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

Dear Andrew,

RAIB Report: Accidents involving a wheelchair rolling from a platform onto the track at Southend Central, and a pushchair rolling from a platform onto the track at Whyteleafe.

I write to report[1] on the consideration given and action taken in respect of recommendations 1, 2, 3 and 4 addressed to ORR in the above report, published on 14 August 2014.

The annex to this letter provides details in respect of each recommendation. The status of recommendations 1 and 3 is '**Implemented**'. We do not propose to take any further action in respect of these recommendations unless we become aware that any of the information provided becomes inaccurate, in which case I will write to you again.

The status of recommendation 2 is '**In Progress**', and the status of recommendation 4 is '**Implementation ongoing**'. ORR will advise RAIB when further information is available regarding actions being taken to address these recommendations.

We will publish this response on the ORR website on 14 August 2015.

Yours sincerely,

Andrew Eyles

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

Recommendation 1

The intention of this recommendation is to reduce the risk of pushchairs and wheelchairs rolling off platforms.

Network Rail and Station Facility Operators should implement processes for managing the risk of wheelchairs and pushchairs rolling onto the track. These should include:

- the inclusion of platform slopes as a factor to be considered when assessing the risk to passengers on platforms;
- guidance to risk assessors on factors likely to exacerbate any risk of roll away (such as the presence of ticket machines, help points and shops/kiosks where people are more likely to release their hold on pushchairs and wheelchairs);
- consideration of measures to manage the risk (taking account of the work arising from the implementation of recommendation 3 in the short-term and recommendation 2 in the longer term);
- specific consideration of the impact on platform slopes of any works that are to take place at the station and methods of ensuring that those works will, as a minimum, not worsen the slope (and reduce or eliminate it if reasonably practicable to do so); and
- the sharing of information concerning any residual risk at the conclusion of works.

Steps taken or being taken to address the recommendation

1. In its response, 27 November 2014, Network Rail stated:

Network Rail has implemented the following process for managing the risk of wheelchairs and pushchairs rolling onto the track:

- *Network Rail has issued a Special Instruction Notice (SIN 140) to raise awareness and identify the potentially hazardous platform gradients through a dedicated Civils Examination Framework Agreement (CEFA) inspection regime.*
- *A Platform Cross-Fall Risk Assessment Matrix and Action Plan has been issued to all Routes. Where platforms sloping towards tracks are identified by the SIN inspection regime, the Platform Cross Fall Risk Assessment Matrix Action Plan provides the tool to prioritise these locations according to risk and take remedial actions (such as signage or other markings, public announcements and relocation of station furniture) as necessary.*
- *Route Asset Managers (Buildings) responsible for station platforms as part of the Operational Property portfolio are required to instruct and manage examination of platform gradient using the current CEFA contractor or a competent surveyor to identify if a hazardous cross-fall (platform surface) sloping towards the rear of the coper.*

2. On 10 December 2014, ORR asked Network Rail to explain how the information in the database would be shared with Station Facility Operators. On 2 February 2015 Network Rail provided the following information:

Information gathered on the OPAS database (following surveys) will be shared with the Station Facility Operators by means of guidance notes and letters of instruction to take appropriate actions as detailed in the special instruction notice NR/SIN/140 (action plan 6.1).

Network Rail recognises the need to remedy situations where platform slopes may cause increased risk to wheelchair and pushchair users and the solutions will be provided on a case-by case basis. The first step is to identify the highest risk locations (this is currently being implemented as required in NR/SIN/140) and then to prioritise them for action on the most urgent cases.

NR/SIN/140 provides a means for the Route Asset Managers (RAMs) and Train Operating Companies (TOCs) to be informed of cross-fall issues at the stations under their control so that remedial action can be implemented urgently where the risk is high or longer term solutions can be planned into projects.

By recording the risk locations data on OPAS the extent and overall cost of remedial action can be quantified for future business plans.

All projects are required to have a re-survey implemented at completion so the residual risks data will be captured onto the OPAS database by that method.

Existing platform slope risks will not be worsened by any actions required by NR/SIN/140 because the process will be managed and monitored by the RAM teams to ensure that safety is the paramount concern.

The RAM teams are briefed regularly (every 4-week period) by the Network Rail Professional Head (Buildings) to give updates / lessons learned from all the other routes so that opportunities / feedback for using new platform surface products are well cascaded.

The Network Rail standard designs for all new platforms and platform extensions are based on a drainage slope towards the back of the platform which completely avoids the risks associated with cross-fall towards the track.

3. On 4 March 2015, ORR requested details on how Network rail is addressing bullet points 2 and 3, and asked for copies of NR/SIN/140 and the 'Platform Cross-Fall Risk Assessment Matrix and Action Plan' that had been issued to all routes. NR/SIN/140 (including the matrix and action plan) was received on 13 March 2015 and on 1 April 2015, Network Rail provided the following information:

•2 Guidance to risk assessors on factors likely to exacerbate any risk of roll away (such as the presence of ticket machines, help points and shops/kiosks where people are more likely to release their hold on pushchairs and wheelchairs);

With reference to NR/SIN/140 – the following guidance is given to risk assessors on the factors which may exacerbate the risk of roll-away where release of hold on pushchairs or wheelchairs is more likely:

5.1 Site visit

Follow these steps to undertake measurement of platform gradients to record cross-fall values:

STEP ONE Take measurements at 10 metre intervals.

STEP TWO Take specific additional measurements at the following asset / positions:

a) ticket and vending machine locations;
b) passenger seating positions;
c) access and egress locations including stairs, ramps, escalators and lifts; and
d) Where platforms have been extended or partially renewed / resurfaced.
e) Note locations where exposure to high wind conditions are likely

•3 Consideration of measures to manage the risk (taking account of the work arising from the implementation of recommendation 3 in the short-term and recommendation 2 in the longer term);

With reference to NR/SIN/140 (5.5) risk factors are to be determined and the following measures (see action plan 6 –table 3) are to be considered depending on the assessed risk severity to manage the short term situation (Rec 3):

- *Install Warning Signs*
- *Instigate urgent corrective / temporary actions (barriers etc.)*
- *Consider Relocation of Ticket / Vending Machines and/or furniture*

The following measures (see action plan 6 –table 3) are to be considered depending on the assessed risk severity to manage the long term situation (Rec 2):

- *When the requirements of NR/SIN/140 have been carried out the report and risk score for identified platforms will be uploaded onto OPAS. This assures that the risk severity and need for corrective actions are captured for minor emerging works or future renewals. This may involve resurfacing or rebuilding of platforms.*

ORR decision NR_SIN_140.pdf

4. ORR considers that Network Rail has provided sufficient information to demonstrate that all bullet points contained in recommendation 1 have been appropriately addressed. Network Rail has provided ORR with Special Inspection Notice 140 and instructed its CEFA contractors to follow it when carrying out their duties. Whilst ORR recognises that it will take time for the data to be collected and built into an action plan, it is content that Network Rail has satisfied the intent of the recommendation and has a robust process in place to identify and mitigate associated risks.

5. After reviewing all the information received from Network Rail, ORR 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*

Recommendation 2

The intention of this recommendation is for the rail industry to understand the point at which a slope becomes sufficiently steep for it to be more likely than not that an occupied wheelchair or pushchair without a brake applied would roll away. The work should consider the most appropriate methods of influencing the behaviour of passengers to minimise the risk.

Network Rail in consultation with the Association of Train Operating Companies, RSSB and the Department for Transport, should (as part of the national strategy for managing the platform train interface risk) arrange for work to be undertaken to determine when a slope towards the railway could become a significant hazard, and ways of mitigating the risk. The scope of the exercise should consider:

- all slopes on platforms including those that have been installed intentionally (for example to accommodate changes in level along the platform length);
- at what point a slope towards the railway makes it more likely than not that a wheelchair or pushchair without brakes applied could roll away, taking account of modern designs of such equipment; and
- other factors such as how individuals perceive a slope hazard, the most appropriate way to highlight the hazard, appropriate methods to influence public behaviour, and other ways of mitigating the risk.

Once the work is complete the industry should publish appropriate guidance, including consideration of standardisation in the contents of signage, announcements, etc.

Steps taken or being taken to address the recommendation

6. In its response, 27 November 2014, Network Rail stated:

> *Network Rail in collaboration with ATOC will propose a research project to be led by RSSB to establish a safe engineering configuration for platform cross fall. This study will review and propose changes to the current standards and address the compliance requirements of Persons with Reduced Mobility (PRM) and Technical Specification for Interoperability (TSI).*
>
> *The research project will be proposed to:*
>
> - *Determine the optimum platform cross fall gradient which would prevent an unassisted wheeled object (pram, buggy, wheelchair etc.) from rolling towards the tracks with consideration given to platform type and their exposure to the elements.*
> - *To assess the behavioural responses and potential for slip when stood on a sloped surface and transferring onto a level surface.*
> - *To assess the impact of a canted platform coper and the benefits (shedding standing water) it could bring.*

- *The creation of conceptual Computational Fluid Dynamics (CFD) models to evaluate the likely effects of high winds and the aero dynamic effect of passing trains to determine where the use of wind breaks or shelters to platforms are most effective.*
- *To review the controls for the positioning of vending machines and kiosks to ensure they do not impact passenger proximity to platform edge should they be encumbered.*

7. On 10 December 2014, ORR asked Network Rail to clarify if the research project will be expanded to cover all slopes, including those along the platform, and the public's perception of a slope when going onto a platform. On 2 February 2015 Network Rail provided the following information:

Network Rail is mindful of the issues regarding gradients along the length of platforms with respect to un-braked pushchairs and wheelchairs. However, the fundamental issue of stepping distances from platform edge to the train takes precedence for passenger safety in this instance. In other words the gradient along the platform is determined by the gradient of the track and the gauging requirements. Therefore the focus during the programme of platform surveys is directed towards identifying stations that have excessive cross-fall gradients towards the track as the priority factor.

Some platforms will have topographic surveys done so that the gradient along platforms and gauging accuracy can be improved when platform projects are planned but to incorporate measuring this aspect specifically in the current programme of surveys would distract from the critical issues.

The scope of proposed research has been discussed with ATOC which include:

1. *Identifying at what point a slope towards the railway makes it more likely than not that an un-braked wheelchair or pushchair could roll away;*
2. *Identifying when a gradient poses a risk to wheeled transport;*
3. *Identifying how characteristics of the platform surface (such as type and condition) influence this risk;*
4. *How individuals (passengers, non-passengers and workforce) perceive a slope hazard;*
5. *The most appropriate ways to highlight the hazard and mitigate the associated risks along with supporting cost benefit analysis;*
6. *The most appropriate methods to influence public behaviour;*
7. *Identify other ways of mitigating the risk, for example promoting the development and use of wheeled vehicles with some form of automatic brake.*

8. On 1 July 2015 Network Rail provided ORR with a draft of the scope of the project that had been suggested to RSSB. This scope still has to be agreed and will be discussed at a forthcoming meeting between RSSB, Network Rail ATOC and RAIB and to which ORR has requested to be invited.

ORR decision

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

- taken the recommendation into consideration; and
- is taking steps to address it. However, it has yet to confirm what these will be or the timescales in which they will be delivered.

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

Recommendation 3

The intention of this recommendation is for the Association of Train Operating Companies to consider the most appropriate ways of influencing the behaviour of passengers travelling with a wheelchair or pushchair, pending the outcome from recommendation 2.

As an interim measure, pending the outcome of the research identified in recommendation 2, the Association of Train Operating Companies should, in consultation with passenger groups including those representing the interest of disabled passengers, review the findings of this report and seek to understand the ways in which the risk of wheelchairs and pushchairs rolling onto the track can be more effectively managed by operators. This review should include consideration of:

- locations where passengers may need to remove both their hands from a pushchair or wheelchair because of the nature of another task to be performed (e.g. at a ticket machine or shop/kiosk);
- reference to any existing good practice in this area; and
- measures that could most effectively influence the behaviour of passengers using wheelchairs and pushchairs on station platforms.

The output of the review should be consolidated into suitable guidance for train operators.

Steps taken or being taken to address the recommendation

10. In its response, 30 October 2014, ATOC stated:

> *Shortly after publication of the RAIB report on 14 August [2014], ATOC provided a summary of the report, its findings and recommendations in the August edition of its Operations Scheme Brief (issued monthly and targeted primarily at the senior operations, operational standards and safety contacts within its member organisations). This noted that recommendation 3 was directed at ATOC and advised that we would be convening a working group to consider it.*
>
> *The working group met on 6 October [2014]. The main conclusions from the meeting were:*
>
> - *The cause of incidents such as those at Southend and Whyteleafe is the failure of the persons in charge of wheeled vehicles to adequately secure them (most*

obviously by applying the brake) and an external force that causes them to start moving. Examples of the latter include platform gradient, air movements (either weather related or caused by passing trains), being knocked into by luggage or other passengers or action on the part of the person in the vehicle.

- *Failure to apply the brake by the person in change is often the result of distraction. Some of this is specific to the location – the presence of ticket vending machines, other vending machines, help points, kiosks, stairs, lifts, etc.*

  Such higher risk locations (which also include parts of platforms with excessive slopes) can be identified by TOCs and mitigation measures put in place accordingly. Examples include moving platform 'furniture', changing its alignment and use of graphics on platforms to encourage wheelchair and pushchair users to wait in positions that are safe.

  Other distractions – use of mobile devices, luggage, children, other passengers, etc. relate to more generic passenger behaviour and situational awareness. Use can be made of posters and announcements and staff alerted to the risks but each of these has its challenges and overall the group felt their impact was likely to be limited. Rather, there is a broader need to raise awareness of wheelchair and pushchair users to the particular risks at stations and how these may be avoided.

Based on the above, and also taking into account actions already taken by c2c and Southern, the group identified the following three potential work streams:

a. *Existing good practice in risk assessment and mitigation (conducting of platform risk assessments, use of pictograms, updating company websites, posters, staff briefings, etc.), drawing particularly on the actions already taken by c2c and Southern, to be collected and published in an ATOC Guidance Note. Focus to be on what individual TOCs are able to implement quickly and easily with TOCs to determine individually exactly what, if any, action they take in the light of local circumstances.*

b. *In the longer term, seek to influence passenger behaviour on a broader front through raising generic awareness of the risks that those in charge of wheelchairs and pushchairs need to be alert to when using the railway. This would potentially involve using external agencies and channels – such as 'mumsnet', community safety partnerships, children's traffic clubs, etc. - to promote key messages. The public awareness campaign that forms part of the industry's [Platform Train Interface] PTI Strategy also offers a potential opportunity.*

c. *Seek to influence the manufacturers of pushchairs (in particular) to design and incorporate an automatic brake.*

The above proposals were presented to the ATOC Operations Council (the most senior body that meets under ATOC to discuss operational matters) at its meeting of 20 October [2014], Council also being invited to endorse the setting up and composition of the working group (which it did).

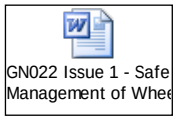
Council supported all three work streams being progressed.

a. Clearly the first is the easiest of these to take forward as it is work that can be accommodated within existing (ATOC) resources. Thus it is currently expected that an initial draft of the Guidance Note will be available for review by ATOC's members by the end of November [2014], with version 1 of the document formally issued by the end of the year [2014].

b. Timescales for the second are, as noted above, considerably longer. By its very nature, public behaviour is only able to be changed through long term and consistent reinforcement of the desired message. Beyond this, the working group's view was that success in this area is far more likely to be achieved if the lead comes from outside the rail industry. A number of potential partner organisations were identified from an initial discussion at the working group but this will need to be refined further and approaches then made accordingly and with no guarantee that they will see this as a priority area of work. In addition, any public awareness campaign would need to be funded and also co-ordinated with what is planned by the industry's PTI strategy group as part of its activity to reduce PTI related incidents. It is currently expected that potentially suitable organisations will have been identified and received an initial approach within the next three months but until their level of interest is known it is impossible to predict beyond this.

c. For the third, the starting point is similar to the above. Suitable organisations – manufacturers, retailers and/or their associations - will need to be identified and approached but until their appetite to consider and respond to the risk has been established it is not possible to commit to specific timescales or deliverables.

11. On 8 December 2014 ORR wrote to ATOC asking it to provide a copy of its Guidance Note. On 24 December 2015, ATOC provided a copy of its published Guidance Note GN022.



ORR decision

12. ATOC identified three work streams. Work stream A satisfies the recommendation and Actions B and C go beyond the recommendation.

13. After reviewing all the information received from ATOC (including Guidance note GN022), ORR concludes that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, ATOC has:

- taken the recommendation into consideration; and
- in delivering work stream A, has taken action to implement it.

Status: *Implemented.*

Recommendation 4

The intention of this recommendation is for the rail industry to capture, share and use information relating to roll-off events with a particular emphasis on identifying where platform slopes were a causal factor so that it has a better understanding of the causes of roll-off events and the associated risk.

Network Rail, in consultation with Station Facility Operators and RSSB, should implement a process to improve the investigation and recording of roll-off incidents and the way in which data is shared. Particular attention should be paid to the following areas:

- improvements in capturing and recording incidents involving roll-off type events, including the identification of the key factors that caused the roll-off such as the presence of a slope towards the railway on the platform;
- a review of previous roll-off incidents and accidents (covering at least the last five years) to identify those that may have been solely attributed to 'user error' or 'trespass', including establishing whether there may have been other causal factors such as a slope at the location concerned; and
- a review of how intelligence on roll-off incidents should be shared within and between SFOs and Network Rail as an input to decisions on the nature and content of improvement works at stations (recommendation 1 also refers).

Steps taken or being taken to address the recommendation

14. In its response, 27 November 2014, Network Rail stated:

A Platform Train Interface (PTI) National Strategy Group has been established, comprising Station Facility Operators, DfT, ORR, ROSCO and RSSB.

The group has developed a strategy which is nearing launch to industry, this will be a live document supported by an action plan of deliverables aiming to reduce risk at the platform train interface.

A project management group has been established to support the delivery of the action plan. Part of the project management group's remit is improvements to the investigation and recording of roll-off incidents and the way in which data is shared.

This is being supported by the production of a report form which includes the identification of the key factors that caused the roll-off such as the presence of a slope towards the railway on the platform.

A new accident Level 2 description will be created in SMIS by RSSB to facilitate the collection of the key factors. The SMIS criteria will be established in conjunction with the RSSB and SFOs.

A review of previous roll-off incidents and accidents will be undertaken to identify those that may have been solely attributed to 'user error' or 'trespass', including establishing whether there may have been other causal factors such as a slope at the location concerned will be conducted. The results of this work will be fed back into the PTI National Strategy Group.

A monthly report will be produced to identify cross-fall incidents which will be used to communicate themes and issues with SFOs and the PTI National Strategy Group.

15. Network Rail subsequently provided an update on 1 July 2015 indicating that the timescale for this work was likely to be extended from the originally planned 30 July 2015 to October 2015 to enable further work to be carried out by Network Rail and RSSB to implement the new level 2 codes within SMIS and recategorise events with the new code.

ORR decision

16. After reviewing all the information received from Network Rail, ORR 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 October 2015.

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