Oliver Stewart
RAIB Recommendation Handling Manager

4 November 2024

Mr Andy Lewis
Deputy Chief Inspector of Rail Accidents

Dear Andy,

RAIB Report: Fatal accident involving a train passenger near Balham on 7 August 2016

I write to provide an update[1] on the action taken in respect of recommendations 1 & 2 addressed to ORR in the above report, published on 25 May 2017.

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

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.

Yours sincerely,

Oliver Stewart

[1] 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 improve the industry's management of the interacting risks between infrastructure and rolling stock on the route.

Network Rail, in collaboration with operators of trains, should introduce a process to implement the sharing of data regarding clearances between structures and trains at window height with train operators, so that operators can make more informed decisions about the management of risk associated with opening windows

ORR decision

1. Network Rail has addressed the recommendation by making a list of structures at window height available to TOCs, FOCs and charter operators as part of the National Gauging Database (NGD).

2. 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 close it

Status: Closed.

Previously reported to RAIB

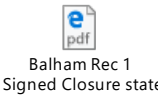
3. On 24 May 2018 ORR reported the following**:**

Network Rail stated in their initial response that to address the recommendation they would, for each issue of the National Gauging Database (NGD), produce a list of structures on the network that infringe on the window box for vehicles with opening windows as detailed in GI/RT7073, Issue One Clause 2.2.3.

We have asked Network Rail to confirm that they have provided all the necessary information to operators, including to charter and mainline heritage operators and measures to automate the process to release the window box infringement data with each new NGD release.

Update

4. On 27 July 2018 Network Rail provided the following closure statement:



5. Network Rail state in conclusion the following:

The Chief Track & Lineside Engineer has considered the purpose of the Recommendation and has acted appropriately to address the underlying issues identified from the recommendation.

The Window Bow reporting function of RSC Insight has been approved and access is available to the Train Operators community. How to get access to The Window Box reports in RSC Insight is detailed in the attached PowerPoint.

In view of the actions taken the intent of this recommendation has been met and therefore considered CLOSED.

Recommendation 2

The intent of this recommendation is to reduce the risk of injury at open train windows.

Operators of trains which include rolling stock with droplight windows should assess the risk arising from reduced clearance outside those windows and implement any reasonably practicable measures to mitigate it. The review should be informed by obtaining from Network Rail the data referred to in recommendation 1, and include consideration of means of preventing people from leaning out of windows and/or improving warning signage. These measures should address the risks to both passengers and staff.

ORR decision

6. All rolling stock with droplight windows operated by TOCs at the time the recommendation was made has either been withdrawn from service or has engineering controls to prevent a window being opened while the train is in motion.

7. Charter operators that run trains on the mainline using rolling stock with droplight windows use warning signs and provide stewards in vestibule areas to prevent passengers from putting their head out of an open window. We consider these risk controls to be an interim measure to address the recommendation, but longer term we want engineered solutions put in place to remove the need for stewards on the trains and their potential fallibility.

8. Hastings Diesels Ltd (HDL) has provided a recent update reporting the use of stewards in vestibule areas in addition to announcements, bringing them into line with other operators.

9. As of September 2024, Riviera trains have announced the winding up of their operation, with the coaching stock being transferred to WCRC, so we will not be pursuing them for a response.

10. Like Balham recommendation 2, recommendation 1 from the Twerton RAIB report is aimed at reducing the risk of injury to passengers at open train windows. We have therefore considered responses to Balham recommendation 2 to also be

applicable to closure of Twerton rec 1. We will write to you separately regarding Twerton rec 1.

11. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, operators of trains which include rolling stock with droplight windows have:

- taken the recommendation into consideration; and
- have taken action to close it.

Status: Closed.

Previously reported to RAIB

12. ORR reported the following on 24 May 2018:

- **CrossCountry Trains -** CrossCountry Trains are replacing the drop light windows/slam doors on their small HST fleet, removing the risk of a passenger being able to put their head out of a window. Until the work is completed, staff are being trained to deter misuse through use of PA announcements.

- **East Midlands Railway -** ORR has written to East Midlands Trains asking for an explanation of any action being taken with the doors on their HST fleet, in line with those of other operators.

- **Great Western Railway -** GWR are replacing most of their HST fleet in 2018 and those retained will have plug doors fitted, which will engineer out the risk of a customer being able to put their head out of the window. We have asked GWR for an update on progress since their initial response in September 2017. We have also asked GWR to explain the measures they take on their sleeper services to address the risk of a customer placing their head out of a window.

Update

13. On 9 July 2024 CrossCountry provided the following update:

CrossCountry can confirm that the HST Door Modifications for operational vehicles were completed prior to the then PRM-TSI obligations coming into force in January 2020, and the fleet itself was withdrawn in October 2023.

14. On 14 June 2024 East Midlands Railway provided the following update:

I can confirm our HSTs have been withdrawn and are no longer in operation. The risk to passengers is not present on any other train type operated by EMR.

15. On 25 June 2024 Great Western Railway provided the following update:

GWR operate only a very small number of trains with drop light windows, as outlined below.

1. *In accordance with GWR's earlier response, GWR replaced most of its HST fleet. The retained HST's (255 Castle Class) are fitted with plug doors in passenger vestibules. The only droplight windows remaining are located within the TGS van, which has access by staff only from the passenger saloon via a secured door.*

2. *For the Night Riviera (Sleeper) service (57 Loco with Mark 3 coaches), GWR have implemented a number of control measures. For example, GWR have installed electropneumatic window bolts linked with the CDL (completed December 2020), which restricts opening of droplight windows when the train is in motion. In addition to the bolt modification, stops are limited and additional services provided, such that the number of passengers likely to join the sleeper in between Plymouth and Penzance is minimised. The down sleeper (London Paddington – Penzance) sets down passengers only at stations served between Plymouth and Penzance and the up sleeper (Penzance – London Paddington) picks up passengers only at stations served between Penzance and Plymouth, with an additional service which runs in front of the down Sleeper and in front of the up Sleeper in Cornwall. The Sleeper service has a relatively high staff to customer ratio, with a customer host for each two sleeping carriages, and one in the lounge car. It is also double staffed with an additional Train Manager between Plymouth and Penzance.*

16. On 17 June 2024 Chiltern Railways provided the following update on Twerton Rec 1:

Four years has passed since our response. We now operate no trains with opening Droplight windows accessible to passengers. Our only trainset with opening droplight windows (AL05) was withdrawn from service in 2020. Our remaining Mk3 Trains only have droplight windows in the DVT vehicles for use by staff during train dispatch. We block passenger access from these windows though operational controls with sliding doors that are normally closed and signage.

In practical terms, the risk of a passenger injuring themselves through an open droplight window has been made as low as reasonably practicable in our operation.

17. On 1 February 2019 Belmond (UK) Ltd provided the following initial response - operate both the Belmond Royal Scotsman (GSWR Ltd) and the Belmond British Pullman (VSOE Ltd) :

Belmond (UK) Ltd operate both the Belmond Royal Scotsman (GSWR Ltd) and the Belmond British Pullman (VSOE Ltd) and the details of the measures we have taken/intend to take to implement recommendation 2 are as follows:

1. *A risk assessment has been conducted by our Entity in charge of Maintenance which is attached.*

RA 005 Droplight Windows.pdf

2. *We intend to action the recommendations of this risk assessment during 2019.*

Some of our vehicles have droplight windows fitted to traincrew access doors. We are currently consulting with our haulage suppliers about what effect these recommendations will have on their train dispatch procedures.

18. On 5 February 2019 DB Cargo provided the following initial response:

We use a number of providers for our charter services most notably; Pathfinder. These provide stewards in each vestibule area who monitor people entering that area (they have to use the toilets which are situated at vehicle ends). Announcements are made and there is signage provided in the vicinity of the droplight windows with a clear instruction for these to remain in the 'up' position whilst the train is in motion. Pathfinder will also remove people from the train who fail to follow the instructions and can be banned from future tours. The following extracts are taken from the 'stewarding guidelines' document under the heading of Vestibule Droplight Windows:
- These are to remain in the 'up' position whilst the train is in motion. The 'up' position can be defined as the window being 100%
- PA announcements to this effect will be made on a regular basis by the nominated steward and a written message is included in the tour booklet.
- Riviera Trains will also have signs on all droplight windows to reinforce this.
- Passengers are not to place any part of their body or belongings (e.g. cameras, phones etc.) outside of the carriage whilst the train is in motion.
- Stewards can lower the droplight window on arrival/departure from stopping stations in order to conduct their duties.
- It is the responsibility of all stewards to be vigilant when passing through the train. If a problem arises, it is the steward's duty to give the passenger one warning. If this is ignored, close the window and advise the Team Leader of the passenger's name and location immediately.

For completeness, we attach for your information a copy of the 'Stewarding Guidelines' document which supports the current process.

Steward Guidelines.pdf

19. On 31 January 2019 Hastings Diesels provided the following initial response:

Background

Hastings Diesels Limited (HDL) was formed in 1987 to preserve and restore surplus 'Hastings' DEMU stock. Our train, which returned to main-line running in 1996, now comprises a 6-coach multiple unit of steel construction. Its four original coaches were built by BR at Eastleigh in 1957; they have a slightly narrow body to fit through

substandard tunnels then extant on the Hastings line. The two other vehicles originate from younger Southern Region stock and have standard-width bodies. The train has been maintained at St. Leonards Depot since it was new, both under BR and in preservation. It is self-powered, with foor-mounted diesel-electric generator sets occupying the leading portions of the driving coaches at each end. The coaches are joined using buckeye couplings reinforced by lower shelf brackets. Central Door Locking was fitted in 2007, as was TPWS and OTMR; it now also has GSM-R radio. It has operated many charter outings including 75 HDL railtours.

In a purely technical sense, we do not operate our train on the main line: our Operating Company partner GB Railfreight operates it on our behalf, using its passenger safety case and its traincrew. However, the nature of our collaboration is such that its responsibilities in respect of this recommendation would naturally transfer back to us; so for the purposes of recommendation 2 we may indeed be considered "an organisation that operates rolling stock with droplight windows on the main line".

We shall address recommendation 2 in two stages: the first is the assessment of risk and the informing of our review by obtaining data referred to in recommendation 1; the second stage involves considering how to reduce that risk and implementing any reasonably practicable measures to mitigate it.
We shall now deal with each stage in turn.

Stage 1

The recommendation invites us to assess the risk arising from reduced clearance outside droplight windows, and notes that our review should be informed by obtaining the data referred to in recommendation 1.

GB Railfreight informs us that it has reviewed those data referred to in recommendation 1, namely data regarding clearances between structures and trains at window height.

However, it is considered that those data are not of great value for this exercise. Let us suppose that they showed (for instance) that a person projecting 150mm from a droplight window on our train would never encounter a lineside obstacle on the routes we might use. An incident could still arise because the person might choose to project themselves a greater distance from the window aperture, and/or a rogue lineside obstacle such as a damaged tree might easily invalidate any defned clearance envelope.

It is therefore our position that a quantitative risk assessment is not particularly helpful in this exercise. The intent of the recommendation is "to reduce risk of injury at open train windows", and it is evident that the best mechanism for reducing this risk is to prevent our passengers and staff from projecting any parts of their bodies from open windows. This leads us to our second stage of addressing the recommendation.

Stage 2

The recommendation invites us to consider means of preventing both passengers and staff from leaning out of windows and/or improving warning signage, and to implement any reasonably practicable measures to mitigate risk arising from reduced clearance outside droplight windows.

Our response to this stage can itself usefully be divided into two parts: the ***'soft' solution,*** *and the* ***engineered solution****.*

HDL's ***'soft' solution*** *comprises education, signage, monitoring and enforcement. As soon as the RAIB published its Balham report on 25 May 2017, we appreciated its significance for us. On our own initiative, within 8 days we had updated our Code of Conduct, published a notice on our website entitled 'Leaning out of windows', and written to all 900 or so HDL shareholders and mailing-list members drawing it to their attention.*

Our Code of Conduct is summarised on the reverse of our railtour tickets. Notices of similar content are posted in our train's vestibules. Our on-train staff monitor passenger behaviour in the vestibules. The Guard and/or the Railtour Manager remind passengers of their responsibilities via the train's public address system. Uncooperative passengers may face escalating measures ranging from a verbal intervention, a formal written warning, being barred from future trips, to removal from the train mid-journey.

We are aware that this solution ultimately relies on common sense and following instructions. We also recognise that efforts to monitor passenger behaviour can only go so far: it is not reasonably practicable to appoint suffcient stewards (probably 9) such that there could be one steward permanently stationed in each vestibule; nor would it be desirable, even if they could be recruited, to have them standing in such a location for an entire day's outing which might comprise 500 miles' travel in 14 hours!

It had been our belief that the foregoing 'soft' solution would be suffcient to reduce risk to passengers to a level as low as reasonably practicable; thus, we hoped to avoid an ***engineered solution*** *which, as the notice on our website says, could be to ft window-bars as a last resort; for it would be seen to impair the historic character of our train.*

In autumn 2018, two events caused us to re-evaluate our position. We learned that any renewal of our 'Mark I' rolling-stock-ban exemption in 2023 would incorporate a requirement to fit window-bars to our train; and there occurred the fatal accident involving a passenger reportedly struck by a tree-branch while leaning out of a droplight window on a HST near Twerton.

Thus we reasoned: that even if risk to people standing at our open droplights was being fully managed we would soon be required to fit window-bars regardless; and the consequences of an accident, which could apparently happen in spite of any assessment of data regarding clearances between structures and trains, have been gravely illustrated.

*Therefore, **our position is now that an engineered solution**, comprising two horizontal metal bars across the aperture of each droplight window, would further reduce the risk of injury at open train windows by enforcing compliance with our Code of Conduct: physically preventing passengers or staff from projecting their heads outside the train. GB Railfreight supports us in this view.*

We have considered the special case of the two droplight windows in the Guard's van of motor coach 60118 Tunbridge Wells, an area which on some of the train's outings is used exclusively for catering purposes (the Guard having use of the second brake-van on our train). Bars could be fitted to those windows, but removed (together with the shelving and other catering paraphernalia) when "de-mounting" the catering operation and reverting the van for use by Guards on trips where no such catering activities arise.

Unintended consequence

However, even as we were formulating our design for this solution, with an anticipated timescale for fitment within 2019, further information was brought to our attention: an unintended consequence of fitting window bars. It could considerably increase risk in the event of a major incident.

In the Ladbroke Grove disaster of 1999, droplight windows proved to be the sole means of escape for many survivors on board overturned coaches on the HST. Bodyside deformation meant that doors could not be opened, and breaking windows even where possible would shower casualties with glass fragments.

Our train has a diesel power unit and fuel tank at each end, just like the HST, and the threat or presence of fire combined with the risk of entrapment warrants serious consideration.

While this risk has a relatively low probability of occurring, it has the potential to cause harm to many people—whereas the risk of injury to people leaning out of windows applies only to those individuals who have deliberately contravened all 'soft' measures we can reasonably employ.

We therefore have had to take a step back to re-evaluate the overall risk in search of an appropriate engineering solution. To this end we are joining the RSSB Heritage Trains Risk Group, which comprises Operators in a similar position to ourselves and facing similar decisions. The Group is monitored by the ORR who will be kept updated on the progress of our discussions in this regard.

In the meantime, we remain committed to our 'soft' solution as described above, until such time as a suitable engineered solution is identifed and agreed in conjunction with the Group.

20. On 31 October 2024 Hastings Diesels provided the following update:

Dear Mr. Parsonage, the statement in 1.3 that the reliance placed on using announcements rather than stewards by Hastings Diesels Ltd (HDL) does not now

reflect the current procedure. Our continual reviewing of our operation has resulted in door stewards duties as follows:

Whilst in motion

Door Stewards are to be vigilant for passengers leaning out of or holding any items out of windows which is strictly forbidden. Passengers are not to travel in the vestibules or by doors unless transiting through or past them to access other areas of the train. All passengers have agreed to abide by the code of conduct when booking to travel. If you see anyone breaking these rules speak to them politely but firmly and remind them of the rules they have agreed to follow. In the unlikely event that they refuse to comply inform the tour manager or Guard, who will take appropriate action.

21. On 29 November 2019 North Yorkshire Moors Railway provided the following initial response:

We have reviewed this report and its recommendations, and our risk assessments, in liaison with Network Rail and other industry partners.
Taking into consideration clearances on our own and Network Rail infrastructure , the provision of signage and supervision by on-train staff, we're satisfied that the risk has been mitigated.

22. On 11 January 2019 Princess Royal Class Locomotive Trust provided the following initial response:

The two MK1 coaches we have (Tops numbers 99040 and 99041) are used soley as support vehicles for staff/volunteers holding Personal Track Safety Certificates.
No members of the public or fare paying passengers are carried in these vehicles.
All support crew members have been briefed on the dangers and a risk assessment is being carried out.

23. On 12 March 2019 Railfilms Limited provided the following initial response:

I am afraid that I am out of the loop now on rail operations having disposed of my stock and gone into semi retirement - though still doing some minor consultancy work.
I would be happy to comment but don't feel I can as I no longer can be regarded as actively involved in this segment of the rail industry.

24. Riviera Trains Ltd - No response despite several reminders.

25. On 8 February 2019 Scottish Railway Preservation Society response:

In response to receipt on 29th November 2018 of the RAIB Report into the incident at Balham we reviewed our document SRPS Railtours Door Duties; it was then amended by our Safety Officer to Version 8 on 4th December 2018 to include a paragraph covering passengers leaning out of windows. This updated document is currently being uploaded to our electronic documentation system (HOPS) and all staff serving from 2019 will sign for the revised document at the earliest opportunity. This paragraph will also now be inserted into all staff briefings.

We address the issue in the following ways:

- *All door staff are trained in their duties including vigilance regarding use of open windows.*
- *Before being passed out as competent door stewards they have to sign a document which states*

that they understand all aspects of their duties, which includes monitoring windows.

- *The requirement for vigilance regarding leaning out of windows is included in the specific briefing produced for each train.*
- *The Train Manager includes warnings advising passengers not to lean out of windows in his*

announcements over the PA system.

- *Staff are vigilant throughout the tour in monitoring passengers who are standing near drop-down*

windows and may be tempted to lean out. They will act accordingly to stop people leaning out.

- *We have notices at all drop light windows which instruct passengers not to lean out.*
- *If a passenger is found to be leaning out of a window he/she is advised to stop doing so. If they*

persist, they are advised that they could be removed from the train and be banned from future
tours.

- *A warning will also henceforth be inserted in each passenger handout.*

Previously reported to RAIB

Recommendation 1

The intent of this recommendation is to improve the industry's management of the interacting risks between infrastructure and rolling stock on the route.

Network Rail, in collaboration with operators of trains, should introduce a process to implement the sharing of data regarding clearances between structures and trains at window height with train operators, so that operators can make more informed decisions about the management of risk associated with opening windows

ORR decision

1. Network Rail stated in their initial response that to address the recommendation they would, for each issue of the National Gauging Database (NGD), produce a list of structures on the network that infringe on the window box for vehicles with opening windows as detailed in GI/RT7073, Issue One Clause 2.2.3.

2. We have asked Network Rail to confirm that they have provided all the necessary information to operators, including to charter and mainline heritage operators and measures to automate the process to release the window box infringement data with each new NGD release.

3. 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
- is taking action to implement it by 31 May 2018.

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

Information in support of ORR decision

4. On 15 August Network Rail provided the following initial response:

To satisfy the recommendation Network Rail will for each issue of the National Gauging Database (NGD) produce a list of structures on the network that infringe on the window box for vehicles with opening windows as detailed in GI/RT7073, Issue One Clause 2.2.3. The list will be made available to Train Operators and Charter Operators.
The Recommendation will be addressed through the following:

1. *Define and agree with TOCs, FOCs and RSSB the format and location(s) for holding window box infringement data for access by train operators.*
   Target Completion date: 31/10/2017
2. *Produce window box infringement data, by use of RSC Insight and manual manipulation and publish in agreed format and location/s.*
   Target Completion date: 30/11/2017

3. *Develop and implement processes and documentation to release the window box infringement data as above with each new NGD release (nominally 4 weekly).*
   Target Completion date: 31/03/2018

Further to this, NR will carry out a feasibility study into developing a module for RSC Insight to produce and publish window box infringement data automatically; this is not required to fulfil the requirements of the recommendation.
The action plan includes 2 months after completion of step 3 for production, review and sign-off of the closure statement.
Overall completion date 31/05/2018

Recommendation 2

The intent of this recommendation is to reduce the risk of injury at open train windows.

Operators of trains which include rolling stock with droplight windows should assess the risk arising from reduced clearance outside those windows and implement any reasonably practicable measures to mitigate it. The review should be informed by obtaining from Network Rail the data referred to in recommendation 1, and include consideration of means of preventing people from leaning out of windows and/or improving warning signage. These measures should address the risks to both passengers and staff.

ORR decision – CrossCountry Trains

5. CrossCountry Trains are replacing the drop light windows/slam doors on their small HST fleet, removing the risk of a passenger being able to put their head out of a window. Until the work is completed, staff are being trained to deter misuse through use of PA announcements.

6. 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
- is taking action to implement it by May 2018.

Status: Implementation ongoing. **ORR will advise RAIB when actions to address this recommendation have been completed.**
Information in support of ORR decision

7. On 13 October 2017 CrossCountry Trains provided the following initial response:

We have indeed taken the recommendations contained within the report into consideration, and where applicable to the specific types of rolling stock consider the recommendations valid and will of course be acting upon them.

Please see below a summary of actions we are taking;

- *We have contacted Network Rail to understand where within the scope of CrossCountry Trains operations there may be structures that limit clearance, which have the potential to lead to similar events, such as the one at Balham.*
- *Network Rail have provided some route information for the LNE route, however as CrossCountry's operations are so geographically widespread Network Rail have indicated this information may not be completely supplied until May 2018.*
- *The only trains that have passenger drop lights/opening windows are our HST fleet, of which we have 5 train sets. Work has currently started on these to replace the existing slam doors with Central Door Locking to Automatic Closing doors with no opening windows. This in effect engineers out the risk for these trains. Full modification of all 5 trains will be complete April/May 2018.*
- *In the meanwhile we have included briefing material on our briefing/training days, for Train Managers to make PA announcements to deter passengers in leaning body parts through open windows.*
- *We are also briefing staff about cab windows, which apply to class 170 DMU's.*
- *Briefing dates start on the 1st November 2017.*
- *We are also working together with the fleet and commercial team to look at temporary signage to be fitted at each window.*

We have also made the point to Network Rail that it isn't just structures that have the potential to cause harm in these situations, it could also be vegetation. We are now trying more robust methods to manage lineside vegetation clearance.

ORR decision – East Midlands Trains

8. ORR has written to East Midlands Trains asking for an explanation of any action being taken with the doors on their HST fleet, in line with those of other operators.

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

- taken the recommendation into consideration; and
- is taking action to implement it, but ORR has yet to be provided with a timebound plan.

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

10. On 5 January 2018 East Midlands Trains provided the following initial response:

EMT has made use of information supplied by Network Rail, through Train Operations Sub Group (a sub group of the Route System Safety Panel for London North Eastern – East Midlands Route (LNE-EM) as well as information from an internal review of depot clearances to consider the risk to individuals using droplight windows arising from reduced clearance outside of these windows.

EMT has also reviewed the existing mitigations against the risk of passengers placing their heads out of train windows; in particular the location and clarity of the warning signage located in the vicinity of train doors with droplight windows.

Within East Midlands Trains, this relates to the High Speed Train (HST) fleet which has droplight windows for each of the passenger train doors. Across the fleet, there are some staff doors where traincrew can look out of, but the risk associated with these is considered negligible because of the training, competence and experience of the traincrew and the circumstances in which they make use of these windows.

On the basis of this review, EMT has concluded that the existing mitigations remain suitable and sufficient to manage this risk. The wording and location of the signage in the door areas is clear and prominent. Network Rail's Operations Risk Advisor for the LNE/EM route has been consulted and is comfortable with this course of action.

EMT has considered alternative mitigation measures such as the installation of window bars but has concluded that this is not a suitable mitigation based on the way in which the door opening mechanism works.

ORR decision – Great Western Railway

11. GWR are replacing most of their HST fleet in 2018 and those retained will have plug doors fitted, which will engineer out the risk of a customer being able to put their head out of the window. We have asked GWR for an update on progress since their initial response in September 2017. We have also asked GWR to explain the measures they take on their sleeper services to address the risk of a customer placing their head out of a window.

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

- taken the recommendation into consideration; and
- is taking action to implement it, but ORR has yet to be provided with timescales for actions being taken with the retained HST fleet or sleepers

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

13. On 21 September 2017 Great Western Railway provided the following initial response:

GWR has obtained the clearance data from Network Rail and is currently in the process of undertaking a route clearance risk assessment. We have made contact with others TOCs to share risk assessments and work collaboratively on risk mitigation.

We aim to have completed our risk assessment by 30th November 2017 ensuring we have consulted with frontline colleagues, Managers and Health and Safety Representatives. Once we are content that all hazards have been identified we will then share the risk assessment with other TOCs and work jointly on an action plan for mitigation measures we will be taking. We aim to have a finalised action plan by 31st March 2018 and will share the output with our Inspector upon completion .

It is important to note that GWR is embarking upon a total fleet renewal of our Intercity train fleet between now and 2019 with the first train having already left the business and returned to the ROSCO. The vast majority of the HST fleet with droplight windows will leave the business in 2018. HSTs retained as part of our fleet longer term will have droplight window doors replaced with plug doors without such a feature. We will however, retain our overnight sleeper train with entry carriages which will still have droplight windows. We believe the risk to customers on our overnight sleeper fleet is minimal due to the number of staff present on the train and that the majority of our customers will be asleep during the journey.

GWR takes safety seriously and strives to learn lessons from all safety incidents, in our mission for continuous improvement of safety management. We strongly believe that we are a very safe operation working in an industry of comparatively high risk. We have been investing heavily in safety management and continue to do so.

ORR decision – Govia Thameslink Railway

14. Govia Thameslink Railway (GTR) no longer operates trains with windows that it is possible for a passenger to open, thus eliminating the risk identified in the RAIB report.

15. 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
- has taken action to implement it.

Status: Implemented.

Information in support of ORR decision

16. On 4 August 2017 Govia Thameslink Railway provided the following initial response:

I can confirm that at the time of this incident in August 2016, many of the Class 442s (of which we originally had the entire fleet of 24 x 5 car units), had already been withdrawn. There were 6 x 5 car units remaining in service, and we took an immediate decision to design and fit window bars to the two droplight windows either side of the guards brake area as soon as practically possible. In the interim we applied hazard tape across the windows as a deterrent against their use. In the event all six units were window barred by early December 2016, and from that time
only 4 of the 6 units (2 x 10 cars) were planned in use, normally only on 2 morning and two evening peak trains from Brighton and Eastbourne to London Bridge and return respectively. These services were subsequently changed to Class 377 operation, and the last Class 442 operated on Friday 10th March 2017.

ORR decision – Grand Central

17. Grand Central have replaced their HST fleet with trains where it is not possible for passengers to open the windows, thus eliminating the risk identified in the RAIB report.

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

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

Status: Implemented.

Information in support of ORR decision

19. On 24 October 2017 Grand Central provided the following initial response:

We have reviewed the signage we provide on our Mark 3 vehicles to warn passengers not to lean out of open droplight windows on moving trains. This review has confirmed that labelling is in place on all vehicles and is as prominently located as we believe it can be. We have also held an internal professional discussion (involving our professional safety and operations heads and senior safety/operations managers) to assess whether there are further measures we should/could implement. This included consideration of additional on train announcements to highlight the risks to passengers of leaning out of windows. We have concluded that this is not a measure we wish to apply, based on the fact that we are already making additional announcements in connection with the present security levels and there is a danger of "announcements overload". Also, we believe that making announcements highlighting the droplight windows could actually be counter-productive by (conversely to the purpose of such announcements) raising awareness that it is possible for someone to lean out of these windows. Many people travelling are probably not particularly aware of this and sadly (but

nevertheless in reality) there are people who use trains that may foolishly act upon such announcements by doing the very thing we are trying to discourage.

Had we been continuing to operate HST rolling stock beyond December 2017 then we may have considered additional measures in relation to this RAIB report, but we believe that on the grounds of reasonable practicability, the measures taken as outlined here are suitable and sufficient for the short period remaining before we no longer operate rolling stock with droplight windows.

ORR decision – Locomotive Services Ltd

20. Locomotive Services Ltd have not yet started running services that are available to the public, but have considered the operational arrangements they will put in place when they do so to address the risk of a passenger putting their head out of a window. We will monitor the arrangements through our usual inspection work.

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

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

Status: Implemented.

Information in support of ORR decision

22. On 26 September 2017 Locomotive Services (TOC) Limited provided the following initial response:

Locomotive Services (TOC) Limited have discussed the RAIB report into the fatal accident involving a train passenger near Balham on the 7 August 2016 at several forums within the company, also with LNWR H our coaching stock provider and with Network Rail.

Network Rail have confirmed that they now have a full database of lineside infrastructure on all routes that falls within the "less than" 450mm between 2m and 3m door window height. Information will be available to train operators via a secure portal on the NR website. The Locomotive Services (TOC) Ltd Head of Safety, Environment and Operational Standards will review the information contained in the portal for each route over which we operate train services and provide appropriate information to the Head of Operations to update the Route Risk Assessments and Route Maps.
We have reviewed the notices required on the coaching stock to be operated by Locomotive Services (TOC) Ltd and our Head of Engineering has responsibility to ensure the following actions are implemented before we commence passenger train service operations:

1. To revise the wording of the notices fitted to door droplight windows

2. To enhance the scheduled maintenance tasks covering Safety Notices and Door Droplights (giving special attention to the steel locking strip and catches)

3. To include the Safety Notices and Door Droplights as specific items within the Engineering Audit Plan

We completed a review of the tasks and responsibilities of on train staff including the Train Manager and Train Stewards and the Head of Operations has responsibility to ensure the following actions are implemented before we commence passenger train service operation:

1. Training for the Train Manager and Train Stewards will include monitoring doors and windows during the journey

2. Location of restricted clearance will be included in our route risk assessments and specific locations will be included in our 'start to finish' file' and on train staff will be briefed on the specific locations for additional monitoring*

3. The Guard will be briefed by the Traction Inspector prior to the start of the service and informed of the locations where restricted clearance applies and given the Guard has sufficient acquaintance knowledge of the route, there will be a requirement for the Guard to make an announcement to the Train Stewards prior to approaching restricted clearance location and again when the train has completely passed the restricted clearance area. In this way there will be a positive presence at the doors to deter any person from dropping the window and putting their head out.

** a file containing all details for a successful train service operation such as - from 'start' (train preparation) through each part of the journey (stopping points, locations of reduced clearance and locations requiring specific MOWs) to completion of operations (berthing and disposal)"*

ORR decision – Northern Rail

23. The services operated by Northern Rail using rolling stock with opening windows all have window bars fitted, mitigating the risk of a passenger leaning out of the window.

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

- taken the recommendation into consideration; and
- already has control measures in place to address the risk identified in the RAIB report

Status: Implemented.

Information in support of ORR decision

25. On 4 October 2017 Northern Rail provided the following initial response:

We only operate rolling stock with droplight windows on our Cumbrian coast through a sub-contract to DRS. All of this stock are fitted with bars to prevent customers from leaning from the windows.

ORR decision – Rail Operations Group

26. Rail Operations Group have operational arrangements in place to minimise the risk of a passenger leaning out of a window.

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

- taken the recommendation into consideration; and
- already has control measures in place to address the risk identified in the RAIB report

Status: Implemented.

Information in support of ORR decision

28. On 28 November 2017 Rail Operations Group provided the following initial response:

Rail Operations Group (ROG) operate Charter Services which convey rolling stock with droplight windows. We have assessed the risk of operations and strengthened our comprehensive and rigorous suite of risk controls in order to meet recommendation 2 of the Balham Accident Investigation report.

Elimination of Risk at Source.
Rail Operations Group rarely operate vehicles with centre droplight windows. Wherever possible, alternative vehicles are sought. Where these vehicles are operated, specific controls are introduced through our Passenger Train Approvals and Checklist Process.

Control Measures to reduce risk ALARP
In general terms, the risks associated with all droplight windows (inc those at vestibule ends) are controlled by On-Train signage at all vestibule end windows. On-Train Stewards, who are briefed specifically to patrol and monitor vestibule end windows and customer behaviour, are present on every service Rail Operations Group operate. These Stewards are supported by ROG Guard who additionally patrols the services monitoring customer behaviour and vestibule end window use. Additionally, the ROG Guard

makes on-board announcements advising customers to refrain from using droplight windows for anything other than access/egress purposes.

The Network Rail Window Box Data has been received and reviewed. Examination of this data to identify any additional route risk has been embedded in our Passenger Train Approvals process and the above risk controls of additional on train announcements, specialisation by stewards and inclusion in any Charter Publications are put into place.

Where the data indicates that increased risk exists, all centre droplight windows are additionally labelled out of use with the risks of opening clearly outlined and stewards formally briefed to pay particular attention to access to the droplight windows on the parts of the route that are a particular risk.

Review of Control Measures and Lessons Learned

Following each ROG operated charter service, a full review of the operation is undertaken and any lessons learned factored into our processes, with the aim of continual improvement and risk reduction. These review sessions are open to customers and operators alike and outputs are documented and factored into ROG systems and processes.

ORR decision – Abellio ScotRail

29. Abellio ScotRail will no longer operate rolling stock with drop light windows after April 2018. Until then, existing control measures have been reviewed and improvements made where necessary.

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

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

Status: Implemented.

Information in support of ORR decision

31. On 29 September 2017 Abellio ScotRail provided the following initial response:

Abellio ScotRail have considered the key hazards associated with droplight windows arising from reduced clearances, and have applied the following measures.

We have taken into consideration the fact that the current contract to operate loco hauled stock fitted with drop light windows is due to end in April 2018.

We would also ask you please note that whilst ScotRail have procured a fleet of Class 43 High speed trains these will be subject to refurbishment which will remove all droplight windows prior to entering passenger service.

In August 2016 when we were alerted to this accident we:

• Confirmed with our supplier (Direct Rail Services) of coaching stock fitted with drop light windows Warning Labels are fitted to all droplight windows to inform customers of this risk.

• Issued a safety alert to ensure our staff were aware of the hazards associated with either themselves or our customers leaning out of windows on coaching stock and driving cabs.

Following the publication of the RAIB investigation and your correspondence we:

• Have requested our supplier of coaching stock confirm that the warning labels fitted to coaching stock supplied to Abellio Scotrail are sufficiently conspicuous. (ref: Investigation Clause 49)

• Have also requested feedback from our supplier on the practicality of fitting window bars to loco hauled coaching stock with droplight windows. (ref:Investigation Clause 46 & 47)

• Are now working with Network Rail to review the data regarding clearances between structures and trains at window height to inform our decisions in relation to managing the risks of opening windows. (ref: Recommendation 2)

• As part of this work are working with Network Rail to prioritise foliage clearance on routes that coaching stock fitted with drop light windows operate over this is taking cognisance of Clause 101 within the RAIB investigation report which indicates from 26 accidents involving passengers being struck while leaning from a moving train 12 involved vegetation (one major injury). (ref: Investigation Clause 101)

• Have taken cognisance of your advice within the correspondence in that in respect of the above actions we have initially discussed the recommendations with our ORR account holder David Whitmarsh. We have agreed with David to provide regular updates on our progress against these actions.

ORR decision – West Coast Railway

32. We have reassured West Coast Railway that we wrote to all operators using rolling stock with windows that it is possible for passengers to open. West Coast Railway have operational arrangements in place to minimise the risk of a passenger leaning out of a window.

33. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, West Coast Railway Company has:

- taken the recommendation into consideration; and
- has is not taking action to implement it.

Status: Implemented.

Information in support of ORR decision

34. On 16 August 2017 West Coast Railways provided the following initial response:

In response to your e-mail containing a copy of the fatal accident report near Balham on 7th August 2016 and your letter advising West Coast Railways that the RAIB report recommendation 2 is 'applicable' to them.
I would like to remind you that West Coast Railways (WCR) have previously advised the ORR and NR of the comprehensive mitigation measures that we have in place to try and avoid passengers putting their heads out of the drop light windows.
To date we have not had any response from either party indicating that our measures were insufficient or otherwise.
Other points to note are that WCR have been operating charter trains for circa 20 years.
No one has ever lost their head.
The Balham RAIB recommendation 2 is based on a franchise operator incident whereby a railway employee elected to put his head out of a unmanned guards access/egress door droplight.
Given the comprehensive measures that we have in place, none of which were in place in the Balham incident, and as previously mentioned both ORR and NR were made aware of our measures by request, we find it difficult to understand the correlation between the Balham incident and what we actually have in place by way of mitigation other than droplight windows.
We are also surprised that unusually a separate letter was sent to us telling us that recommendation 2 applied to us without apparently understanding the measures that we already have in place and which we feel are reasonable and practicable.
Could you please advise at how you arrived at your decision that recommendation 2 applied to us and confirm if this 'letter' was only sent to WC