

Oliver Stewart
RAIB Recommendation Handling Manager

4 November 2024



Mr Andy Lewis
Deputy Chief Inspector of Rail Accidents

RAIB Report: Fatal accident involving a train passenger at Twerton on 1 December 2018

I write to provide an update¹ on the action taken in respect of recommendation 1 addressed to ORR in the above report, published on 16 October 2019.

The annex to this letter provides details of actions taken in response to recommendation 1 and the status decided by ORR. The status of recommendation 1 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 prevent passengers leaning out of opening windows on trains operating on the mainline railway.

Operators of mainline passenger trains, including charter operators, using stock with opening windows that passengers could lean out of, should review their risk assessments for operating those trains and implement any additional mitigation measures necessary to minimise the likelihood of passengers leaning out of the windows away from stations

ORR decision

1. All rolling stock with droplight windows operated by TOCs at the time the recommendation was made has either been withdrawn from service or has engineering controls to prevent a window being opened while the train is in motion.
2. 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.
3. 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.
4. As of September 2024, Riviera trains have announced the winding of their operation, with the coaching stock being transferred to WCRC, so we will not be pursuing them for a response.
5. 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.
6. 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

7. ORR reported the following on 15 October 2020:

The recommendation was addressed to all TOCs and charter operators. For the majority of TOCs the status of the recommendation is non-implementation as they do not operate trains with opening windows that are accessible to passengers. For those TOCs that currently operate trains with opening windows that are accessible, most are planned to be withdrawn within the next 12 months and mitigation measures are in place in the meantime. The downturn in passenger number as a result of the Covid-19 pandemic has led to fewer services being run, meaning in some case trains with droplight windows being withdrawn early or operated less frequently.

We are considering what action to take with the charter operators as most of them are not proposing engineering changes to reduce or eliminate the risk of passengers leaning out of train windows. Many of the charter operators have not responded due to the impact of Covid-19 and the suspension of operations and furloughing of staff.

Following our correspondence with TOCs and charter operators on rolling stock with droplight windows in spring 2019, we are holding an internal workshop to discuss actions taken by individual operators and what regulatory action we may need to take.

Update

8. 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.

9. 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.

10. 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.

11. 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.

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

Belmond (UK) Ltd operate both the Belmond Royal Scotsman (GSR 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.

13. 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

14. 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 four-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 defined 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 sufficient 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 sufficient 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 fit 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 1' 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 identified and agreed in conjunction with the Group.

15. 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.

16. 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.

17. 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 solely 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.

18. 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.

19. Riviera Trains Ltd - No response received.

20. 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:

- o All door staff are trained in their duties including vigilance regarding use of open windows.*
- o 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.*
- o 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 prevent passengers leaning out of opening windows on trains operating on the mainline railway.

Operators of mainline passenger trains, including charter operators, using stock with opening windows that passengers could lean out of, should review their risk assessments for operating those trains and implement any additional mitigation measures necessary to minimise the likelihood of passengers leaning out of the windows away from stations

ORR decision

1. The recommendation was addressed to all TOCs and charter operators. For the majority of TOCs the status of the recommendation is non-implementation as they do not operate trains with opening windows that are accessible to passengers. For those TOCs that currently operate trains with opening windows that are accessible, most are planned to be withdrawn within the next 12 months and mitigation measures are in place in the meantime. The downturn in passenger number as a result of the Covid-19 pandemic has led to fewer services being run, meaning in some case trains with droplight windows being withdrawn early or operated less frequently.
2. We are considering what action to take with the charter operators as most of them are not proposing engineering changes to reduce or eliminate the risk of passengers leaning out of train windows. Many of the charter operators have not responded due to the impact of Covid-19 and the suspension of operations and furloughing of staff.
3. Following our correspondence with TOCs and charter operators on rolling stock with droplight windows in spring 2019, we are holding an internal workshop to discuss actions taken by individual operators and what regulatory action we may need to take.
4. A summary of the status for each end implementer is set out in the table below:

Operator	Status	Notes
Arriva Rail Ltd	Non-implementation	No trains with opening passenger windows
Arriva cross country	Non-implementation	No trains with opening passenger windows
Avanti West Coast	Non-implementation	No trains with opening passenger windows
C2C	Non-implementation	No trains with opening passenger windows

Chiltern	Progressing	Engineering/operational controls currently under consideration
East Midlands Trains	Progressing	Changes made to signage but engineering changes not considered to be reasonably practicable.
Eurostar	Non-implementation	No trains with opening passenger windows
Govia Thameslink Railway	Non-implementation	No trains with opening passenger windows
Grand Central	Implemented	Locking mechanism fitted to droplight windows that are accessible to passengers on DVTs operating as part of planned Class 90/MkIV London Euston to Blackpool service
Greater Anglia	Non-implementation	No trains with opening passenger windows
Great Western Railway	Progressing	A design for a droplight window lock has been developed and will be fitted to the droplight windows on the sleeper fleet by the end of 2020.
Heathrow Express	Non-implementation	No trains with opening passenger windows
Hull Trains	Non-implementation	No trains with opening passenger windows
LNER	Non-implementation	No trains with opening passenger windows
Merseyrail	Non-implementation	No trains with opening passenger windows
MTR Elizabeth Line	Non-implementation	No trains with opening passenger windows
Northern Rail	Non-implementation	No trains with opening passenger windows
Scot Rail	Non-implementation	No trains with opening passenger windows
Serco Caledonian Sleeper	Non-implementation	No trains with opening passenger windows
Southeastern	Non-implementation	No trains with opening passenger windows

South Western Railway	Non-implementation	No trains with opening passenger windows. Window bars fitted to Class 442s following Balham fatality
Transpennine Express	Non-implementation	No trains with opening passenger windows
Transport for Wales	Implemented	Additional security employed on busy services to discourage passengers from using droplight windows. Mk2/Mk3 coaches will be withdrawn by the end of 2020
West Midlands Trains	Non-implementation	No trains with opening passenger windows
Belmond UK Ltd	Insufficient response	No response received
Hastings Diesels	Insufficient response	Existing controls restated, but no engineering controls planned
Locomotive Services Ltd	Progressing	Central door locking and window bars being fitted, but no completion date
Princes Royal Class Locomotive Trust	Insufficient response	No response received
Rail Operations Group	Insufficient response	Existing controls restated, but no engineering controls planned
Riviera Trains	Insufficient response	No response received
Scottish Railway Preservation Society	Insufficient response	Existing controls restated. Reference to RSSB Heritage Trains Risk Group considering engineering controls for droplights
West Coast Railways	Insufficient response	Existing controls restated. RSSB Heritage Trains Risk Group considering engineering controls for droplights, but not due to report until March 2023
DB Cargo	Insufficient response	No response received