

**Legislative Council Panel on Transport
Subcommittee on matters relating to railways**

**Supplementary Information on
MTR Performance and Asset Management**

Purpose

This paper provides supplementary information requested by Members at the LegCo Transport Panel Subcommittee on matters relating to railways meeting held on 4 March 2005 when Members discussed the item on "railway incidents and performance of the railway systems in Hong Kong".

Percentage of outsourced railway services and breakdown on the outsourced services as against the number of staff involved

2. About 18% of the railway services and maintenance is outsourced. Examples of these outsourced services include maintenance of rolling stocks and signalling systems, replacement of trackside cable, maintenance of escalators and station lifts, provision of baggage handling services, etc. The Corporation manages its contracts by performance and not by number of staff of individual contractors. As such, breakdown on the outsourced services as against the number of staff involved is not available.

Incident report on Rail Crack Incident near Shek Kip Mei Station on 9 November 2004

3. A report on the incident is provided at Annex.

**Incident report on Rail Crack Incident near
Shek Kip Mei Station
on 9 November 2004**

The incident

At 0620 hours, train operator of train T09 reported to the Operations Control Centre (OCC) that he saw sparks on the left hand running rail when his train was working towards Prince Edward Station (PRE) in Automatic Mode and otherwise nothing untoward was noted. Almost concurrently it was observed at OCC that track circuited section SKM 14T between Shek Kip Mei Station (SKM) and PRE on the Down track was found to have failed after passage of train T09. On-site inspection by station and maintenance staff was carried out promptly. They reported at 0705 hours, that a vertical crack was found on a section of the left hand running rail between SKM and PRE. It was also confirmed that trains could work safely over the affected section at slow speed and staff were deployed to remain on site to monitor the working condition. Given the time of the day and passenger traffic demand, temporary repair work was decided to be carried out after the morning peak hours.

TD was informed of the incident and Amber Alert¹ was subsequently issued by the Corporation at 0712 hours, which was withdrawn at 0935 hours.

To help relieve the expected crowding in stations, Integrated Crowd Management Plan was implemented. Moreover, KCRC was informed of the incident and was requested to advise their southbound passengers to

¹ "Amber Alert" is an early warning in respect of an incident which could lead to a serious disruption of service.

interchange at East Tsimshatsui Station instead of Kowloon Tong Station for Island line and Tsuen Wan Line through passenger announcements.

From 0720 hours, train service of Kwun Tong Line was operated at 4 minutes frequency. It was improved to 3.5 minutes from 0830 hours.

Temporary repair work commenced at 0915 hours. "Fishplates" were fixed on both sides of the rail. As the work was carried out at the intervals between trains, train service was virtually not affected. Temporary repair works completed at 1001 hours and the concerned track circuited section was restored to normal condition.

The section of fractured rail was replaced after close of traffic on the same day. A fleet inspection of all the rails on the running lines was conducted and no similar occurrence was identified. The cracked rail was sent to City University for metallurgic analysis and laboratory test.

Investigation and Findings

Preliminary observation of the crack surface and the general condition of the rail and the supporting plinth established that the breakage was initiated from a stress concentration which could be caused by material defect at the underside of the rail foot which led to the failure.

According to the analysis report by City University, the rail as delivered from the manufacturer contained a minor imperfection at the rail bottom, which was not detectable by any visual or ultrasonic inspection. They also reported that as the crack was initiated from a stress concentration at the underside of the rail foot outside the web zone and that the failure was an abrupt one, it is reasonable that the Ultrasonic Testing Vehicle (UTV)

could not detect any defect during the UTV inspection on 30 October 2004.

The failure was an isolated case and there was no impact on safety as verified by the Independent Report conducted by Lloyd's Register Rail. The report also indicated that it was impossible to detect the potential source of the rail-crack in advance through the state of art ultrasonic measures.

Action for Further Improvements

As a continuous improvement to rail management of the MTR system, the Corporation has put in place a series of initiatives to further enhance the existing rail maintenance regime.

To further enhance the reliability performance, the UTV inspection at Tsuen Wan Line and Kwun Tong Line where the rail is of smaller section has been increased from monthly to bi-weekly. This is supplemented by bi-nightly manual inspection by patrolmen. To further strengthen the manual track inspection, the Corporation is currently sourcing a suitable train mounted video camera system. This will enable patrolmen to be more focused on rail inspections, while minor inspections such as conditions of trackside clips, overhead line fixings or fencing along railway could be taken up by the video camera system.

MTR Corporation Limited
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