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Transport and
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Murray Building, Garden Road,
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Our Ref. L2/1/44 Pt. 49
Your Ref. CB1/PS/1/08

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18 August 2011

Ms Joanne Mak
Clerk to Subcommittee on
Matters Relating to Railways
Panel on Transport
Legislative Council Secretariat
Legislative Council Building
8 Jackson Road, Central
(Fax：2121 0420)

Dear Ms Mak,

Panel on Transport
Subcommittee on Matters Relating to Railways
Follow up issues regarding railway incident

The supplementary information provided by the MTR Corporation Limited (MTRCL) pursuant to the request by Members at the meetings of the Subcommittee on Matters Relating to Railways on 21 February 2011 and 18 March 2011 is at **Annex I**. The letter issued to MTRCL by the Administration regarding the Tsuen Wan Line incident on 21 October 2010 is at **Annex II**.

I would be grateful if you could pass the documents to Members for information.

Yours sincerely,

(Miss Carol Or)
for Secretary for Transport and Housing

c.c.
Transport Department (Attn: Miss LUI Ying)
Electrical and Mechanical Services Department (Attn: Mr K.M. LEUNG)
MTR Corporation Limited (Attn: Mr Jeff LEUNG)

Annex I

Follow-up Items for the Meetings of the Panel on Transport Subcommittee on Matters Relating to Railways on 21 February 2011 and 18 March 2011

Supplementary Information Provided by the MTR Corporation Limited

MTRCL's maintenance and infrastructure manpower resources

Outsourcing of maintenance works is common among railway operations internationally. More efficient and effective services can be provided to passengers through making good use of the contractors' specialised skills. For some of the maintenance work such as that for fire services equipment, MTRCL must employ registered maintenance contractors in accordance with the statutory requirements.

2. In making any decision on outsourcing, MTRCL will take into account operational safety, reliability, service quality and implications to staff. All outsourced work must comply with MTRCL's requirements and service level to ensure service quality.

3. MTRCL has put in place a detailed monitoring system to ensure that its maintenance work, including outsourced maintenance work, meets the standards it adopts. It should be emphasised that MTRCL applies the same standards and requirements to maintenance tasks carried out both by MTRCL in-house staff and contractor staff. These standards are in line with good international practices and MTRCL engineers are responsible for monitoring and supervising work quality to ensure they comply with standards. Outsourced maintenance work is also subject to the same regular checks as MTRCL in-house maintenance work. There are daily/weekly and monthly performance reviews and annual asset surveys and three-yearly asset condition assessments. On top of the above, outsourced maintenance work is subject to additional scheduled and random inspections and checks by MTRCL dedicated staff at supervisory level. MTRCL conducts reviews of the performance and benefits of its outsourced work from time to time.

4. There were about 1,200 staff employed under MTRCL's major outsourced maintenance and infrastructure contracts in 2010, which is equivalent to approximately a quarter of its total manpower in the area of maintenance and infrastructure.

5. The number of maintenance and infrastructure staff directly employed by MTRCL (including pre-merger MTRC and KCRC) from 2001 to 2010 is set out in Table 1. For new railway lines put into operation in recent years, please refer to Table 2.

Cost incurred in MTRCL's handling of rail crack cases

6. Rail in the MTR network is made of steel. As with any metal, the possibility of cracks/breakages developing is a natural phenomenon that will occur. Rail is securely fastened onto track support structures with steel clips which are located two feet apart. Altogether, 2.5 million steel clips currently hold the 820 kilometres (excluding Light Rail) of rail in MTR's network securely in place. Even in the event of a vertical crack developing from the rail top to bottom, i.e. breakage, the steel clips will keep the rail firmly in place, preventing movement and ensuring continued safe train operations.

7. MTRCL adopts the International Standard EN13674 in rail procurement and requires rail manufacturers to implement strict quality control to ensure that specifications are met. The Corporation's engineers also pay unscheduled visits to factories to inspect quality control documents and witness quality assurance tests. Release certificates will only be issued by MTRCL when it is satisfied that the rail meets the required technical specifications. When the rail is delivered to Hong Kong, MTR staff will conduct further inspection to ensure they are in good condition.

8. In addition, MTRCL has in place stringent procedures for the inspection and maintenance of rail. Regular inspections, including ultrasonic rail testing, visual inspection and dye penetration test are conducted as part of the routine maintenance regime. The aim is to identify irregularities and rail cracks/breakages as soon as possible so that preventative maintenance or replacement of the rail can be conducted in a timely manner. This serves to minimise the chance of cracks/breakages occurring in service hours and causing delays as a result of temporary repairs having to be carried out.

9. Regarding the cost incurred in replacing related rail and crossings, in early 2010, MTRCL discovered two defective rail crossings manufactured by Edgar Allen. Having made prudent consideration from the perspective of asset management, MTRCL decided to replace all rail crossings of the same model from the same supplier in the whole network. A total of six rail crossings were replaced, incurring costs of about HK$600,000 for materials and another HK$600,000 for installation. The replacement work was completed in April 2010. The information above has already been provided to the Subcommittee on Matters Relating to Railways on 4 May 2011.

Statistics on railway incidents with service delays in 2010

10. Statistics on train service delays of more than 15 minutes to 30 minutes, more than 30 minutes to 45 minutes, more than 45 minutes to 60 minutes and more than 60 minutes by categories of railway incidents in 2010 are set out below:

	Infra-structure maintenance	Rolling stock failure	Human factor	Passenger action and external event	Total
Delays of more than 15 minutes to 30 minutes	27	17	5	17	66
Delays of more than 30 minutes to 45 minutes	1	2	0	6	9
Delays of more than 45 minutes to 60 minutes	0	0	1	2	3
Delays of more than 60 minutes	0	2	0	1	3

East Rail Line service disruption on 13 March 2011

11. A delay in train service of the East Rail Line occurred on 13 March 2011 when a train travelling from Sheung Shui to Lo Wu stations experienced an onboard power fault.

12. The service delay occurred at about 4:15 p.m. on 13 March 2011. As the train was approaching Lo Wu Station, the circuit breaker for the overhead line section between Fanling and Lo Wu / Lok Ma Chau (Lo Wu bound) tripped open to cut off power supply as a safety measure. The Operations Control Centre instructed the Train Captain to lower the pantographs of the concerned train according to the established procedure for handling such faults, and successfully restored power supply to the section.

13. The Train Captain discovered smoke and some sparks under the second car, and he promptly used a fire extinguisher on the area. The smoke indicated there was a fault with the pantograph of the car which was then isolated. The train then moved on its own power to Lo Wu Station where it was taken out of service and returned to the depot for investigation.

14. Investigation results show the incident was caused by damaged insulation material at the point where a high tension cable is connected to the transformer under the train. When current passed through the damaged insulation material, the stability of the current flow was affected, causing short-circuiting and sparks and the tripping of the circuit breaker for the relevant overhead line section. A fleet check of the insulation material at similar locations has been conducted and their condition confirmed to be normal.

15. Safe train operation and passenger safety was not at risk as all equipment on train under frames are made of non-combustible materials. In addition, train floorings are made of fire resistant material which can withstand burning flames for up to 30 minutes.

Arrangements for emergency shuttle bus service

16. MTRCL has formulated shuttle bus deployment plans for MTR train service in the event of railway incidents, and agreement was signed between the MTRCL and shuttle bus operators to provide shuttle bus service during a railway incident to take affected passengers to the nearest MTR Station with normal operation.

17. The number of shuttle buses and the level of bus service to be deployed in individual incidents will depend on the section of the railway line involved and the seriousness of the situation. When a train service suspension occurs, MTRCL will in the first instance need to ascertain the situation and make assessment on the impact to train service. It will then deploy extra manpower and arrange for shuttle buses as necessary. MTRCL will keep passengers informed of the situation and developments through public announcements which will advise them to first consider taking alternative MTR routes or other public transport.

18. Generally speaking, according to the agreement between MTRCL and the Public Omnibus Operators Association (POOA), when shuttle bus service is needed as a result of a disruption of MTR train service, the POOA will arrange about 7 buses to provide service within 30 to 45 minutes after receiving MTRCL's notification; an additional of about 40 buses within 1 to 1.5 hour; and about 100 buses in total after two hours. The actual number of buses arranged will depend on the degree of impact to train service and road traffic conditions.

19. In fact, as the carrying capacity of shuttle buses is much lower than that of railways, shuttle buses cannot replace train carrying capacity completely. Therefore, whenever there is a railway incident, passengers may need to use other MTR lines or alternative methods of public transportation to reach their destinations.

MTR Corporation
August 2011

Table 1

Number of maintenance and infrastructure staff employed by MTRCL (including pre-Merger MTRC and KCRC) from 2001 to 2010

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
3426	3406	3653	3649	3685	3789	3747	3724	3758	3828[1]

[1] The number includes 187 staff responsible for conducting visual and using other non-destructive tests for rail inspections.

Table 2

New railway lines put into operation in recent years

New railway line	**Year of service commencement**
Tseung Kwan O Line (North Point to Po Lam)	2002
West Rail Line (Tuen Mun to Nam Cheong)	2003
Ma On Shan Line	2004
East Rail Line (Hung Hom to East Tsim Sha Tsui)	2004
Disneyland Resort Line	2005
Airport Express (Airport to AsiaWorld-Expo)	2005
Lo Ma Chau Extension	2007
West Rail Line (Nam Cheong to East Tsim Sha Tsui)	2009
Tseung Kwan O Line (Tseung Kwan O to LOHAS Park)	2009

Annex II

政府總部
運輸及房屋局
局長辦公室
香港中環花園道美利大廈十六樓

Office of the
Secretary for Transport and Housing
Government Secretariat
16/F., Murray Building, Garden Road
Central, Hong Kong

本局檔號 Our Ref: STH CR 4-10

來函檔號 Your Ref:

11 March 2011

Sir C K Chow
Chief Executive Officer
MTR Corporation Limited

Dear CK,

MTR Tsuen Wan Line
Service Disruption on 21 October 2010

Having reviewed the facts and circumstances of the above incident, I am obliged to put the Corporation on notice that the Government takes a serious view on the unsatisfactory handling of it by the Corporation and that any failure of a similar scale and/or nature in the future will cause consideration to be given to invoke appropriate action under the Mass Transit Railway Ordinance ("the Ordinance"), which includes a reference to the Chief Executive-in-Council for the imposition of a financial penalty on the Corporation.

Given the prolonged delay of rail services caused by the incident during the morning peak period and the scale of its impact on rail passengers at the time, the Government considers the incident is of a major and serious nature and that there were a number of inadequacies in the Corporation's handling of the incident.

Notwithstanding the occurrence of major service disruptions in recent years, the contingency arrangements deployed for the incident were on the whole unsatisfactory, which was the main source of public complaint. In particular, we note the inadequate manning scale at the time of the incident and the absence of sufficiently senior supervisory or management staff on the ground to take an overview of the occurrence and to provide effective overall coordination of the measures under the contingency arrangements. We are also concerned about the late notification of the incident to the Commissioner for Transport on the day as the Corporation informed the Emergency Transport Coordination Centre of the Transport Department of the incident 20 minutes after the first tripping of the circuit breaker, instead of within eight minutes of the occurrence of the incident in accordance with established practice.

In the wake of the incident, the Transport Department has reviewed together with the Corporation the service related contingency arrangements deployed during the incident with a view to improvement. The Corporation was asked to implement a series of remedial measures, including, *inter alia*, strengthening the alert system, improving the emergency bus operation, drawing up station specific contingency plans as well as enhancing communication with the public. Separately, I also understand that the Electrical and Mechanical Services Department has examined the final technical investigation report submitted by the Corporation on 18 February 2011 and has instructed remedial measures to be taken by the Corporation to avoid recurrence of similar incidents.

Whilst acknowledging that the Corporation has made considerable efforts to tackle the aftermath and has now put in place refined and detailed contingency arrangements, the public has high expectations of MTRCL. The Corporation is required under the Ordinance to maintain a proper and efficient service at all times during the franchise period in accordance with the Ordinance and the Operating Agreement.

The Corporation's revised contingency plans and new measures for better crowd management will therefore form the basis against which the Transport Department evaluates the performance of the Corporation in future service disruptions. I trust these arrangements will be reviewed regularly and

executed properly and effectively in cases of contingency to ensure the provision of quality service to the commuting public at all times.

Yours sincerely,

(Eva Cheng)
Secretary for Transport and Housing

c.c. Chairman, MTRCL
Commissioner for Transport