

Legislative Council Panel on Transport

Supplementary Information on Railway Incidents and MTR Service Performance

Purpose

This paper provides supplementary information requested by the Members at the Panel meeting held on 20 October 2004 regarding railway incidents and MTR service performance.

(I) Incident at Quarry Bay Station on 13 October

2. The incident report of the service disruption occurred at Quarry Bay Station on 13 October 2004 is attached in Annex I of this paper for Members' information.

(II) Statistics on Service Disruption

3. The aggregate duration of service disruptions for incidents incurring delays of five minutes or more on the MTR networks are shown below:

Period	2003 JUL – SEP	2004 JAN – JUN	2004 JUL - SEP
Aggregate Duration (minutes)	991	1,650	801
Average Aggregate minutes per Month	330 per month	275 per month	267 per month
Percentage against Monthly Total Journey Minutes (2,101,484)	0.016%	0.013%	0.013%

4. The average aggregate duration of train service disruption per month has been on a downward trend from the 3rd quarter of 2003 towards the 3rd quarter of 2004.

5. The comparison of number of incidents per million car-km operated with other metro operators of CoMET (Community of Metros) is shown below :

Year	Metro Operators	
	MTR-HK	Average Performance of Other Metro Operators
1999	4.6	36.8
2000	3.7	33.8
2001	4.7	28.2
2002	7.8	30.6
2003	3.7	32.9
2004 (upto Oct)	2.7	Not yet available

6. The overseas metro operators included in CoMET are :

- Berliner Verkehrs of Berlin,
- London Underground Ltd. of London,
- New York City Transport Authority of New York,
- Sistema de Transporte Colectivo of Mexico City,
- Regie Autonome de Transports Parisiens Metro of Paris,
- Regie Autonome de Transports Parisiens Regional Express Railway of Paris,
- Metropolitano de Sao Paulo of Sao Paulo,
- Teito Rapid Transit Authority of Tokyo,
- Moscow Metro of Moscow, and
- Metro de Madrid of Madrid.

7. MTR's performance in terms of number of incidents per million car-km operated is ten times better than the international metro average.

(III) Manpower for maintenance

8. As maintenance staff are employed to carry out maintenance of both safety critical and non-safety critical tasks, “Man-hour” spent on safety critical maintenance tasks is adopted as the unit of measurement. The numbers of man-hour spent on safety critical maintenance tasks in recent years are summarized as follows:

Year	Million Man-hours
2001	1.13
2002	1.20
2003	1.27
2004 (projected up to year end)	1.27

(IV) Manning Level of MTR Stations

9. As the system expands, MTR benefited from economy of scale. In 2004, the total number of staff for operational duties in MTR stations is 1,679 while in 1997 the total number was 1,357.

(V) Expenditure on Preventive Maintenance

10. The expenditure on preventive maintenance of all equipment in 2004 (projected up to year end) is \$546 million while the expenditure in 1997 was \$344.47 million.

(VI) Statistics of Train Service Related Complaints

11. Statistic of complaints about train services against MTR service from 2001 to September 2004 are summarized in the following table:

Year	2001	2002	2003	2004 (up to Sep)
Complaints about Train Services	421	420	33	7

12. The higher figures in 2001 and 2002 were attributable to the unsteady performance of new equipment and trains at the commissioning periods of Quarry Bay Relief Works and Tseung Kwan O Line.

13. When comparing with other overseas metro operators of CoMET in years from 1999 to 2002, MTR was the 2nd lowest in terms of “number of complaints per million passenger journeys”. The performance ranged from 0.461 to 67.044 while MTR-HK stood at 1.424.

(VII) Independent Review Report

14. The report of the review conducted by Lloyd’s Register Rail will be made available to the Panel on Transport when it is completed . Lloyd’s is now focusing on the comprehensive review which is expected to be completed shortly by January 2005.

MTR Corporation
November 2004

**Report on Train Incident on Wednesday, 13 October 2004
at Quarry Bay Station on Tseung Kwan O Line**

1. Incident

Moments after 0816 hours, traction power of the overhead conductor wires from Yau Tong to North Point was discharged. When this happened, there were three trains in the affected section: (1) train no.T23 (empty running) was proceeding to the turnback sidings from platform 4 of North Point Station (NOP), (2) train no.T24 was entering platform 4 of Quarry Bay Station (QUB) and was at a location about 30 meters to the prescribed stop mark, and (3) train no.T30 was proceeding inside the immersed tube from Yau Tong Station (YAT), and continued to work forward and stopped at a location not far away from QUB. At that instant when the traction power of the overhead conductor wires was discharged, a loud “bang” and a burst of smoke emanated from the roof of the second car of train no.T24 due to the abrupt discharge of high voltage power supply from the overhead conductor wires. As soon as train no.T24 came to a normal stop at its prescribed stop position at 0817 hours, the train operator promptly opened the train doors and made a verbal report to the Operations Control Centre (OCC) on the loss of traction power supply and the untoward event. Concurrently a member of QUB staff also made a verbal report to the OCC of what he saw on platform. Detrainment of passengers from train no.T24 was completed at 0819 hours. Pantographs of train no.T24 were lowered. About 1,500 passengers were detained. A large number of the detained passengers went to the Island Line platforms to continue their journey.

The smoke ensued from the discharge of traction power to the overhead conductor wires triggered the smoke detectors at platform, which in turn automatically mobilized the FSD, who arrived at QUB

at 0821 hours. FSD personnel conducted an inspection of train no.T24 at QUB platform 4 when arrangement for the restoration of traction power supply to the overhead conductor wires of the affected section from Yau Tong to North Point was being made. FSD personnel completed their inspection and left train no.24 at 0830 hours.

At 0824 hours, traction power to the affected section was fully restored and train no.T23 was worked to the turnback sidings to form its next passenger trip from NOP platform 3.

At 0832 hours, train no.T24 (empty running) departed QUB platform 4. Its leading pantograph was kept lowered to avoid further discharge of the traction power.

At 0834 hours, train no.T30 arrived QUB platform 4 and normal service was resumed at 0835 hours.

The Transport Department was informed of the incident at 0824 hours. An Amber Alert was issued at 0832 hours, and it was rescinded at 0836 hours.

During the incident one passenger at QUB felt unwell and was conveyed to hospital by ambulance. He was discharged on the same day.

As the incident happened during peak hours, crowds were developed at Yau Tong Station and some other stations. Crowd management measures were implemented from 0826 hours until 0935 hours. During this period, some entry gates of the automatic fare collection system were switched off intermittently to restrict the number of passengers to the platforms. There had not been any unsafe happenings during this period.

During the incident, public announcements were made to passengers at platforms and on the trains. The electronic media was timely informed of the service disruption on the Tseung Kwan O Line

before 0825 hours for catching up the half-hourly news broadcast at 0830 hours.

2. Investigation

The withdrawal of Train No.24 from service at Quarry Bay Platform 4 and following announcement of a normal detrainment of passengers took place and no emergency evacuation was required. As a matter of fact, after the opening of doors when Train No.24 stopped at Quarry Bay Station, almost all passengers immediately left the train and continued their journey by going to the Island Line platforms because Quarry Bay is an interchange station between the Island Line and Tseung Kwan O Line. There was a staff member on duty inside the Platform Supervisory Booth of Platform 4. Immediately after the outbreak of the incident, five staff members of the station were deployed to assist the platform staff at Platform 4. Other five staff members were serving the concourses and other platforms.

Investigation inside Tseung Kwan O Depot revealed that there was a fault in the high voltage power cable of the train's traction power circuit, which was inside a metallic conduit running from the car roof to the under-frame via the gangway exterior, of the second car. This in turn caused the discharge of the overhead wires. The cable was replaced afterwards.

3. Conclusion

The tripping of traction power was caused by the flashover between the high voltage power cable and the metallic conduit on the car roof. The flashover was due to the insulation breakdown of the high voltage power cable.

4. Follow-up Action

Investigation into the root cause of the breakdown of the high

voltage power cable insulation is being carried out. An effective test method to monitor the insulation of the high voltage power cable in good condition is being developed.

MTR Corporation
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