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Panel on Transport

Subcommittee on Matters Relating to Railways Meeting on 28 April 2017

Background brief on service disruption of Kwun Tong Line on 10 April 2017 and contingency arrangements for railway incidents by the MTR Corporation Limited

Purpose

This paper provides background information on service disruption of Kwun Tong Line on 10 April 2017, and contingency arrangements for railway incidents by the MTR Corporation Limited ("MTRCL"). It also summarizes the major views and concerns expressed by Legislative Council ("LegCo") Members during previous discussions on railway incidents.

Background

Contingency arrangements for railway incidents

2. MTRCL has put in place contingency plans for railway service disruptions. As required by the Transport Department ("TD"), MTRCL shall issue an "Amber Alert" or "Red Alert" message to TD and other public transport operators in accordance with the seriousness of the railway incident. MTRCL is also required to notify TD within eight minutes of any service disruption incident that has occurred for eight minutes or is expected to last for eight minutes or more. Besides, according to MTR Regulations, MTRCL should report to the Electrical and Mechanical Services Department ("EMSD") any incident that occurs at any part of the entire railway premises which has a direct bearing on the safe operation of the railway.

3. In case of a major incident, MTRCL will activate the Incident Control Post to deal with the incident together with government departments including the Fire Services Department, the Police and TD in accordance with established procedures under contingency plans so as to expedite safe evacuation of passengers. In case the power supply to MTRCL is affected, a backup system on board of the trains will be activated to supply electricity to major facilities on trains, including some of the lighting, ventilation and communication systems. Moreover, staff will be swiftly deployed to assist with passenger detrainment. Further details of MTRCL's contingency plans for railway service disruptions are given in **Appendix I**.

Fine for serious service disruptions under Fare Adjustment Mechanism

- 4. Under the prevailing Fare Adjustment Mechanism ("FAM"), there is a Service Performance Arrangement ("SPA") whereby a fine, ranging from \$1 million and subject to a maximum of \$15 million per incident, will be imposed on MTRCL for serious service disruptions, defined as disruptions of 31 minutes or above. The Administration agrees with the argument advanced by MTRCL that disruptions of a shorter duration should not be counted for this purpose in order not to put undue pressure on MTRCL's frontline staff who otherwise might be tempted or pressured into rushing their repair works to avoid the penalty, putting quality or safety at It should also be noted that disruptions caused by factors outside MTRCL's control such as passengers' behaviour and bad weather, will not be counted either. The arrangement is similar to some practices adopted overseas, such as in Singapore and Melbourne. Any fine imposed is credited to a fare concession account for fare concessions through the time-limited "10% Same Day Second Trip Discount" scheme.
- 5. From 2012 to 2015, there were a total of 33 cases of serious service disruption. MTRCL offered in total \$71.5 million in fare concessions to passengers in the subsequent years (i.e. from 2013-2014 to 2016-2017) under SPA. A breakdown by year is given in **Appendix II**.
- 6. In March 2017, the Administration completed the current (second) review of FAM of MTRCL. Under the revised FAM, the existing SPA will be improved by raising the maximum penalty per incident to \$25 million. The revised FAM will take effect from June 2017.

Level of penalty per incident of train service disruptions under the prevailing FAM:

31 minutes or more but less than or equal to one hour

More than one hour but less than or equal to two hours

More than two hours but less than or equal to three hours

More than three hours but less than or equal to four hours

Each additional hour (or part thereof) exceeding four hours

(subject to a maximum of \$15 million per incident)

\$1 million
\$2 million
\$5 million
\$2.5 million

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Service disruption of Kwun Tong Line on 10 April 2017

- 7. The train services in both directions at eight stations along the Kwun Tong Line between Kowloon Tong Station and Kwun Tong Station were suspended from about 6:00 pm on 10 April 2017, and the problem was not rectified until 8:25 pm. According to MTRCL, the disruption was caused by a device on an overhead cable on the track linking the Kowloon Bay depot and Choi Hung Station.
- 8. During the service disruption, the entrances and turnstiles at the eight affected stations were shut. The frequency of trains running between Kowloon Tong Station and Whampoa Station was lengthened to 10 minutes, while services between Tiu Keng Leng Station and Kwun Tong Station were running at 12-minute intervals. According to some media reports, some passengers were forced to walk along rail tracks in the dark. Crowds of affected passengers lined up for shuttle buses or other public transport. Road traffic in east Kowloon was seriously affected.
- 9. A spokesman for the Transport and Housing Bureau ("THB") told the media that MTRCL should submit a report on the incident to TD and EMSD, which would report to THB if needed.

Major views and concerns of Members

10. Members have discussed various railway incidents at meetings of the Subcommittee on Matters Relating to Railways ("the Subcommittee") in the Fifth and Sixth LegCo. Council questions on relevant matters were also raised by Members. The major views and concerns of Members are summarized in the ensuing paragraphs.

Incident handling

- 11. Members of the Subcommittee expressed concern about the handling of incidents and the contingency measures taken by MTRCL. In particular, members expressed dissatisfaction with the confusion in the dissemination of information to passengers regarding the service suspension and train service available, emergency bus arrangements, lack of crowd control at the emergency bus pick-up points, and the ad hoc changes made to the locations of those points.
- 12. A number of railway incidents in the recent months, such as the power outage incident at the South Island Line (East) on 29 December 2016, the fire incident on an MTR train running from Admiralty Station to

Tsim Sha Tsui Station on 10 February 2017, and the incident of the flooding of the South Horizons Station due to a burst water pipe on 14 February 2017 had aroused grave concern of members about MTRCL's contingency measures. In particular, they were worried about the safe evacuation of passengers in major incidents.

13. Members noted that MTRCL would conduct 12 to 15 drills with the Police and the Fire Services Department jointly every year. Emergencies and major incidents were simulated to test evacuation and emergency response procedures. The last major drill was conducted in November 2016 and participated by about 2 000 persons. Regular training for staff had also been arranged. The Administration and MTRCL would both enhance and increase the frequency of drills.

Penalty

- 14. Members urged the Administration to step up monitoring effort and impose a penalty system on MTRCL, such as issuing warning letters to or imposing fines on MTRCL in case of substandard performance. They also suggested that MTRCL should introduce new mechanisms to compensate the affected commuters, such as provision of free journey on a particular day. According to the Administration, the particular journey affected by serious service disruptions would be free of charge under the existing mechanism.
- 15. Members suggested that the remuneration of MTRCL's senior management should be reduced in the event of serious service disruptions. The Subcommittee also passed a motion urging the Administration to consider expanding the scope of penalty imposed on MTRCL by including deductions of the remunerations and bonuses of its directors, as well as setting out the timetable for implementation of the said deductions. The Administration advised that they had reflected the concerns and views to the Board of MTRCL and requested the Corporation to carefully consider the matter. The Board of MTRCL had followed up and decided to include the occurrence of serious service disruptions as a consideration in the payment of performance-based remuneration to the Corporation's senior management staff in future.

Ageing problems of railway systems

16. The Subcommittee expressed concern about ageing problems of railway systems. When discussing service disruption incidents of the East Rail Line ("ERL") on previous occasions, some members doubted if the railway service disruptions reflected any ageing problems of the railway systems, such as the signalling system and the central monitoring and

communications system, given that ERL had been operating for over 30 years. In response, the Administration mentioned that the signalling system of ERL would be upgraded in tandem with the Shatin to Central Link project. According to MTRCL, with routine repair/maintenance and component replacement, the data network transmission had shown no sign of ageing.

17. At the Council meeting of 1 March 2017, a Member raised a question relating to the replacement of train components, and train safety and service quality. The Administration indicated that MTRCL invested more than \$7 billion per year in maintaining and renewing its railway asset. and would earmark additional fund to procure new ones based on operational needs. According to MTRCL, the railway system had been in use for close to 40 years, and the decade spanning from the past few years to the coming few years were the peak of large-scale renewal and replacement of the railway system. For example, in 2015, MTRCL additionally committed about \$9.3 billion to procure 93 new urban line trains and replace the signalling systems of seven railway lines to enhance service quality. As such, the input (i.e. cost) had increased at a faster rate than the output (i.e. income) for MTRCL for the past five years, and hence a negative Productivity Factor ("PF") in the FAM formula.² As per the revised FAM from 2017-2018 to 2022-2023, MTRCL had agreed to lower its fare increase rate by 0.6 percentage point each year to ensure that passengers could still benefit from a moderated fare adjustment.

Quality management

18. At the Subcommittee meeting on 28 February 2014, members noted that a broken fastening wire in an overhead line support bracket near Tiu Keng Leng Station had caused the train service suspension on 16 December 2013. MTRCL informed members that the breakage was due to improper installation of the overhead line support bracket during construction. Noting also that two incidents of ERL in February 2014 had been caused by faulty overhead line insulators, the Subcommittee urged MTRCL to enhance their quality management in railway operations.

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The PF value should be the outcome of half of the compound annual growth rate of the ratio between output and input in MTRCL's transport operation. As per the outcome of the FAM review in 2013, in the event that the PF value is negative, it should be reset at "zero" to avoid the situation where the fare increase rate of the FAM formula outcome would be increased as a result of a negative PF value.

Recent developments

19. The Subcommittee has invited the Administration to brief members on the service disruption of Kwun Tong Line on 10 April 2017 at the Subcommittee meeting to be held on 28 April 2017.

Relevant papers

20. A list of relevant papers is in **Appendix III**.

Council Business Division 4
<u>Legislative Council Secretariat</u>
25 April 2017

MTRCL's contingency plans for railway service disruptions

Purpose

The MTR Corporation Limited (MTRCL) has drawn up contingency plans for various service disruption situations specific to the needs of individual stations. They are made available to the staff assigned to contingency duties. For information that is of use to passengers, it is made available to them in stations and in the Internet. This note gives an account of the MTRCL's contingency plans for railway service disruptions.

Handling of railway service disruptions

2. When a serious incident happens and is expected to lead to a prolonged suspension of railway services for 20 minutes or more, the MTRCL will issue a "Red Alert" message to inform Government departments including the Transport Department (TD), other public transport operators and media organisations of the incident. Upon notification by the MTRCL, other public transport operators will provide appropriate supportive services as best as they can under the co-ordination of the TD. On its part, the MTRCL will suitably adjust its railway service to minimise impact and arrange free MTR shuttle buses to carry passengers from the affected stations to convenient locations, such as the nearest MTR station with railway service still in operation.

Alert System

3. "Red Alert" is defined as a signal which denotes that serious railway service disruption will continue or is expected to continue for 20 minutes or more, and emergency transport support services from other public transport operators are required. Upon being alerted, public transport operators will urgently mobilise their resources to provide appropriate supporting services as quickly as possible.

- 4. Prior to the issuance of a Red Alert message, the MTRCL may issue an "Amber Alert" message. "Amber Alert" is defined as an early warning in respect of an incident which may lead to a serious disruption of service. After receiving this Alert, other public transport operators will alert their emergency unit, get prepared for possible emergency actions which may be demanded for at short notice and keep close contact with the MTRCL.
- 5. The MTRCL is also required to notify TD within 8 minutes on any service disruption incident which has lasted for 8 minutes or is expected to last for 8 minutes or more. Train service disruption incidents refer to those incidents that lead to a suspension or delay of service at a railway station or a Light Rail stop, or on a section of a railway line.
- 6. Besides, according to the Mass Transit Railway Regulations (Cap. 556A), the MTRCL shall report to the EMSD any incident that occurs at any part of the entire railway premises and which has a direct bearing on the safe operation of the railway.

Dissemination of information during incident

- 7. Regarding dissemination of information to passengers, the MTRCL has formulated measures to ensure effective communication with passengers during service disruption, with a view to assisting them to make appropriate alternative travel arrangements. These measures include:
 - (a) broadcasting details of the service situation at stations and in trains;
 - (b) providing information of alternative public transport service such as franchised bus routes, bus stop locations and free MTR shuttle bus boarding/alighting points on large information displays installed at stations;
 - (c) displaying signs from concourse ceilings and at street level to mark routes to free MTR shuttle bus boarding/alighting points when free shuttle bus service is ready;

- (d) during service disruption, using LCD screens installed at visible locations near station entry gates of to provide train service information and other important notices;
- (e) posting railway service disruption message and information on free MTR shuttle bus services on the MTR website and MTR Mobile App "Traffic News";
- (f) displaying alternative public transport information on maps in the concourse of affected stations; and
- (g) distributing "Rail Service Suspension Passenger Guide" to passengers.

Operation of train and free MTR shuttle bus during serious railway service disruptions

- 8. In the event of serious service disruption, the MTRCL will endeavour to minimise the area being affected and provide train service to the farthest extent by:
 - (a) reversing trains at designated track sections to maintain train service in unaffected sections;
 - (b) diverting trains through supplementary track sections to bypass the affected section;
 - (c) diverting trains across lines through designated track sections to reduce the impact of service disruption; and
 - (d) diverting trains through spare track sections to reduce the impact of service disruption (for example, when the cross-harbour section of Tseung Kwan O Line is suspended, depending on which section is affected, cross-harbour train service can be maintained via the Service Connection Tunnel of Kwun Tong Line to provide linkage between Lam Tin Station and Quarry Bay Station).

9. The MTRCL has formulated free shuttle bus deployment plans for railway incidents and agreements have been entered into with bus operators for the provision of such services during railway incidents to take affected passengers to the nearest MTR station still under normal operation to continue their journeys.

Operation of free MTR shuttle buses

10. Free MTR shuttle bus service is a supplementary measure to assist passengers to travel to convenient locations. Given the limited carrying capacity of shuttle buses, it is not intended to be a substitute for normal train service. It brings passengers to the nearest station outside the affected section of a railway line where service is disrupted, to enable them to continue with their journeys. Shuttle buses would also stop at stations in the affected section to provide services to passengers.

Activation of free MTR shuttle bus services

11. The number of free MTR shuttle buses and the level of shuttle bus service to be deployed during a railway incident will depend on which section of the railway line is involved and the seriousness of the situation. Generally speaking, according to the agreement between the MTRCL and the Public Omnibus Operators Association (POOA)¹, when free MTR shuttle bus service is needed, the POOA will arrange about 7 buses to provide service within 30 to 45 minutes after receiving the MTRCL's notification; an additional 40 buses, if required, will be deployed within 1 to 1.5 hour; and about 100 buses in total after 2 to 2.5 hours. The actual number of buses to be deployed will depend on the extent of impact to train service and road traffic condition. Depending on the actual situation, the MTRCL may operate additional shuttle buses or modify the operating details of shuttle bus services to suit the need of the affected passengers.

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¹ POOA is the confederation of non-franchised public bus operators in Hong Kong. At present, more than 200 non-franchised operators are members of the POOA, and together having a fleet of about 4 000 buses which accounts for about 60% of the total non-franchised buses operating in Hong Kong.

- 12. Information on the estimated arrival time, locations of and routes to boarding and alighting points of free MTR shuttle buses is included in MTRCL's "Rail Service Suspension Passenger Guide" which is tailor-made for each station for distribution in the station. The Guide is also uploaded to MTRCL's website (http://www.mtr.com.hk/en/customer/services/needs_index.html).
- 13. Since the carrying capacity of shuttle buses is far below that of the railway, they can only serve as a support service to assist affected passengers to continue with their journeys. It is not possible for shuttle buses to serve as replacement for the entire railway service. Therefore, lines queuing for such bus service are expected and most passengers may have to change to other unaffected MTR lines or take alternative public transport services to travel to their destinations.

Manpower Deployment

- 14. In response to a service disruption incident, the MTRCL staff would be on duty at each MTR station to carry out crowd management duties, make public announcements, issue station notices and help passengers on fare matters according to the established procedures in times of incidents. The number of station staff will be increased as needed.
- 15. The MTRCL has also established a dedicated Customer Service Rapid Response Unit (CSRRU) with around 90 members to provide additional support focusing on customer service on top of the manpower stationed at individual stations. The MTRCL will from time to time review the number of team members of the CSRRU as necessary.
- 16. Upon calling out the free MTR shuttle bus services during serious service disruption, the Operations Control Centre (OCC) of the MTRCL will mobilise team members of CSRRU to affected stations to provide extra support on:

- setting up facilities for the implementation of free MTR shuttle bus services;
- maintaining order at affected stations and free MTR shuttle bus boarding/alighting points;
- making timely reports to the OCC during incidents to facilitate more effective co-ordination with relevant Government departments such as the Police for better crowd management;
- handling enquiries and advising passengers on alternative routes and transport choices; and
- providing guidance and assistance to passengers.
- 17. Upon notification of deployment, CSRRU team members will proceed to the affected stations by the best available means of transport, including taxi. The first team would likely arrive within 20 minutes in most cases according to past experience. CSRRU team members are easily identifiable in their pink vests.

Regular review and updating

18. The MTRCL will continue to regularly review and update its contingency plans for railway service disruption in consultation with relevant Government departments, in the light of operational experience gained.

Source: Annex to the Administration's reply to a Council question (LCQ19: "Fire incident at MTR train and public transport safety") raised by a Member at the Council meeting of 1 March 2017

Service Performance Arrangement

The amount set aside by the MTR Corporation Limited ("MTRCL") under the Service Performance Arrangement from 2013-2014 to 2016-2017, arising from the incidents happened in 2012-2015

	Service Performance Arrangement		
Year	Number of serious service disruptions within MTRCL's control ¹	Amount set aside for fare concession in the subsequent year ²	
2012	8	\$13 million	
2013	5	\$27.5 million	
2014	12	\$20 million	
2015	8	\$11 million	
Total	33	\$71.5 million	

Source: Legislative Council Brief on review outcome of the Fare Adjustment Mechanism of the MTR Corporation Limited (File Ref.: THB(T)CR 19/5591/00)

Serious service disruptions are defined as disruptions of 31 minutes or above caused by factors within MTRCL's control.

² The amount set aside for fare concession depends on the number of incidents and the length of service disruption.

Panel on Transport Subcommittee on Matters Relating to Railways

List of relevant papers on service disruption of Kwun Tong Line on 10 April 2017 and railway incidents from the MTR Corporation Limited

Date of meeting	Committee	Minutes/Paper	LC Paper No.
8.2.2012	Council meeting	Hon Mrs Sophie LEUNG LAU Yau-fun raised a question on contingency arrangements for railway incidents	http://www.info.gov.hk/gia/gen eral/201202/08/P20120208025 0.htm
20.12.2013	Subcommittee on Matters Relating to Railways	Administration's paper on Tseung Kwan O Line service disruption on 16 December 2013	CB(1)595/13-14(01) http://www.legco.gov.hk/yr13- 14/chinese/panels/tp/tp_rdp/pa pers/tp_rdp1220cb1-595-1- c.pdf
		Minutes	CB(1)1011/13-14 http://www.legco.gov.hk/yr13-14/english/panels/tp/tp_rdp/minutes/rdp20131220.pdf
28.2.2014	Subcommittee on Matters Relating to Railways	Administration's paper on follow-ups on the service suspension of Tseung Kwan O Line and part of Kwun Tong Line on 16 December 2013, and report on subsequent major incidents on East Rail Line and Light Rail	http://www.legco.gov.hk/yr13-
		Minutes	CB(1)1928/13-14 http://www.legco.gov.hk/yr13- 14/english/panels/tp/tp_rdp/mi nutes/rdp20140228.pdf

Date of meeting	Committee	Minutes/Paper	LC Paper No.
19.3.2014	Council meeting	Dr Hon LAU Wong-fat raised a question on MTR services	http://www.info.gov.hk/gia/gen eral/201403/19/P20140319043 8.htm
9.4.2014	Council meeting	Hon Albert HO Chun-yan raised a question on railway safety	http://www.info.gov.hk/gia/gen eral/201404/09/P20140409039 9.htm
14.5.2014	Council meeting	Dr Hon LAM Tai-fai raised a question on MTR railway services	http://www.info.gov.hk/gia/gen eral/201405/14/P20140514049 4.htm
21.5.2014	Council meeting	Hon CHAN Chi-chuen raised a question on MTR services	http://www.info.gov.hk/gia/gen eral/201405/21/P20140521037 1.htm
28.5.2014	Council meeting	Hon Charles Peter MOK raised a question on MTR East Rail Line incidents	http://www.info.gov.hk/gia/gen eral/201405/28/P20140527086 8.htm
4.7.2014	Subcommittee on Matters Relating to Railways	MTR Corporation Limited's paper on East Rail Line service disruptions on 27 and 28 April, and 1 and 2 May 2014	CB(1)1722/13-14(01) http://www.legco.gov.hk/yr13- 14/english/panels/tp/tp_rdp/pap ers/tp_rdp0704cb1-1722-1- e.pdf
		Administration's supplementary information on East Rail Line service disruptions on 27 and 28 April, and 1 and 2 May 2014 (follow-up paper)	CB(4)520/14-15(01) http://www.legco.gov.hk/yr13- 14/chinese/panels/tp/tp_rdp/pa pers/tp_rdpcb4-520-1-c.pdf
		Minutes	CB(1)139/14-15 http://www.legco.gov.hk/yr13- 14/english/panels/tp/tp_rdp/mi nutes/rdp20140704.pdf

Date of meeting	Committee	Minutes/Paper	LC Paper No.
2.1.2015 & 6.3.2015	Subcommittee on Matters Relating to Railways	MTR Corporation Limited's paper on the outcome of the independent expert's review on MTR overhead line system as a result of the insulator incidents in February 2014	CB(4)287/14-15(05) http://www.legco.gov.hk/yr14- 15/english/panels/tp/tp_rdp/pap ers/tp_rdp20150102cb4-287-5- e.pdf
		Minutes	http://www.legco.gov.hk/yr14-15/english/panels/tp/tp_rdp/minutes/rdp20150102.pdf CB(4)1108/14-15 http://www.legco.gov.hk/yr14-15/english/panels/tp/tp_rdp/minutes/rdp20150306.pdf
2.12.2015	Council meeting	Hon WONG Yuk-man raised a question on monitoring service performance of MTRCL	http://www.info.gov.hk/gia/gen eral/201512/02/P20151202040 2.htm
9.12.2015	Council meeting	Hon Michael TIEN Puksun raised a question on train services	http://www.info.gov.hk/gia/gen eral/201512/09/P20151209054 5.htm
23.11.2016	Council meeting	Hon LUK Chung-hung raised a question on upgrade of signalling systems for railway lines	http://www.info.gov.hk/gia/gen eral/201611/23/P20161123003 99.htm
17.1.2017	Subcommittee on Matters Relating to Railways	MTR Corporation Limited's paper on the power outage incident and other minor incidents involving station facilities occurred at the South Island Line	CB(4)416/16-17(01) http://www.legco.gov.hk/yr16- 17/english/panels/tp/tp_rdp/pap ers/tp_rdp20170117cb4-416-1- e.pdf

Date of meeting	Committee	Minutes/Paper	LC Paper No.
1.3.2017	Council meeting	Hon KWOK Wai-keung raised a question on MTR South Island Line	http://www.info.gov.hk/gia/gen eral/201703/01/P20170301003 65.htm
		Hon WU Chi-wai raised a question on fire incident at MTR train and public transport safety	
		Hon CHAN Chi-chuen raised a question on railway service	1/20/20/20/20/20/20/20/20/20/20/20/20/20/

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