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27 July 2020



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

Dear Andrew,

**RAIB Report: Overspeed at Fletton Junction, Peterborough on 11 September 2015**

I write to provide an update<sup>1</sup> on the action taken in respect of recommendations 1, 2, 3 & 5 addressed to ORR in the above report, published on 1 August 2016.

The annex to this letter provides details of the action taken regarding the recommendations. The status of recommendations 1, 2, 3 & 5 is **'Implemented'**.

We do not propose to take any further action in respect of the recommendations, 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 27 July 2020.

Yours sincerely,

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

Oliver Stewart

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

## Recommendation 1

*The intent of this recommendation is to build on management processes and techniques already available to drivers and their managers, so as to provide the appropriate support when needed to mitigate safety risks caused by adverse influences from a driver's personal circumstances.*

Virgin Trains East Coast should introduce an enhanced process to encourage increased partnership between its drivers and their managers. This process should include:

- encouraging drivers and their managers to have timely, open, and honest discussions about drivers' personal circumstances, and the operational risks arising from personal problems;
- recognising that staff suffering from stress may not be the most appropriate people to judge the possible effects of this stress;
- providing drivers with access to, and encouraging them to apply, appropriate advice about the management of fatigue, including the importance of appropriate eating as well as sleeping;
- evaluating and disseminating the advantages and limitations of non- technical skills training, particularly whether non-technical skills are the appropriate means to address risks due to distraction from personal problems; and
- identifying the additional or alternative support which should be provided to drivers if non-technical skills training does not adequately mitigate the risks associated with their personal circumstances.

## ORR decision

1. London North Eastern Railway Ltd (LNER) took over operation of the Virgin Trains East Coast (VTEC) franchise on 24 June 2018 and have continued to act upon recommendations 1, 2 and 5.

2. LNER have made a number of changes to their management processes and techniques aimed at building improved working relationships between train drivers and managers, which may facilitate the identification of personal issues that could impact driver performance.

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

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

***Status: Implemented.***

**Previously reported to RAIB**

4. On 2 August 2017 ORR reported that it was content that the actions proposed by VTEC in their initial response would help develop working relationships between drivers and driver managers to facilitate the identification of personal issues. So far, ORR had only received verbal assurance that the actions had been completed. At a liaison meeting with the ORR account holder on 14 July 2017, VTEC agreed to provide ORR with a formal update on progress with the three recommendations addressed to them in the Fletton Junction report.

## Update

5. LNER provided the following update on 22 May 2020:

***Rec 1 - The intent of this recommendation is to build on management processes and techniques already available to drivers and their managers, so as to provide the appropriate support when needed to mitigate safety risks caused by adverse influences from a driver's personal circumstances.***

- Staff awareness campaigns were conducted post incident i.e. poster campaigns and safety training & update days
- Twice yearly fatigue and lifestyles briefings are issued to safety critical staff
- Health & Wellbeing assistance was made available via app (Care First's stress-free Island) and email campaigns
- Comprehensive Non-technical skills training courses have been delivered to all drivers, facilitated through the OPC
- Managers can request the OPC to develop bespoke personal action plans for individuals following an assessment of their psychological wellbeing

## Recommendation 2

*The intent of this recommendation is to identify locations (such as Fletton Junction) where there is a greater than usual risk that a driver may be unaware of a speed restriction. This is one of the circumstances in which the effectiveness of mitigation provided by infrastructure and signalling equipment should be considered (learning point 4).*

Virgin Trains East Coast, working with Network Rail, should review and implement any necessary improvements to its processes for:

- reviewing Virgin Trains East Coast routes to identify locations where a driver may be at greater than usual risk of being unaware of a speed restriction;
- identifying appropriate and effective mitigation measures at these locations;
- implementing these mitigation measures when they are within Virgin Trains East Coast's control; and
- confirming that Network Rail is aware of these mitigation measures when they are within its control.

This recommendation may also apply to other train operators

## ORR decision

6. Network Rail have identified locations on the LNE route where a train driver may be a greater risk of being unaware of a speed restriction. 14 locations were identified where a train accelerates towards a Permanent Speed Restriction (PSR) and mitigation measure have been taken. The work was done in consultation with LNER and other operators that use the LNE route.

7. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, LNER and Network Rail have:

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

***Status: Implemented.***

## Previously reported to RAIB

8. On 2 August 2017 ORR reported that it was content with the actions proposed by VTEC in their initial response, but had not yet seen sufficient evidence that they had been satisfactorily completed. At a liaison meeting with the ORR account holder on 14 July 2017, VTEC agreed to provide ORR with a formal update on progress with the three recommendations addressed to them in the Fletton Junction report.

## Update

9. On 9 October 2019 Network Rail provided the following closure statement:

***Please note: As the Fletton Jn recommendations from the ORR refer to Virgin Trains East Coast I have continued to use this name rather than adopt the new operating name of London North Eastern Railway (LNER)***

*In response the Fletton Recommendation there are four points:*

*Review Virgin Trains East Coast routes to Identify locations where a driver may be at greater risk of being unaware of a speed restriction.*

- *This requirement was completed as part of the national SIN (161) issued in February 2017, following an initial collation of the route PSRs from a number of sources undertaken by the signalling design team the SIN was signed off for the LNE route on the 29<sup>th</sup> January 2018.*

*Identify appropriate and effective mitigation measures at these locations:*

- *From the sites identified as part of the outputs from the aforementioned SIN 161 the signalling design group have undertaken a review on what next steps can be achieved for each specific site. These are detailed for all the LNE route*

*and consequently were not limited to lines where Virgin trains currently traverse. (please see below)*

*Confirming that Network Rail is aware of these mitigation measures when they within its control (Paragraphs 120c and 121b)*

- The implementation of the TPWS alterations for protecting against over speeding trains through Fletton Jn has reduced the authorised speed on the UP SLOW to 50 mph along with the improved TPWS effectiveness for the junction has provided the suitable mitigation measures for trains traversing Fletton Jn from the UP SLOW.*
- The outputs from the original SIN 161 requirements resulted in a number of workshops being organised with representation from VTEC and other train operators on the LNE route to review collaboratively all the identified sites and risk. The output of these workshops was that 14 sites were identified where it was agreed trains regularly accelerate towards a PSR.*
- The signalling design group at York were again commissioned to undertake further analysis of the specific local issues associated each of the 14 identified sites and concluded:*
  - Attainable speed for applicable trains does NOT exceed the Tolerable Excessive Speed for 4 sites.*
  - Linespeed is achieved before the PSR commences and is no longer accelerating for 2 sites.*
  - PSRs were not fitted for TRACK condition for 3 sites.*
  - 900mm PSR boards have been installed & commissioned at 3 sites.*
  - 2 sites have been identified with a significant risk and further mitigation proposals have been developed.*

*As part of these workshops Grand Central raised the specific issue of Severus Curve and that there is no effective TPWS protection for approaching trains with a maximum speed up to 100 mph. Severus Curve is on the approach into York from Darlington and is protected with a 60 mph PSR. Trains decelerate from 125 mph and due the changes in authorised speeds on the approach to York the protecting TPWS is set at 115mph.*

*Additionally, at these workshops we were requested and have reviewed the TPWS overspeed protection provided at both Morpeth Curve and Swinton Curve. (not examples of acceleration towards a PSR)*

*This review was to look at the existing protection and determine if anything additionally could be done to improve the effectiveness of the TPWS at these locations.*

*This initial review identified that the existing TPWS protection could be improved for the UP Main at Morpeth, a differential PSR would be required together with works to*

look at cascade speeds. Whilst this theoretically would provide an improvement this would require further input from our stakeholders both TOCs and FOCs who operate in this area and likely include a Network Change because of potential alteration to line speed. This requires further work to be undertaken from our signalling design team, which has been under consideration and is to be progressed, the output of which would need to be discussed with our stakeholders.

The report also concluded that no additional works are required at Swinton

- In conclusion the LNE route is progressing four proposals to improve the TPWS effectiveness at the following locations:
  - Crimple Curve (original SIN 161 site)
  - Holmes Curve (original SIN 161 site)
  - Severus Curve (additional request from the TOCS)
  - Morpeth Curve (additional request from the TOCS)

10. LNER provided the following update on 22 May 2020:

***Rec 2 - The intent of this recommendation is to identify locations (such as Fletton Junction) where there is a greater than usual risk that a driver may be unaware of a speed restriction. This is one of the circumstances in which the effectiveness of mitigation provided by infrastructure and signalling equipment should be considered (learning point 4).***

- Route risk assessment process now includes all potential sources of risk (the emphasis used to be signalling related risk generally)

### **Recommendation 3**

*The intent of this recommendation is to capture, and make available at an appropriate time, information about risk mitigation measures which should be considered at line speed restrictions.*

Network Rail should introduce a process to capture and retain the output from recommendation 2 relating to its infrastructure, so that:

- any reasonably practicable short-term risk reduction measures are taken; and
- appropriate information about risk reduction measures is available for consideration when future infrastructure changes are being considered and developed.

### **ORR decision**

11. As part of the SIN 161 work associated with recommendation 2, Network Rail has introduced a formal process for capturing information about risk mitigation associated with speed restrictions. This information is shared with all TOCs and FOCs.

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

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

**Status: Implemented.**

### Previously reported to RAIB

13. On 2 August 2017 ORR reported that we had not received a formal response from Network Rail to the recommendation.

### Update

14. On 9 October 2019 Network Rail provided the following closure statement:

*In response the Fletton Recommendation there are two points:*

*Any reasonably practicable short-term risk reduction measures are taken;*

- *Where minor mitigations have been possible these works have been delivered as advised below, where mitigations are more complex then these are either being looked at in greater detail and have solutions proposed (Crimple, Holmes and Severus) or are being developed (Morpeth).*
- *Please see the work undertaken to-date as detailed below:*
  - *Attainable speed for applicable trains does NOT exceed the Tolerable Excessive Speed for 4 sites.*
  - *Line speed is achieved before the PSR commences and is no longer accelerating for 2 sites.*
  - *PSRs were not fitted for TRACK condition for 3 sites.*
  - *900mm PSR boards have been installed & commissioned at 3 sites.*
  - *2 sites have been identified with a significant risk and further mitigation proposals have been developed.*

*Appropriate information about risk reduction measures is available for consideration when future infrastructure changes are being considered and developed. (paragraph 120c, and 121b)*

- *As part of the work undertaken for SIN 161 following an initial collation of the route PSRs into a single spreadsheet / database this has been made available to all TOCS / FOCS and is available for future reference.*
- *The detail of the output following the review in these workshops is also contained within and available to all stakeholders.*

*As part of infrastructure works RAM and project teams are required to confirm infrastructure deficiencies in the area that is to be impacted within a renewal*

*intervention. This will / has now been extended to include any works from the SIN 161 output.*

## **Recommendation 5**

*The intent of this recommendation is for investigations to gain a deeper understanding of events caused by people who become distracted.*

Virgin Trains East Coast should review and develop its existing arrangements for incident investigation so that information about possible causes of loss of attention/distraction (eg from personal problems) is properly considered as a possible cause of the incident

## **ORR decision**

15. LNER has improved arrangements for investigating incidents where loss of attention or distraction was a factor and also taken steps to enhance the identification of suitable risk controls.

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

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

***Status: Implemented.***

## **Previously reported to RAIB**

17. On 2 August 2017 ORR reported that it was content that VTEC were proposing appropriate changes to their incident investigation guidance to take account of distraction due to personal circumstances. So far ORR had only received verbal assurance that the changes have been made. At a liaison meeting with the ORR account holder on 14 July 2017, VTEC agreed to provide ORR with a formal update on progress with the three recommendations addressed to them in the Fletton Junction report.

## **Update**

18. VTEC provided the following update on 22 May 2020:

***Rec 5 - The intent of this recommendation is for investigations to gain a deeper understanding of events caused by people who become distracted. Virgin Trains East Coast should review and develop its existing arrangements for incident investigation so that information about possible causes of loss of attention/distraction (eg from personal problems) is properly considered as a possible cause of the incident (paragraph 120a).***



- Internal investigation processes ensure that during an investigation the root cause of concentration/distraction issues are fully considered and investigating managers are able to source external specialists to help identify the exact nature that risks posed i.e. OPC/RSSB.
- All safety critical staff are briefed and can seek help at the earliest opportunity so any necessary controls can be implemented before an incident or accident happens (facilitated through company H&W team).

## Previously reported to RAIB

### Recommendation 1

*The intent of this recommendation is to build on management processes and techniques already available to drivers and their managers, so as to provide the appropriate support when needed to mitigate safety risks caused by adverse influences from a driver's personal circumstances.*

Virgin Trains East Coast should introduce an enhanced process to encourage increased partnership between its drivers and their managers. This process should include:

- encouraging drivers and their managers to have timely, open, and honest discussions about drivers' personal circumstances, and the operational risks arising from personal problems;
- recognising that staff suffering from stress may not be the most appropriate people to judge the possible effects of this stress;
- providing drivers with access to, and encouraging them to apply, appropriate advice about the management of fatigue, including the importance of appropriate eating as well as sleeping;
- evaluating and disseminating the advantages and limitations of non- technical skills training, particularly whether non-technical skills are the appropriate means to address risks due to distraction from personal problems; and
- identifying the additional or alternative support which should be provided to drivers if non-technical skills training does not adequately mitigate the risks associated with their personal circumstances.

**This recommendation may also apply to other train operators**

### ORR decision

1. ORR was content that the actions proposed by VTEC in their initial response would help develop working relationships between drivers and driver managers to facilitate the identification of personal issues. So far, ORR has only received verbal assurance that the actions had been completed. At a liaison meeting with the ORR account holder on 14 July 2017, VTEC agreed to provide ORR with a formal update on progress with the three recommendations addressed to them in the Fletton Junction report.

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

- taken the recommendation into consideration; and
- is taking action to implement it, but ORR has yet to be provided with formal confirmation that all associated actions have been completed

**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**

3. On 6 November 2016 Virgin Trains East Coast provided the following initial response:

<b>Action</b>	<b>Timescale</b>
<i>Much of the recommendation is covered by our new Health and Wellbeing Strategy. Specifically to address the recommendations:-</i>	<i>Ongoing, all Health and Wellbeing Expertise is now in house with contracts in place for psychological assessment and counseling.</i>
<i>Awareness campaign on going in SUD briefings as part of the regular Health and Wellbeing section</i>	<i>Ongoing</i>
<i>Introduction of Wellbeing Warriors with responsibility for promoting wellbeing awareness to all staff.</i>	<i>Completed</i>
<i>Complete review of Non-Technical Skills training (currently RSSB course delivered by VTEC trainers). Examine fitness for purpose of course and how it can be delivered in a more engaging way to front line staff.</i>	<i>Due by 25/11/2016</i>
<i>Engagement with external providers regarding options for identifying methods to ascertain “psychological” fitness for duty proactively and also reactively as part of the investigation process.</i>	<i>Completed. Meeting with OPC and other Stagecoach companies held on 7/10/16</i>
<i>Development of RED Safety DVD dramatisation featuring non workplace related issues importing risk into workplace</i>	<i>Completed. Filming undertaken on 01/09/16 at KGX. Will feature in RED46</i>
<i>Introduction of Operational Safety Magazine for VTEC staff where learning</i> <i>Ongoing, all Health and Wellbeing Expertise is now in house with contracts in place for psychological assessment and counseling.</i>	<i>10/11/16 (issue one, then on-going)</i>

## **Recommendation 2**

*The intent of this recommendation is to identify locations (such as Fletton Junction) where there is a greater than usual risk that a driver may be unaware of a speed restriction. This is one of the circumstances in which the effectiveness of mitigation provided by infrastructure and signalling equipment should be considered (learning point 4).*

Virgin Trains East Coast, working with Network Rail, should review and implement any necessary improvements to its processes for:

- reviewing Virgin Trains East Coast routes to identify locations where a driver may be at greater than usual risk of being unaware of a speed restriction;
- identifying appropriate and effective mitigation measures at these locations;
- implementing these mitigation measures when they are within Virgin Trains East Coast's control; and
- confirming that Network Rail is aware of these mitigation measures when they are within its control.

**This recommendation may also apply to other train operators**

### **ORR decision**

4. ORR was content with the actions proposed by VTEC in their initial response, but has not yet seen sufficient evidence that they have been satisfactorily completed. At a liaison meeting with the ORR account holder on 14 July 2017, VTEC agreed to provide ORR with a formal update on progress with the three recommendations addressed to them in the Fletton Junction report.

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

- taken the recommendation into consideration; and
- reported that actions to implement the recommendation would be completed by 31 March 2017, but has yet to provide written confirmation.

**Status: Implementation ongoing. ORR will advise RAIB when actions to address this recommendation have been completed.**

### **Information in support of ORR decision**

6. On 6 November 2016 Virgin Trains East Coast provided the following initial response:

<b>Action</b>	<b>Timescale</b>
<i>Complete review of route risk assessment process to expand focus from purely signaling risk (ie SPAD) to other risks, both technical (speeding) and where there is a foreseeable risk from human error.</i>	21/11/16
<i>Workshop with Network Rail to identify operational risk from train operations and comparison with SRM model to identify if there are missing elements.</i>	28/11/16
<i>Develop route risk assessment model with an output to be in a format that can be easily</i>	16/12/16

<i>understood by the end user and can form the basis of the route knowledge assessment process.</i>	
<i>Once completed safety validation of revised process on a section of VTEC route and independently checked for robustness by sister company.</i>	14/01/17
<i>Train depot route risk champions in the implementation of the process.</i>	28/01/17
<i>Complete review of VTEC route risk assessments in conjunction with NeR (and potentially other operators on ECML) – where additional controls are required these are tracked through Level 2 and regional TORG sub group.</i>	31/03/17

### Recommendation 3

*The intent of this recommendation is to capture, and make available at an appropriate time, information about risk mitigation measures which should be considered at line speed restrictions.*

Network Rail should introduce a process to capture and retain the output from recommendation 2 relating to its infrastructure, so that:

- any reasonably practicable short-term risk reduction measures are taken; and
- appropriate information about risk reduction measures is available for consideration when future infrastructure changes are being considered and developed.

### ORR decision

7. ORR addressed recommendations 3 and 4 to Network Rail on 5 September 2016, requesting a response by 4 November 2016. We are yet to receive a formal response to either recommendation. We requested an update on the progress of the response on 27 April, 1 June and 13 July 2017.

8. ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- not provided a response setting out how it will be delivered.

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

**Recommendation 5**

*The intent of this recommendation is for investigations to gain a deeper understanding of events caused by people who become distracted.*

Virgin Trains East Coast should review and develop its existing arrangements for incident investigation so that information about possible causes of loss of attention/distraction (eg from personal problems) is properly considered as a possible cause of the incident

**ORR decision**

9. ORR are content that VTEC were proposing appropriate changes to their incident investigation guidance to take account of distraction due to personal circumstances. So far ORR has only received verbal assurance that the changes have been made. At a liaison meeting with the ORR account holder on 14 July 2017, VTEC agreed to provide ORR with a formal update on progress with the three recommendations addressed to them in the Fletton Junction report.

10. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Virgin Trains East Coast has:

- taken the recommendation into consideration; and
- is taking action to implement it, but ORR has yet to be provided with formal confirmation that the

**Status: *Implementation ongoing.* ORR will advise RAIB when actions to address this recommendation have been completed.**

**Information in support of ORR decision**

11. On 6 November 2016 Virgin Trains East Coast provided the following initial response:

<b>Action</b>	<b>Timescale</b>
<i>Production of Investigations Guidance material for investigators of operational incidents</i>	10/11/16
<i>Revision to SMS15.3 to include reference to seeking independent advice when considering “non technical” skills or distraction related evidence in an investigation</i>	10/11/16