



Deviation from a Railway Group Standard

(In accordance with the Railway Group Standards Code, Issue Four, part 7)

Deviation Number: 14/072/DEV

1. Start and End Date:

N/A

2. Details of applicant:

C/O , Asset Management & Railway Systems, Network Rail, The Quadrant:
MK, Furzton, Desk MIK-FUR-03-B-1503, Elder Gate, Milton Keynes, MK9 1EN

3. Your reference number:

Tracker No. 16774

4. Status of applicant:

Infrastructure Manager, RSSB Member.

5. Title of certificate:

East Ham driver's access walkway footbridge - reduced buffer stop overrun risk zone.

6a. Details of Railway Group Standard (RGS):

RGS Number:	Issue No:	Issue Date:	Title:
GI/RT7016	Five	March 2014	Interface between Station Platforms, Track and Trains

6b. RGS clause(s):

6.3.1

6c. RGS clause requirements:

"6.3.1 Location of new structures in relation to terminal tracks

6.3.1.1 New structures, including buildings and columns supporting canopies shall not be located within the overrun risk zone extending 20 m behind the face of the buffer stop and 5 m either side of the projected centre line of the track approaching the buffer stop. This is referred to in clause 6.3.2 and clause 6.3.3 as the 'overrun risk zone'."

7. Scope of deviation:

This application is to request permission to install the new footbridge at the location, being the most practicable and feasible, to provide a safe crossing for the drivers at the end of the walkway. The East Ham driver's access walkway scheme is being proposed to provide a route for train drivers from the train station at East Ham to the C2C depot (and vice-versa). As part of providing a safe crossing for train drivers over the 60 mph Down Main FSS1 line, a footbridge is being proposed over the line.

Due to the footprint constraint to implement the crossing over the down main line, the deviation will involve the footbridge being constructed within the overrun risk zone as defined by Clause 6.3.1 of GI/RT/7016. The bottom of the stairs for the new footbridge will be 2.47 m from the face of the buffer stop.

This deviation is for a project requiring authorisation for placing in service under the Railways (Interoperability) Regulations 2011.

8. Duration of the deviation:

For the remaining lifetime of an asset or piece of equipment, to allow it to be phased out.

9. Method of elimination:

N/A

10. Impacts of complying with the current RGS requirement:

Compliance cannot be achieved due to site specific constraints. The risk level of overrun is extremely low since the sand trap is designed to prevent trains from entering the Down Mainline. The Solid State Signalling Interlocking (SSSI) signalling system is designed to prevent wrong routed movements towards the trap point.

The severity of non-compliance will be minor. The primary function of the current sand drag and buffer stop is to prevent runaway train units from the depot from entering the Fenchurch Street to Southend (FSS) down main line. With the gradient for this site 1 in 200 away from the buffer stops, it implies a non-braked unit would travel away from the sand drag and buffer stop rather than towards it. There have been no reported emergency uses in the last 40 years, so the likelihood of this happening would be rated as extremely low. In addition, the line speed is listed as 15 mph; however, from the depot yard the starting point is 5 mph with facing spring points, and trap points set in the wrong position would require a major signalling failure allowing for the trains to move in the wrong direction.

11. Proposed alternative provisions:

Works cannot commence until derogation is approved.

There have been no reported emergency uses of the sand drag/buffer stop in the last 40 years, so the probability of it being used in an emergency would require a major signalling failure.

12. Impacts of the alternative provisions:

To achieve this within the footprint available, the major component of the new structure (i.e. the substructure of the footbridge) will be located within the zone extending 20 m behind the face of the buffer stop, although the footbridge superstructure is adjacent to the buffer stop. In addition, the access to the footbridge is located within 5 m of the left hand side of the projected centre line of the track approaching the buffer stop, but does not lay parallel to the tracks or buffer stop.

13. What other options have been considered?

The project has considered two particular options to achieve a compliant arrangement:

- Option 1: Remove the buffer stop, return line tracks and the Switches and Crossings (S&C) asset completely. This would make it a plain line loop into the depot, i.e. plain line it, one direction movement only.
- Option 2: Move the buffer stop by 20 m to achieve compliant overrun risk zone.

These options were discounted for the following reasons:

- If the project considers Option 2, by relocating the buffer stop from its current location to allow for the 20 m clearance behind the buffer stop, there would be compliance issues in achieving the new configuration due to site constraints. This would involve replacing 20 existing sleeper over 40 m, replacing a rail block joint and installing 2no 60m length bull head rail and also replacing the buffer stop in order to make it compliant.
- Although Option 1 would not pose the same challenge with compliance to standards; however, it would involve removing the 41 no sleepers to be replaced with F40 type sleepers over 60 m and removal of the S&C switches.

For either option above to be implemented, this would cause disruption to the operations on the FSS Down Main line. The nature of works will require a 48 hrs – 56 hrs possession, which is not readily available on this line. This would need to be coordinated with the operations at the depot, unless the works are implemented during a depot shutdown, which usually only happens during the Christmas period.

This includes the cost of the works and booking possessions. A rough estimate from the site visit for the track works alone stands around £150 k for Option 2. This cost does not provide a risk contingency for uncertainties with cancelled possession and delay to operations as a result of the work being delayed.

Other options of moving the tracks have been considered but, given the required track run that would allow for complete compliance, this cannot be achieved without clashing with the switching asset and the FSS1 Down Main line. After considering different configurations of where to install the bridge, the proposed location is seen as the more viable and safe option to implement.

The other practical alternative will be to keep the drivers along the line of the walkway and make good the disused platform access towards the station building. This would require extensive re-development of the East Ham station to provide a new entry point and also creating additional office spaces at the station for the relocation of London Underground (LUL) operations (i.e. cash offices operation and accommodation facility). Currently, the drivers use taxi cabs from the station to the depot and this is not deemed to be economically viable over the long term.

14. Consultation with affected parties

C2C, London Underground, Network Rail (Asset Engineers, Gauging Engineer and Track Maintenance Engineer (TME)).

15. Additional actions/observations:

Upon receipt, the applicant is required to identify affected, interfacing parties and copy this certificate, together with supporting information, to those parties.

The holder of the certificate is responsible for checking that the original assumptions and conclusions contained in the deviation certificate remain valid whenever any material changes occur. If the conditions of the deviation certificate change, the deviation will no longer be valid. In these circumstances, the holder of the deviation certificate may consider applying for a new deviation.

Time-limited deviations will be closed on the expiry date. However, please let us know if you no longer require your non-time limited deviation certificate so that we may close it also.

Attachments:

- C2C's email of support dated 24/04/2014;
- Email correspondence of March 2014 with LUL Re Network Rail Driver Access Bridge;
- MR0462 ANG-MUR- East Ham Access Bridge Derogation Photos;
- Drawing No. 0001-UA006670-D Revision A05: East Ham Driver Walkway Bridge, Proposed General Arrangement, Sheet 1;
- Drawing No. 0002-UA006670-D Revision A05: East Ham Driver Walkway Bridge, Proposed General Arrangement, Sheet 2.

16. Signature of applicant:

, Head of Civil Engineering

Date of application:

30/04/2014

17. Lead Standards Committee details:

Name of Committee:

Infrastructure

Date of meeting

21/05/2014

Minute reference:

14/INS/05/113

Authorised by:

Signed by Cliff Cork on 29/10/2014

Date of Authorisation:

29/10/2014

Cliff Cork
Head of Delivery, Infrastructure and Rolling Stock