

Legislative Council Panel on Transport

MTR Tseung Kwan O Line Signaling Equipment Fault incident on 9 October 2009 and Tsuen Wan Line Train Fault incident on 10 October 2009

The Legislative Council Panel on Transport requested the Administration to provide a paper on the signaling equipment fault incident of the Tseung Kwan O Line (TKL) of MTR Corporation Limited (MTRCL) on 9 October 2009 and the train fault incident of the Tsuen Wan Line (TWL) on 10 October 2009. The causes of the incidents and the contingency measures adopted by MTRCL are set out in the paper of the Corporation at the Annex. The Administration's assessment on the handling of the incidents by MTRCL is set out in the following paragraphs.

Signaling equipment fault incident of TKL on 9 October 2009

2. The incident was caused by the fault of a computer electronic control card in MTRCL's signaling equipment room, resulting in the failure of the signaling point between the Tseung Kwan O Station and Hang Hau Station. The failure of the signaling point meant that trains could not be diverted from different directions (i.e. from Po Lam Station or from LOHAS Park Station) to North Point Station. All TKL southbound trains could either all be routed from Po Lam Station or all from LOHAS Park Station. Trains passing the location of the equipment were also required to reduce speed, affecting the service headway of TKL. The incident does not affect railway safety. As replacement of the electronic control card could only be done when the train is not in operation, MTRCL has arranged for replacement after the close of train service that night to reduce the impact on passengers.

3. Transport Department (TD) has reviewed the notification procedures, dissemination of information and contingency arrangements of MTRCL. In handling the incident, MTRCL has notified the Emergency Transport Co-ordination Centre (ETCC) of TD, issued to TD and other public transport operators Amber and Red Alerts according to the established mechanism and disseminated to the media the information about the incident and train service arrangement.

4. The incident occurred at 6:24 p.m. and train service from Po Lam Station and LOHAS Park Station to Tiu Keng Leng Station was suspended for 30 minutes. The headway between North Point Station and Tiu Keng Leng Station was increased from 2.5 minutes to 5 minutes. After the incident, MTRCL immediately notified TD according to the established mechanism, informed passengers of the service disruption through broadcasting at the affected stations and monitored the situation in the stations.

5. MTR issued Amber Alert then Red Alert following the established procedures. Following the issue of Red Alert, MTRCL arranged for emergency buses to serve the affected passengers, and passengers were informed of the arrangement through station broadcast and notices. MTRCL completed the temporary repair at 6:50 p.m., and train service between Po Lam Station and Tiu Keng Leng Station resumed at 7 p.m., with headway maintained at 5 minutes; MTRCL has separately arranged for trains to provide shuttle service between Tseung Kwan O Station and LOHAS Park Station, with headway maintained at 10 minutes. Since 8 p.m., the headway of TKL was maintained in accordance with the schedule of non-peak hours. TD considers that MTRCL has implemented appropriate contingency measures and maintained services at a reasonable level under the circumstance where the equipment has not been repaired.

6. MTRCL made broadcasts and posted notices at all stations to inform passengers. Announcements were also made on the trains running on TKL and on trains running on Island Line and Kwun Tong Line when they were approaching the stations interchanging with TKL. MTRCL had also implemented measures to regulate passenger flow in accordance with its contingency plan and closed some entry gates at stations on TKL for a short period of time to regulate the number of passengers on the platforms. ETCC of TD maintained close contact with the Police and MTRCL during the incident and noted that the situation at the MTR stations concerned was kept under control. TD considers that MTRCL has implemented the necessary measures to inform passengers and regulate the passenger flow in the stations.

Train fault incident of TWL on 10 October 2009

7. The incident was caused by the fault of the electricity supply equipment in the driving cab of a train on TWL, resulting in power shortage and failure of the train to move forward, affecting the headway of TWL train service towards Central. The incident does not affect railway safety.

8. TD has reviewed the notification procedures, dissemination of information and contingency arrangements of MTRCL. In handling the incident, MTRCL has notified ETCC of TD, issued to TD and other public transport operators Amber Alert according to the established mechanism and disseminated to the media the information about the incident and train service arrangement.

9. The incident occurred at 8:09 a.m. when there was a fault of the electricity supply equipment in the driving cab of a train on TWL and as a result the train stopped on its way from Mong Kok Station to Yau Ma Tei Station. MTRCL switched to adopt manual operation mode to drive the train at a reduced speed to Yau Ma Tei Station and arranged for detrainment. On its way to return to the depot for repair according to MTRCL's plan, the train stopped at Jordan Station due to power shortage. The train captain had to use the driving cab at the rear end of the train to drive the train away. The service of TWL resumed normal at 9:05 a.m..

10. After the incident, MTRCL immediately sent staff to perform inspection, notified TD according to the established mechanism, informed passengers of the service disruption through broadcasting at the affected stations, monitored the situation in the stations and issued Amber Alert. MTRCL also deployed 4 additional trains to support the service from Central to Tsuen Wan. TD considers that MTRCL has implemented appropriate contingency measures and maintained services at a reasonable level during the service disruption.

11. As regards information to passengers, MTRCL made broadcasts and posted notices at stations on TWL and interchange stations on Kwun Tong Line, Island Line, West Rail Line and Tung Chung Line to inform passengers. Announcements were also made on the trains running on TWL and on trains running on Kwun Tong Line, Island Line, West Rail Line and Tung Chung Line when they were approaching the stations interchanging with TWL. MTRCL had also implemented measures to regulate passenger flow in accordance with its contingency plan and closed some entry gates at stations on TWL for a short period of time to regulate the number of passengers on the platforms. ETCC of TD maintained close contact with the Police and MTRCL during the incident and noted that the situation at the MTR stations concerned was kept under control. TD considers that MTRCL has implemented the necessary measures to inform passengers and regulate the passenger flow in the stations, in accordance with the contingency requirements.

Conclusion and improvement

12. MTRCL has submitted incident reports to TD and the Electrical and Mechanical Services Department (EMSD). EMSD agreed with MTRCL's findings on the causes of the incidents. On the whole, TD is of the view that MTRCL has implemented all the necessary contingency arrangements in respect of notification procedures, dissemination of information and regulation of passenger flow. For the TKL incident, as replacement of the electronic control card could only be done when the train is not in operation, MTRCL has made the appropriate arrangement to replace the card after the close of train service that night to reduce the impact on passengers; and arranged for emergency buses to serve the affected passengers. For TWL incident, MTRCL also adopted measures to inform passengers and deployed additional trains to support the service towards Tsuen Wan.

13. TD and EMSD have also followed up with MTRCL on implementation of improvement measures in the areas of broadcast announcement and equipment inspection. On broadcast announcement, MTRCL will provide more detailed information about the incident to the affected passengers, especially those passengers who are on the stalled trains, to facilitate their understanding of the incident and the developments. In addition to existing procedures for regular inspection, MTRCL has taken into account EMSD's suggestions and has improved the procedures for inspection of the electricity supply equipment of the driving cab and will improve the relevant electricity monitoring device, so as to further reduce the chances of recurrence of similar incidents.

14. TD and EMSD will continue to monitor the implementation of the measures by MTRCL.

Transport and Housing Bureau
October 2009

Legislative Council Panel on Transport

**MTR Tseung Kwan O Line Signaling Equipment Fault incident
on 9 October 2009 and
Tsuen Wan Line Train Fault incident
on 10 October 2009**

Introduction

This paper provides information on a signaling equipment fault incident on the Tseung Kwan O Line (TKL) of the MTR Corporation Limited (MTRCL) on 9 October 2009 and a train fault incident on the Tsuen Wan Line (TWL) on 10 October 2009.

Signaling equipment fault incident of TKL on 9 October 2009

2. On the evening of 9 October 2009, a signaling equipment fault occurred near Tseung Kwan O Station, affecting train service between Po Lam/LOHAS Park stations and North Point Station.

3. Train service on TKL that evening was affected due to the fault of an electronic control card in the signaling equipment room. The function of the card is to transmit data to the signaling point to divert trains from different directions (from Po Lam Station or from LOHAS Park station) to North Point Station. The fault of the card meant that the signaling point could not work.

4. The incident occurred at 6:24 p.m., train service between Po Lam and Tiu Keng Leng stations and LOHAS Park Station was temporarily suspended with one train stalled in the tunnel area. MTRCL immediately deployed staff to conduct site inspection and temporary repair. The repair work was completed at 6:50 p.m. and train service between Po Lam and Tiu Keng Leng stations resumed at 7:00 p.m. To accommodate the more frequent service scheduled to and from Po Lam Station, MTRCL arranged trains to operate between North Point and Po Lam stations. As trains were required to pass through the affected area at a reduced speed, headway was maintained at 5 minutes. A shuttle train service was operated between Tseung Kwan O and LOHAS Park stations at headway at 10 minutes.

5. About 6 minutes after the incident, MTRCL has confirmed that the signaling point could not function and sent staff to station equipment room of the Tseung Kwan O Station and to the tracks to perform inspection. At the same time, it also tried to resume the functioning of

the signaling point through the Operations Control Centre (OCC). MTRCL estimated at 6:40 p.m. that the temporary repair could be completed in about 10 minutes. During the incident, MTRCL issued an Amber Alert at 6:33 p.m. and a Red Alert at 6:44 p.m. and informed Transport Department (TD) and other public transport operators of the incident for enhancing their services in the affected area.

6. Following the issue of Red Alert, at 6:45 p.m., MTRCL arranged the deployment of shuttle buses to serve the affected passengers. When train service resumed at 7:00 p.m., the above Alerts were cancelled.

7. The incident was caused by a fault of an electronic control card in the signaling equipment room. As replacement of the electronic control card could only be done when the train is not in operation, and considering a relatively high level of service could still be maintained at the time, MTRCL has arranged for replacement of the card concerned after the close of train service that night. After replacing the electronic control card, train service resumed normal the following day.

Train fault incident of TWL on 10 October 2009

8. At 8:09 a.m. on 10 October 2009, a Central-bound TWL train stopped and could not move forward shortly after departing Mong Kok Station due to the fault of the electricity supply equipment in the driving cab. The train captain immediately reported the incident to the OCC which decided to take the train out of service and return it to Tsuen Wan Depot for inspection. The train captain was authorized to adopt the manual operation mode and drive the train to Yau Ma Tei Station where the onboard passengers were detrained for taking the next train. Travelling at a reduced speed, the train arrived at Yau Ma Tei Station 6 minutes later at 8:15 a.m.

9. At 8:34 a.m., the train stopped at Jordan Station and could not move forward as power shortage prevented the brakes from being released.

10. The train captain and station staff attempted to re-activate the train following the established procedures. The OCC issued an Amber Alert at 8:40 a.m. At 8:55 a.m., the train captain successfully released the brakes from the driving cab at the rear end of the train and the train continued its journey to Tsim Sha Tsui Station where it reversed direction to return to Tsuen Wan Depot. Service of TWL resumed normal at 9:05 a.m.

11. After inspection, MTRCL confirmed that the cause of the incident was due to the fault of the electricity supply equipment in the driving cabin and the train could not move forward because of power shortage.

Contingency Measures

12. MTRCL has contingency measures in place to handle incidents with a view to minimising any inconvenience caused to passengers. During these incidents, the following contingency measures were implemented:

(i) Information dissemination

13. In both incidents, MTRCL has informed TD and issued alerts according to established procedures. MTRCL has also disseminated information about the incident and train service arrangement to the media so that the public would be informed.

(ii) Station control

14. During the TKL signaling equipment fault incident on 9 October, public announcements were made every 3 minutes at all stations of the MTR network. Individual stations made additional announcements having regarding to the circumstances. At the same time, repeated announcements were made on all trains along TKL and trains on Island Line and Kwun Tong Line as they approached stations interchanging with TKL to inform passengers of the incident.

15. During the TWL train fault incident on 10 October, public announcements were made every 3 minutes at all stations on TWL and interchange stations on Kwun Tong Line, Island Line, West Rail Line and Tung Chung Line. Individual stations made additional announcements having regard to the circumstances. At the same time, repeated announcements were made on all trains along TWL and trains on Island Line, Kwun Tong Line, West Rail Line and Tung Chung Line as they approached stations interchanging with TWL to inform passengers of the incident.

16. During the two incidents, notices were displayed to update passengers on the revised train service arrangement. Additional staff members were deployed to assist passengers, maintain order and direct passenger flow in the affected stations. In accordance with established

procedures, MTRCL has closed some entry gates at stations with particularly heavy passenger traffic on TWL for a short period of time to regulate the number of passengers on the platforms, so as to ensure the safety of the passengers.

(iii) Operational Arrangement

17. During the TKL incident of 9 October, MTRCL deployed 21 shuttle buses at 2 minute intervals to serve affected passengers travelling between Tiu Keng Leng and Po Lam stations until 7:30 p.m. MTRCL broadcasted announcements and posted notices at the stations to inform passengers of the shuttle bus arrangement. The buses also stopped at Tseung Kwan O, LOHAS Park and Hang Hau stations. A total of 100 passenger-trips were served. After the completion of the temporary repair, train service between Po Lam and North Point stations was maintained at 5 minute intervals; shuttle train service was implemented between LOHAS Park Station and Tseung Kwan O Station at 10 minute intervals. Since 8 p.m. that evening, the headway of TKL was maintained in accordance with the schedule of non-peak hours.

18. As regards the TWL incident of 10 October, MTRCL has deployed 4 additional trains to support the service from Central to Tsuen Wan.

Conclusion

19. MTRCL apologises for the inconvenience caused to passengers due to the incidents on 9 and 10 October 2009. As the cause and the affected area of the two incidents were different, MTRCL conducted separate investigations into the two incidents, including the existing regular inspection procedures for the affected equipment and the contingency measures implemented to handle the situations, with a view to seeking continuous improvements to prevent similar occurrences in future and to minimise the inconvenience caused to passengers in the event of future incidents.

MTR Corporation Limited
October 2009