

Ref:	NR/SIN/140
Issue:	1
Date:	3 October 2014
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Special Inspection Notice

Platform Cross-falls:

Method of Measurement and Action Plan

Endorsement and Authorisation

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Issue record

Issue	Date	Comments
1	September 2014	First Issue

Compliance

This Special Inspection Notice (SIN) is mandatory and shall be complied with by Network Rail (and its contractors if applicable) by 3 October 2015.

Reference documentation

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1 Purpose

This Special Instructoin Notice (SIN) is issued following two incidents reported recently involving a baby push chair and a wheelchair rolling towards the edge of a platform. It requires Route Asset Managers [Buildings] responsible for station platforms as part of the Operational Property portfolio to:

- a) instruct and manage an inspection / examination of platform gradients by utilising the current CEFA contractor or a competent surveyor; and
- b) identify if a hazardous cross-fall exists (platform surface sloping towards the rear of the coper).

2 Scope

This SIN applies to all station platforms.

The appointed contractor is to prepare, plan, execute and report on the inspection / survey results with respect to the stated issue.

3 Background

This action follows a recent incident involving a baby push chair which when left unattended, rolled off the edge of the platform at Whyteleaf Station on the Sussex Route. In another incident a wheelchair rolled off platform 3 onto the track at Southend Central Station on the Anglia Route.

The Rail Accident Investigation Board (RAIB) have investigated these incidents and it was determined that a major factor in both cases was the gradient of platform cross fall, which sloped towards the platform coper.

It is understood that this will affect a significant number of stations because platform surfaces were historically designed to slope towards the coper edge for drainage purposes.

RAIB have made several recommendations to address this issue. The first step is to identify the location of increased risk platforms, undertake a risk assessment and develop an action plan to reduce risks of further incidents on platforms. Refer to section 6 for details of the proposed action plan.

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4 Work planning

Follow these steps to identify stations and platforms with a hazardous cross-fall gradient:

Preliminary desk top study

- STEP ONE** Identify all stations where CIV/28 Incidents have been recorded, or TOC / passenger reports and complaints have been received.
- STEP TWO** List all stations identified in the “Access for All” project.
- STEP THREE** Generate a priority list based on asset knowledge and the above criteria. A derogation may be requested to omit a platform from this list if a qualitative risk assessment shows that the platform surface would not enable a wheelchair or baby push chair to roll freely due to the surface being loose material; gravel or similar construction.
- STEP FOUR** Arrange surveys of all stations in accordance with the priority list.

5 Method of inspection

5.1 Site visit

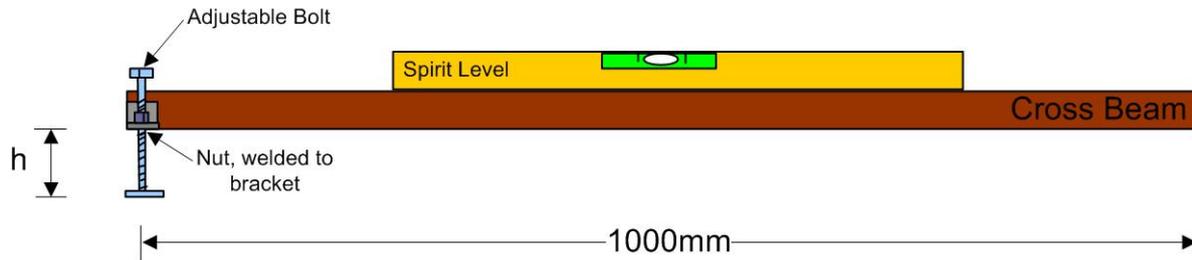
Follow these steps to undertake measurement of platform gradients to record cross-fall values:

- 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

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5.2 Test Method

Obtain accurate values by using Total Station, Engineers Level, Laser Level Survey, the test apparatus as shown in Figure 1 or similar approved method.



Crossfall:

1:20 $h = 50\text{mm}$

1:40 $h = 25\text{mm}$

1:80 $h = 12.5\text{mm}$

Figure 1 – How to obtain accurate cross-fall values

5.3 Recording Survey Data

Use the platform cross-fall survey form in appendix B to record the measurements and findings to enable the risk factor to be assessed.

For guidance purposes the typical width of platform to be measured shall extend from the rear of the platform tactiles (1.25 m from platform edge) up to 3.0 m from the platform edge.

An example survey form is given in Table 1.

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Table 1 – Example platform cross-fall survey form:

PLATFORM CROSS FALL SURVEY		Station Category:			Station Name:		
Surveyor:				Date:		Platform Number:	
Survey Position	Distance in (m)	Cross Fall Measurement			Towards Track	Level/Away From Track	Comments
		Height (h) mm Over 1m	Ratio	Degrees			
1	0	12.5	1:80		✓	Measured from North West ramp, platforms are exposed to high winds	
2	10	12.5	1:80		✓		
3	25	12.5	1:80		✓		
4	30	25	1:40		✓		
5	40	50	1:20		✓		
6	45	50	1:20		✓	Ticket machine in this position used by passengers	
7	48	50	1:20		✓		
8	58	50	1:20		✓	Bench in this position used by passengers	
9	65	50	1:20		✓		
10	74	50	1:20		✓		
11	84	50	1:20		✓		
12	90	12.5	1:80		✓		
13	100	12.5	1:80		✓		
14	110	0	0		✓		
15	120	0	0		✓		
16	130	0	0		✓		
17	140	0	0		✓	Platform end, top of South West ramp. Passengers congregate between survey positions 6 and 12. Trains stop generally between survey positions 3 and 14	
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5.4 Method of reporting and recording platform status on OPAS

Convert the platform cross-fall survey form to PDF and append it to the most recent "Visual 1-yearly" inspection / examination report for the Station. This shall be filed on OPAS under the Station site block reference.

It is assumed that the cross-fall measurement programme will be coincident with the platform inspection / examination programme.

5.5 How to determine the risk factor for each survey position

Determine the risk factor for each survey position as shown in Table 2.

	Cross Fall away from Coper Edge 1:80 to Level	Cross Fall to Coper Edge From Level to 1:80	Cross Fall to Coper Edge 1:80 to 1:40	Cross Fall to Coper Edge 1:40 to 1:20	Cross Fall to Coper Edge Greater than 1:20
Category E-F Low Footfall	1	1	2	3	4
Category C-D Medium Footfall	1	2	3	4	5
Category A-B High Footfall	2	3	4	5	5

Risk Factor; 1 = Low, 5 = High

Table 2 – Risk matrix

Add an increased risk factor for the following:

- where ticket or vending machines are located on platform (+1); and
- for platforms exposed to high winds or island platforms subject to aerodynamic effects (+1).

Example:

Category C Station Cross Fall 1:50 to rail, with ticket machine on platform and exposed to wind:

$$3 + 1 + 1 = 5.$$

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6 Action plan and timescales

6.1 Action plan

Determine the action to be taken using Table 3.

Risk Factor	Actions
1	Install warning signs Record cross-fall for remedial action at future renewals
2-3	Install Warning Signs Consider Relocation of Ticket / Vending Machines and/or furniture Record cross-fall for remedial action at future renewals
4	Install Warning Signs Consider Relocation of Ticket / Vending Machines and/or furniture Evaluate the options for resurfacing or rebuilding of platform
5 or Greater	Install Warning Signs Instigate urgent corrective / temporary actions (barriers etc.) Consider Relocation of Ticket / Vending Machines and/or furniture Resurface or rebuild platform, where possible.

Table 3 – Actions to be taken

NOTE It may not be possible to rebuild platforms due to:

- a) existing track gradient; and
- b) different track gradients on either sides of island platforms; and
- c) other existing infrastructure constraints e.g. Bridges or buildings.

If the platforms cannot be rebuilt due to the above constraints then implement other mitigating measures in consultation with the Professional Head [Buildings].

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6.2 Timescales

Inspections and the generation of the Special Inspection Notice Action Completion (SINAC) form for each station platform shall be completed within the following timescales:

- a) 12 months from the date of this notice: initial inspection of all platforms shall be submitted with Completion Reports and Condition Reports; and
- b) a completed SINAC form (see Appendix A) for each platform shall be returned to the Professional Head [Buildings] by 15 September 2015.

7 SIN Progress reporting

The completion of the Special Inspection Notice Action Completion Form (SINAC) shall be used to support the progress reporting of completed inspections. The Professional Head [Buildings] will require additional status reports of this work to be reported periodically.

8 Responsibilities

Route Asset Managers [Buildings] shall:

- a) brief out this SIN to all affected personnel including the CEFA contractor or competent surveyor; and
- b) instruct for initiation of the actions of inspection / examination and agree subsequent risk mitigation measures; and
- c) monitor progress of the contracted party; and
- d) report to the Professional Head [Buildings].

The Professional Head [Buildings] shall monitor progress of completion of this SIN.

9 Monitoring

The Professional Head [Buildings] will monitor the progress of completion of this SIN. The SIN shall remain open until the Professional Head [Buildings] is satisfied that all the identified station platforms have been inspected and appropriate mitigating actions initiated.

10 Contact details

If you have any queries about this Special Inspection Notice, please contact Rubina Greenwood Professional Head Buildings and Architecture at rubina.greenwood@networkrail.co.uk or phone on 07720 957176.

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**Appendix A
Special Inspection Notice Action Completion Form**

NR/SIN/xxx Issue 1: DD/MM/YYYY

Completion of the Special Inspection of platform cross-falls

Delivery Unit / Route	
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I confirm that the inspections mandated in this NR/SIN/ have been completed at the station named below.

Summary of work completed:

STATION NAME:						
OPAS Platform Identification No	Hazardous Cross-fall Identified (Towards track) Y/N	Cross-fall Gradient Risk factor (1-5)	Ticket/ Vending M/C Present Y/N	Furniture Present Y/N	Access / Egress positions Y/N	Action Initiated Y/N

Name (BLOCK CAPITALS)	
Signed	
Checked by	Surveyor
Date	

Name (BLOCK CAPITALS)	
Signed	
Approved by	Route Asset Manager / Senior Asset Engineer NR
Date	

Forward this completed form to the Professional Head Buildings and Architecture once all the actions for which you are responsible have been completed. (The rear of this form may be used if the space is inadequate).

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Appendix B Platform cross-fall survey form

PLATFORM CROSS FALL SURVEY		Station Category:			Station Name:		
Surveyor:					Date:		Platform Number:
Survey Position	Distance in (m)	Cross Fall Measurement			Towards Track	Level/Away From Track	Comments
		Height (h) mm Over 1m	Ratio	Degrees			
1							
2							
3							
4							
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