

**TRANSPORT FOR LONDON**

**SAFETY, HEALTH AND ENVIRONMENT ASSURANCE COMMITTEE**

**SUBJECT: RECENT LONDON UNDERGROUND SAFETY INCIDENTS**

**DATE: 7 OCTOBER 2010**

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**1 PURPOSE**

- 1.1 This paper provides the Committee with a report on the two recent high potential near miss safety incidents on the Northern and District lines. It also informs the Committee that the Office of Rail Regulation (ORR) is proceeding with a prosecution of London Underground (LU) regarding an incident which occurred on 17 November 2009 at Mile End station on the Central line.
- 1.2 These matters are rare events which need to be considered in the context of LU's acknowledged good safety record. This paper advises the Committee that full consideration is being given by LU to learn and apply the lessons from these events. Following further thorough investigations currently in progress, findings and further actions designed to minimise the risk of recurrence will be reported to the Committee and the Rail and Underground Panel.
- 1.3 This paper was also considered by the Board at its meeting on 22 September 2010.

**2 RAIL GRINDING TRAIN INCIDENT**

- 2.1 On the morning of 13 August 2010, following completion of rail grinding activities for Tube Lines (TL) between Archway and Highgate on the southbound track of the Northern line, the diesel-powered Rail Grinding Train (RGT) broke down. As a result, it was not capable of moving under its own power, so arrangements were made to tow the RGT using an out-of-service Northern line passenger train. By the time this recovery operation had started, passenger services were being operated on the Northern line. When the RGT had been towed about 1.5km northbound towards East Finchley, the coupling failed and the RGT rolled, out of control, southbound on the southbound track towards central London. The braking system on the RGT had been isolated as part of the recovery procedure, so the two operatives on the RGT were unable to apply the brakes and jumped off the RGT, without injury, as it rolled through Highgate station.
- 2.2 Staff on the towing train immediately alerted Service Control by radio. Swift and decisive action was immediately taken by Service Control staff. Trains travelling southbound ahead of the RGT were instructed to non-stop all stations and were routed onto the City Branch. The RGT was routed onto the Charing Cross branch. Service Control staff then deliberately set points at Mornington Crescent 'against' the RGT, which ran through the points, damaging them. This action helped to slow the RGT and bring it to a halt at Warren Street station. LU, TL, Rail Accident Investigation Branch (RAIB) and ORR staff attended and started securing evidence and began investigatory work. The affected parts of the Northern line resumed

passenger services at 17:58 hrs the same day.

- 2.3 The RGT is quarantined by RAIB pending its further formal independent investigation. On 17 August 2010, LU issued operational instructions requiring that no train or vehicle can be moved on the running lines with any brake isolated unless authorised by the LU Rostered Duty Officer who must first consult the LU Duty Engineer. ORR issued a Prohibition Notice on TL concerning the RGT and specific restrictions on moving it in breakdown situations. These immediate control actions ensure that a similar incident cannot occur while detailed formal investigations into this incident and another incident where the RGT broke down on 20 July 2010 are completed.
- 2.4 In the 20 July incident on the Jubilee line, the RGT failed for the first time since its first use by TL on LU infrastructure in 2002. The RGT was recovered using out-of-service Jubilee line passenger trains to, first, propel and then later, tow the RGT from West Hampstead to Neasden Depot. This caused a number of difficulties and resulted in serious delays to the Jubilee line service until around 10.20 hrs. A TL Formal Investigation Report (FIR) into this first incident had started but had not been completed at the time of the second incident, some three and a half weeks later.
- 2.5 LU and TL are now conducting a joint FIR which covers all the circumstances of both of these incidents, as matters in the first incident are likely to be pertinent to the second incident. It is too early to draw conclusions about the root causes that gave rise to the uncontrolled movement of the RGT, which is calculated to have reached a speed of around 35 mph and came within around 500m of the in service passenger train that was travelling ahead of it. The investigation is expected to take another two months and is probing, in particular, the root causes of apparent deficiencies in:
- (a) the process for authorising the RGT to operate and work on the LU network;
  - (b) the contingency plan arrangements for safely recovering the RGT if it failed;
  - (c) the adequacy of the emergency coupling device; and
  - (d) the response to the incident.
- 2.5 The FIR will make recommendations to address the root causes of the incidents and any wider matters. These will be considered and decided on by LU, jointly with TL, and reported to the Rail and Underground Panel, the Committee and the TfL Board.

### **3 SIGNALLING IRREGULARITY AT PLAISTOW**

- 3.1 On 8 September 2010, a signalling irregularity occurred as a train exited Plaistow station bay road platform on the District line. The LU signal operator set the route for the train in the bay road platform to leave the platform and cross over the eastbound track onto the westbound track to go westbound into central London. The route set correctly and the signals protecting trains travelling eastbound from West Ham were correctly set "at red". The LU train operator drove the train out of the bay road platform. When the train had passed the platform starter signal, the points ahead of the train, which should have been 'route-locked' (i.e. incapable of moving) 'normalised' (i.e. moved back to their normal position) routing the train onto the eastbound track, but travelling westbound.

- 3.2 The train's emergency brakes were applied due to the train being 'rear tripped' by the signalling system. This brought the train to a halt within one train's length. The train operator reported the problem by radio to Service Control, who immediately suspended the District and Hammersmith and City lines between Whitechapel and Barking.
- 3.3 LU despatched technical staff and professional signalling engineers to the site and reported the incident to RAIB and ORR. It was quickly confirmed by the engineers that a signalling irregularity had occurred. Once the cause had been identified as an incorrect component and protective measures had been taken, the mainline signals were tested and all points secured normal prior to returning the site to operational service for through running at 14:20hrs. The site was subject to a full signal principles test during the following engineering hours and returned to full operational use for start of traffic on 9 September 2010.
- 3.4 LU is now conducting an FIR. This will determine the root causes of the incident. In the meantime checks have been undertaken and ensured that similar components are not present at other sites potentially affected by modifications.
- 3.5 A report on the findings of the investigation will be considered by the Rail and Underground Panel and the Committee.

#### **4 WIDER CONSIDERATIONS**

- 4.1 While it is premature to draw any firm conclusions about the specific causes of the incidents that are still under investigation, the occurrence of high potential near miss incidents reinforces the need for continued vigilance to determine whether there are any reasonably practicable improvements that could be made to improve even further LU's proven safety management system.
- 4.2 LU has initiated work to consider the precise nature of any such improvements. By its nature, this work will evolve as it progresses and will be incorporated and reported on as part of LU's formal Safety Improvement Programme to the Committee.

#### **5 MILE END INCIDENT**

- 5.1 This incident occurred at Mile End station on 17 November 2009, when a partially detached and damaged inter-car canvas barrier between two cars of a moving Central line train struck three women standing on the platform. Two of the women needed hospital treatment for facial injuries, one was treated quickly, and the second who suffered a facial injury, has submitted a compensation claim, which is currently being settled. LU produced a FIR into this incident, which was subsequently reviewed and found to be thorough by the RAIB. All the recommendations of this investigation have been implemented and LU is confident that the chances of recurrence are very low.
- 5.2 LU was notified in writing of ORR's intention to prosecute for a breach of section 3(1) of the Health and Safety at Work Act on 26 August 2010. The Magistrate's Court hearing is scheduled for 5 November 2010.

5.3 It is worth noting that in its Annual report published in July, the ORR commended LU's safety performance. LU is disappointed that the ORR has chosen to prosecute in this case given that LU has already undertaken a full investigation and has acted upon lessons arising from it.

## **6 RECOMMENDATION**

6.1 The Committee is asked to NOTE this paper.

## **7 CONTACT**

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