also improving the tracking of components with their suppliers, with the plan to have all large components managed in this way by the close of 2022. PAMS (Parts and Materials) has been introduced to do this function.

There wasn't a functional deliverable output of any of these to see at the time of the meeting but more of a collection of activities. A site visit to see how this works in practise would provide a better experience. This was considered to be of merit and this would be combined with an ECM supervision visit to look at VTGs response to Llangennech.

Two visits were arranged with VTG and their contractors to Doncaster Rail Port (DWS) on the 31st January 2022 and Roberts Road sidings, also in Doncaster (Wabtec) on the 1st February 2022.

There are separate reports for each covering ECM supervision.

At those two visits VTG said that they have now centralised their strategic spares to PAMs.

I saw the PAMs systems on the Fleet Engineer's laptop where PAMs was running as a local application. They have also taken repair, overhaul and refurbishment in house, as opposed to their contractor providing that service, so that they can monitor equipment against fleet types. They have moved the work back to the original equipment manufacturer and ensure quality control and specification alignment. I

was provided with a sample of the OEM specifications against some of the equipment used.

Traceability on PAMs can be done through a Parts Enquiry Request and I looked at PER/2533 for brake equipment supplied by Sabre Rail. Here I could see where the part was physically located, what its serial number is and some notes on failure modes.

VTG have provided a technical bulletin to staff (contractor and VTG) to disseminate information on the system and provide contact details to support staff.

Given the observation now recommendation from the Llangennech report that there were insufficient task analysis reports on fitting and removal of (safety related) equipment. VTG are looking to populate their data bases and vehicle maintenance instruction with task analysis schedules. Given the number of individual and group items, this was anticipated this would be a long and difficult task because of intellectual property rights of the OEM that would have to be managed. I indicated that refitment to prevent recurrence of Llangennech was key and that any commercial benefits at overhaul was a matter for them, but this should not prevent any immediate safety benefit.

Pushed to provide a time bound action plan, VTG were reluctant to put one in place because simply they didn't know how difficult this would be to achieve. However, given the commonality of some the equipment with other ECMS, they were hoping to apply group think.

It was early days of PAMS but the direction of travel was encouraging.

Conclusion

VTG are progressing towards a more digitalised and integrated platform for purchasing, recording, and monitoring of serialised components across all their fleets. They have taken ownership of procurement and traceability and have put in place resource and equipment to do this. They have expanded the requirements to task analysis to enable safe and secure refitting but recognise they may have difficulties with OEMs.

VTGs direction of travel is encouraging, and I can see progress. A lack of a timetable or time bound plan is something that perhaps we should persevere in due course once VTG has grasped the size and shape of the populations exercise.

Previously reported to RAIB

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This recommendation may apply to other Entities in Charge of Maintenance.

ORR decision

1. VTG has provided a response setting out improvements made to the monitoring of maintenance activities aimed at identifying underlying faults that could lead to an incident like the derailment at Wanstead Park. We will discuss the specific issue of detection of repetitive maintenance requirements on individual wagons with VTG before considering if the recommendation has been implemented.

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

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

Status: Progressing.

Information in support of ORR decision

3. On 4 March 2021 VTG provided the following initial response:

As an immediate action VTG carried out a top level analysis of our complete fleet to identify wagons that have experienced excessive wear on either particular wheelsets or on a particular bogie. Through this analysis, VTG identified one wagon that has experienced unusual wheel life compared to its opposite end. Our Engineers carried out a full inspection and found some levels of grease build up but, no foreign particles and therefore, we found no particular fault with this vehicle.

VTG has also amended its maintenance instructions to include a check of the top centre pivots for a build-up of grease and other foreign particles during any wagon lift and at SU30 balanced maintenance events.

Finally VTG has implemented into our wheelset database, a report that will highlight any unusual wear patterns on a regular basis. This will be implemented and operational by the end of Q1 2021.

Long Term

The details above are only VTG's short term mitigations, VTG has a significant digitalisation strategy which is underway and will give significantly better maintenance and condition control. We would like to take this opportunity to offer a presentation of how we will use data to drive reliability and safety.