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Panel on Transport

Subcommittee on Matters Relating to Railways

**Minutes of special meeting on
Monday, 21 February 2011, at 8:30am
in Conference Room A of the Legislative Council Building**

- Members present** :
- Hon Miriam LAU Kin-ye, GBS, JP (Chairman)
 - Ir Dr Hon Raymond HO Chung-tai, SBS, S.B.St.J., JP
 - Hon LAU Kong-wah, JP
 - Hon Andrew CHENG Kar-foo
 - Hon Abraham SHEK Lai-him, SBS, JP
 - Hon LI Fung-ying, SBS, JP
 - Hon WONG Kwok-hing, MH
 - Hon Jeffrey LAM Kin-fung, SBS, JP
 - Hon Ronny TONG Ka-wah, SC
 - Hon KAM Nai-wai, MH
 - Hon WONG Sing-chi
 - Hon IP Wai-ming, MH
 - Hon Mrs Regina IP LAU Suk-ye, GBS, JP
 - Hon LEUNG Kwok-hung
 - Hon Tanya CHAN
 - Hon Albert CHAN Wai-yip
- Member absent** :
- Hon CHEUNG Hok-ming, GBS, JP

Action

- Public Officers attending** : **Agenda item I**
- Ms Eva CHENG
Secretary for Transport and Housing
- Ms Rebecca PUN
Deputy Secretary for Transport and Housing
(Transport)2
- Mrs Hedy CHU
Principal Assistant Secretary for Transport and
Housing (Transport) 4
- Mr Frank CHAN
Deputy Director/Regulatory Services
Electrical and Mechanical Services Department
- Mr K M LEUNG
Assistant Director / Railways
Electrical and Mechanical Services Department
- Mr Reg CHAN
Principal Transport Officer/Bus & Railway 2
- Attendance by invitation** : **Agenda item I**
- Mr Morris CHEUNG
Chief of Operations Engineering
MTR Corporation Limited
- Mr Richard KEEFE
General Manager – Infrastructure
MTR Corporation Limited
- Ms May WONG
Deputy General Manager – Corporate Relations
MTR Corporation Limited
- Clerk in attendance :** Ms Joanne MAK
Chief Council Secretary (1)2

Action

Staff in attendance : Mr Franco KWONG
Council Secretary (1)2

Miss Mandy LAM
Legislative Assistant (1)2

Action

I Recent railway incidents involving MTR rail cracks

(LC Paper No. CB(1)1208/10-11(02) — A letter dated 20 January 2011 from Hon WONG Sing-chi about the MTR service disruption on 19 January 2011 caused by a crack on the track at Sunny Bay Station

LC Paper No. CB(1)1275/10-11(01) — A letter dated 10 February 2011 from Hon WONG Sing-chi about the MTR service disruption on 10 February 2011 caused by a crack on the track between Admiralty and Tsim Sha Tsui Stations

LC Paper No. CB(1)1323/10-11(01) — A letter dated 15 February 2011 from Hon WONG Kwok-hing about the MTR service disruptions on 19 January and 10 February 2011

LC Paper No. CB(1)1323/10-11(02) — Administration's paper on "Recent railway incidents involving MTR rail cracks"

LC Paper No. CB(1) 1323/10-11(03) — MTRCL's paper on "Recent railway incidents involving MTR rail cracks"

LC Paper No. CB(1) 1323/10-11(04) — Relevant press cuttings on recent railway incidents involving MTR rail cracks)

The Subcommittee deliberated (Index of proceedings attached in **Annex**).

Rail crack incidents from 1 January 2008 to 10 February 2011

2. With the aid of Powerpoint presentation, the MTR Corporation Limited

Action

(MTRCL) briefed the Subcommittee on the two recent railway incidents involving rail breakages on the Tung Chung Line and the Tsuen Wan Line on 19 January 2011 and 10 February 2011 respectively. The Administration also briefed the Subcommittee on the Administration's views on MTRCL's handling of the incidents and the follow-up actions that the Administration had taken with MTRCL.

3. The Subcommittee expressed grave concern about the rail breakage incidents and urged MTRCL to tighten up procedures for rail procurement and maintenance. The Subcommittee also requested the Administration to strengthen monitoring of MTRCL in its rail maintenance works. MTRCL advised that the development of cracks/breakages in steel tracks was a natural phenomenon as tracks were installed in the open and subject to natural corrosion and temperature variation, together with repeated stresses from heavy train traffic. This was common in the railway industry worldwide. MTRCL further advised that a comprehensive and effective rail maintenance regime was in place and it would continue to closely monitor the integrity of rails as appropriate. The Administration advised that in each of the incidents, MTRCL had immediately made temporary repair and reinforcement to the rails, lowered train speed and monitored operation conditions closely. The Electrical and Mechanical Services Department (EMSD) considered that railway safety was not compromised.

4. The Administration informed members that EMSD had instructed MTRCL to check all operating rails and the department would follow up with MTRCL on the laboratory testing results to determine the root cause of the rail breakage incidents.

5. The MTRCL advised that it would engage a team of overseas experts on rail technology to conduct a comprehensive review of the MTR rail inspection and maintenance regime, with particular focus on rail cracks/breakages, procurement and quality control. The review would start in March 2011 and would take about four months to complete. Subcommittee members agreed to hold a special meeting to discuss the review report when it was available.

6. Subcommittee members expressed the following major concerns over the 14 rail breakage incidents from 1 January 2008 to 10 February 2011 as set out in the MTRCL's paper -

- (a) what follow-up actions MTRCL had taken in respect of cases involving defective rail crossings manufactured by the same rail manufacturers;

Action

- (b) as a total of eight among the 14 incidents involved weak weld joints, MTRCL should look into the root causes to see whether they were related to the manufacturing process;
- (c) MTRCL should consider issuing warning letters to the rail manufacturers concerned or replacing them if the cases involved weak weld joint which was related to the manufacturing process or if the cases involved impurities inside the rail or design deficiency;
- (d) MTRCL should consider increasing the frequency of regular inspections of rails including ultrasonic rail testing and visual inspection;
- (e) MTRCL should review the quality of rail inspections and the Administration should also ensure that the standard and quality of work of MTRCL's inspections and maintenance of rails met the international standards;
- (f) it was unconvincing that temperature variation was a cause of rail breakage and whether MTRCL's outsourcing of maintenance service had adversely affected the standard of rail maintenance.
- (g) whether the cost factor was the primary consideration in MTRCL's rail procurement;
- (h) whether compensation would be offered to passengers affected by service delays as a result of railway incidents; and
- (i) a system should be put in place to make public any rail breakage cases so as to keep the public and LegCo informed of the occurrence of such cases.

Admin/
MTRCL

7. At the request of the Subcommittee, the Administration/MTRCL agreed to provide supplementary information on the numbers of maintenance staff before and after the rail merger (including maintenance of rails), and the current numbers of staff responsible for regular inspections of rails (e.g. visual and ultrasonic inspections). The Subcommittee would further discuss on 18 March 2011 the findings of the investigations by MTRCL on the three rail breakage incidents which occurred in January and February 2011. The Administration and MTRCL were also requested to follow up the concerns raised by members at this meeting and provide further responses at the March meeting.

(Post-meeting note: an undertaking was given by MTRCL in its paper (LC Paper No. CB(1)1585/10-11(06) submitted to the Subcommittee on 18 March 2011 that the number of rail breakage cases would be made public regularly and uploaded to its website.)

Service disruption incident at Fo Tan Station on 17 February 2011

8. At the request of the Subcommittee, MTRCL also briefed members on the service disruption incident at Fo Tan Station of East Rail Line on 17 February 2011.

Mr Andrew CHENG's proposal

9. Mr Andrew CHENG said that he was gravely concerned about the increase in the number of railway incidents in recent years and the lack of improvements made by MTRCL to prevent the occurrence of incidents. He considered that the Subcommittee might need to consider taking further actions and look into the real causes of the incidents. He informed the Subcommittee that he was considering to put up a proposal for the Subcommittee or the Panel on Transport to seek LegCo's authorization to exercise the powers conferred under the Legislative Council (Powers and Privileges) Ordinance (Cap. 382) to conduct an inquiry on railway incidents. He would provide further details to consult members' views on his proposal.

(Post-meeting note: Mr Andrew CHENG's proposal was subsequently made to the House Committee for discussion at its meeting on 23 February 2011.)

II Any other business

10. There being no other business, the meeting ended at 10:40 am.

Panel on Transport

Subcommittee on Matters Relating to Railways

Proceedings of the special meeting on Monday, 21 February 2011, at 8:30am in Conference Room A of the Legislative Council Building

Time marker	Speaker	Subject(s)	Action required
<i>Agenda item I – Recent railway incidents involving MTR rail cracks</i>			
000154 – 000430	Chairman	Opening remarks	
000431 – 000725	Chairman Administration	Briefing by the Administration on the recent railway incidents involving MTR rail cracks (LC Paper No. CB(1)1323/10-11(02)).	
000726 – 002202	Chairman MTRCL	Powerpoint presentation by the MTR Corporation Limited (MTRCL) on the recent railway incidents involving MTR rail cracks (LC Paper No. CB(1)1323/10-11(03)).	
002203 – 003035	Chairman Mr Andrew CHENG Administration	<p>Pointing out that there was an upward trend of rail crack incidents, Mr Andrew CHENG stressed that MTRCL should adopt stringent procedures for rail procurement, installation and maintenance, as well as allocate more resources on visual and ultrasonic inspections. The Administration should issue a warning letter to MTRCL on the recent rail breakage incidents and closely monitor its follow-up actions.</p> <p>The Administration's response –</p> <ul style="list-style-type: none"> (a) the Electrical and Mechanical Services Department (EMSD) would scrutinize and review the MTRCL's investigation reports in order to ascertain the causes of incidents and monitor the trend of railway incidents; (b) eight of the recent 14 rail breakage incidents were due to defective weld joints which might be caused by manufacturing defects or substandard welding process; (c) EMSD had requested MTRCL to replace the incident rails/rail crossings/welding materials with defects; and (d) to ensure the standard of welding works, EMSD had requested MTRCL to use temperature crayon to ensure sufficient pre-heat temperature of 	

Time marker	Speaker	Subject(s)	Action required
		welding crucible.	
003036 – 003720	Chairman Mr LAU Kong-wah MTRCL	<p>Mr LAU Kong-wah enquired about the procedures for rail procurement and maintenance; and the frequencies of ultrasonic inspections on different railway lines.</p> <p>The MTRCL's response –</p> <p>(a) MTRCL adopted an international standard in rail procurement and requested rail manufacturers to implement strict quality control to ensure that specifications were met;</p> <p>(b) the ultrasonic inspection frequencies for different lines were determined in accordance with the traffic volume and design of rail; and</p> <p>(c) MTRCL would engage a team of experts on rail technology to conduct a review of the MTR rail inspection and maintenance regime.</p>	
003721 – 004200	Chairman Ir Dr Raymond HO MTRCL	<p>Ir Dr Raymond HO's enquiry on whether MTRCL issued warning letters to the manufacturers of incident rails and the contractors who carried out substandard welding works.</p> <p>The MTRCL's response that its procurement procedures were set in accordance with the requirements of the World Trade Organization. The rails with defects were installed before 2007. It might not be appropriate to issue warning letters at this stage.</p>	
004201 – 004830	Chairman Miss Tanya CHAN MTRCL Administration	<p>Miss Tanya CHAN's enquiries on the monitoring mechanism on rail inspections conducted by MTRCL and the completion date of the review of rail inspection and maintenance regime.</p> <p>The MTRCL's response –</p> <p>(a) regular rail inspections could identify small cracks, but the growth of crack could be very fast. In some cases, a high stress concentration point could develop into a crack just after a train passed over;</p> <p>(b) adequate staff training had been provided and a supervisor would be assigned to monitor the course of rail inspection; and</p>	

Time marker	Speaker	Subject(s)	Action required
		<p>(c) the review was expected to start in March and complete in July.</p> <p>The Administration's response that to ensure railway safety, EMSD carried out about 240 site visits, drills, assessment exercises of safety management system and reviews of railway incidents, as well as about 180 assessment exercises of new railways and major railway modification works for a year.</p>	
004831 – 005549	Chairman Mr WONG Kwok-hing Administration MTRCL	<p>Mr WONG Kwok-hing's dissatisfaction with the handling of the rail breakage incidents and confusion caused by the use of the term "rail crack (裂紋)" instead of "rail breakage (斷裂)". He also queried whether the quality of rail inspection and maintenance might be affected by outsourcing of maintenance service.</p> <p>The Administration's response –</p> <p>(a) due to natural corrosion and temperature variation, together with repeated stresses resulting from heavy train traffic, development of cracks/breakages in metal track rails was a natural phenomenon;</p> <p>(b) regarding the recent Tung Chung Line (TCL) and Tsuen Wan Line (TWL) incidents, MTRCL had notified the Administration in accordance with the established mechanism. As the investigation and laboratory testing were in progress, the causes of these incidents had yet to be ascertained; and</p> <p>(c) EMSD would follow up with MTRCL on the laboratory testing results and the determination of the cause of the incidents. If any procedural faults were detected, the Administration would take necessary action.</p> <p>The MTRCL's response –</p> <p>(a) when a crack was found, MTRCL would carry out repair works as soon as possible to minimize the inconvenience caused to passengers; and</p> <p>(b) the maintenance works of incident rails were carried out by the MTRCL in-house staff.</p>	
005550 – 010245	Chairman Mr IP Wai-ming MTRCL	Mr IP Wai-ming's concerns about the propriety of acceptance procedures for rails and the sufficiency of maintenance staff.	The Administration/ MTRCL to provide

Time marker	Speaker	Subject(s)	Action required
	Administration	<p>The MTRCL's response –</p> <p>(a) since 2008, some 50 additional maintenance staff members had been recruited. As at late 2010, there were a total of 3 828 maintenance staff members.</p> <p>Mr IP requested MTRCL to provide the numbers of maintenance staff before and after the rail merger; and the current numbers of staff responsible for conducting visual and ultrasonic inspections.</p>	information (para. 7 of minutes)
010246 – 011225	Chairman Mr WONG Sing-chi Administration MTRCL	<p>Expressing disappointment with the railway services, Mr WONG Sing-chi enquired whether MTRCL would compensate the passengers affected and whether the Administration would impose a penalty system on MTRCL.</p> <p>The Administration's response –</p> <p>(a) development of cracks in metal rails was a natural phenomenon, but it did not affect the safe railway operation. The MTRCL's handling of the recent rail crack incidents was appropriate from the safety perspective; and</p> <p>(b) the Administration was empowered to take punitive action against MTRCL under the Mass Transit Railway Ordinance (Cap. 556) in the event that the failure was substantial and persistent in nature.</p> <p>The MTRCL's response –</p> <p>(a) with more than 7 000 train journeys a day, the train service performance remained at a high level, with 99.9% of passengers reaching their destinations within five minutes of their scheduled arrival time; and</p> <p>(b) MTRCL apologized for the inconvenience caused to the passengers who were delayed in their journeys due to rail breakage.</p>	
011226 – 011945	Chairman Mr Albert CHAN Administration	<p>Mr Albert CHAN's views that it was unconvincing that temperature variation was a cause of rail crack; and the Administration should keep the public abreast of all rail breakage incidents timely and impose a penalty system on MTRCL.</p>	

Time marker	Speaker	Subject(s)	Action required
		<p>The Administration's response that in the recent rail breakage incidents, MTRCL had followed the established notification system to notify the Administration. The laboratory testing results of incidents were still pending and the Administration would report the laboratory testing results to the Subcommittee at the next meeting. Consideration would be given to releasing the information of rail breakage incidents to the public regularly.</p>	
011946 – 012525	<p>Chairman Ms LI Fung-ying Administration MTRCL</p>	<p>Ms LI Fung-ying's views that there was a need for the Administration to take measures to avoid recurrence of rail crack incidents and to step up monitoring of rail maintenance.</p> <p>The Administration's response –</p> <p>(a) EMSD staff monitored rail inspections regularly; and</p> <p>(b) the rails of TCL and TWL incidents had been sent to laboratory for analysis. EMSD would follow up this matter closely.</p> <p>The MTRCL's response that the review to be conducted was to enhance its rail inspection and maintenance regime to reduce occurrence of rail breakage incidents.</p>	
012526 – 013129	<p>Chairman Mr Ronny TONG MTRCL Administration</p>	<p>Noting that the widths of cracks were from 3 millimetres (mm) to 9mm, Mr Ronny TONG enquired whether the cracks would be further widened, and if so, what width would pose a risk to railway safety.</p> <p>The MTRCL's response –</p> <p>(a) as rails were fastened onto track support structures, the widths of cracks would not be widened significantly; and</p> <p>(b) in the United Kingdom, the railway system allowed trains to run on a rail section with a crack of 75mm width, but a speed restriction was required.</p> <p>The Administration's response that when a crack was found, temporary repair works had to be carried out to reinforce the concerned rail section immediately. Further widening of rail crack was not acceptable.</p>	

Time marker	Speaker	Subject(s)	Action required
013130 – 013755	Chairman Mrs Regina IP MTRCL Administration	<p>Mrs Regina IP's enquiries –</p> <p>(a) whether MTRCL adopted an approach to only accept the lowest bid in rail procurement and whether it would blacklist the rail manufacturers who had supplied rails with defect;</p> <p>(b) whether MTRCL would compensate to the passengers affected; and</p> <p>(c) whether rail breakage incidents would occur frequently during winter.</p> <p>The MTRCL's response –</p> <p>(a) an international standard was adopted in rail procurement and the suppliers who provided substandard products would be blacklisted;</p> <p>(b) MTRCL apologized for the inconvenience caused to passengers; and</p> <p>(c) temperature variation was one of the factors leading to rail cracks. Under strong sunlight, the temperature of rail could be over 50 degree Celsius and the tension of rail could be about 37 tonne.</p>	
013756 – 014210	Chairman MTRCL	Powerpoint presentation by MTRCL on the railway incident at Fo Tan Station on 17 February 2011 (LC Paper No. CB(1)1482/10-11(02)).	
014211 – 014615	Chairman Mr Andrew CHENG	Mr Andrew CHENG's suggestion that the Panel on Transport or this Subcommittee be authorized to exercise the powers conferred under the Legislative Council (Powers and Privileges) Ordinance (Cap. 382) to order the relevant parties to give information and to summon professional witnesses.	
014616 – 015225	Chairman Mr LAU Kong-wah Administration	<p>Mr LAU Kong-wah's views that the notification mechanism should be enhanced to alleviate the public concern on railway safety; and the Administration should request MTRCL to improve its service.</p> <p>The Administration's response –</p> <p>(a) MTRCL had followed the established notification mechanism to notify the Administration of these incidents. Consideration would be given to notifying the public of rail breakage incidents at regular intervals; and</p>	

Time marker	Speaker	Subject(s)	Action required
		(b) the review to be conducted by overseas experts could help improve the rail procurement and maintenance regime of MTRCL. A regular review on railway operation would also be conducted this year.	
015226 – 015926	Chairman Mr Jeffrey LAM MTRCL Administration	<p>Noting that the rail breakage incident at Admiralty Station on 10 February 2011 occurred just a few days after inspection, Mr Jeffery LAM considered that it might reflect inadequacy in rail inspection technology.</p> <p>The MTRCL's response that the rail inspection technology being used was widely adopted by other overseas railway systems.</p> <p>The Administration's response that the ultrasonic testing technology using by MTRCL was an advanced technology for rail inspection.</p>	
015927 – 020346	Chairman Mr WONG Sing-chi Administration	At Mr WONG Sing-chi's request, the Administration agreed to consider arranging the overseas experts who would be responsible for conducting the review of the MTR rail inspection and maintenance regime to attend the relevant meeting to present the findings of review.	
020347 – 021100	Chairman Mr Albert CHAN Administration	<p>Mr Albert CHAN's reiteration that the Administration should keep the public abreast of rail breakage incidents.</p> <p>The Administration's response that consideration would be given to notifying the public of rail breakage incidents at regular intervals.</p> <p>The Subcommittee's agreement that the relevant issues discussed at this meeting would be followed-up at the next meeting on 18 March 2011.</p>	