

## **Legislative Council Panel on Transport**

### **Review of MTRC Services and Incidents** **Follow-up Actions to meeting held on 17 October 2002**

#### **Introduction**

At the Panel meeting held on 17 October 2002, the Administration and MTRCL undertook to provide additional information on the following :-

- (a) a written reply to the list of questions raised by the Hon Cheng Kar-foo at **Annex A**;
- (b) a breakdown on the number of incidents with delays of 5 minutes or more for 1999 to 2002 (up to August) in terms of different MTR urban lines;
- (c) comparative information on the number of incidents which happened during the initial commissioning of Tsuen Wan Line and Tseung Kwan O Line;
- (d) expected completion date of the replacement and software upgrading work in relation to the train door control circuit;
- (e) email from Rotem regarding the operation of the new Korean trains;
- (f) information about other metro systems in the world which made use of the new door design for the new Korean trains;
- (g) the actual number of train delay incidents caused by failure of doors; and
- (h) work schedule of Siemens' rectification programme for the new signalling system.

2. This paper sets out the requested information.

#### **Replies to questions raised by the Hon Cheng Kar-foo**

3. Our replies to the questions raised by the Hon Cheng Kar-foo are at **Annex B**.

### **Breakdown on the number of incidents in terms of different MTR Urban Lines**

4. The breakdown on the number of incidents with delays of 5 minutes or more for the years 1999 to 2002 (up to August) as stated in Paper No. CB(1)54/02-03(01) is at **Annex C**.

### **Number of incidents upon commissioning of Tsuen Wan Line and Tseung Kwan O Line**

5. Tsuen Wan Line was commissioned with relatively less complexity in May 1982, i.e. only one type of train running on the same signalling system. The number of delays of Tsuen Wan Line occurred during the first two months after commissioning was approximately two times of that of the Tseung Kwan O Line. Please refer to **Annex D** for details.

### **Train door control circuit**

6. All parts which caused the problem of the train door control circuit have been replaced and the door control software has been upgraded. In addition, after the enhancement of publicity on the new operation mode of train doors, the new train doors have been operating smoothly on the Kwun Tong Line.

### **E-mail from Rotem**

7. As the e-mail contains other commercial information, Rotem is of the view that it is not appropriate to release it to any external parties. In this connection, comments from Rotem regarding the operations of the new trains are set out as follows :-

- (a) Rotem was of the view that the plug-in-door was advanced and was effective comparing with the old type of doors to prevent outside noise from causing disturbance inside trains;
- (b) Rotem confirmed they had advised that the first train should be tested for about 1.5 months, but they had not commented on the time needed for MTRCL for the fine-tuning ; and
- (c) Rotem pointed out that 25 maintenance staff came to Hong Kong for the prior-maintenance work and its workers had been working very well with MTRCL staff in Kowloon Bay depot for the aftersale work.

### **Overseas metro systems**

8. Quite a number of new railway systems including underground systems in Europe have adopted the plug-in door design. For example, the new line of the Regie Autonome des Transports Parisiens (RATP) in Paris and the metro lines in Madrid. Both are heavily utilised metro systems that have a catchment of over 2 million population.

### **Train delay incidents caused by failure of doors**

9. The numbers of incidents with delays of 5 minutes or more which were related to the failure of train doors are as follows :-

<b>Year</b>	<b>Number of Incidents</b>
1999	32
2000	21
2001	25
2002 (Jan- Aug)	29

### **New signalling system**

10. The supplier of the signalling system will be responsible for the maintenance of the system during the first year of operation. Fine-tuning will be carried out as required from time to time. MTRCL anticipates that the fine tuning would not be noticeable to passengers, i.e. no significant implication to train service, before end December 2002.

11. Members are invited to note the content of this paper.

Government Secretariat  
Environment, Transport and Works Bureau  
16 December 2002



民主黨立法會議員秘書處

SECRETARIAT OF LEGISLATIVE COUNCILLORS OF THE DEMOCRATIC PARTY

香港中環雪廠街11號政府合署西翼401-410室

Rooms 401-410, Central Government Offices, West Wing, 11 Ice House Street, Central Hong Kong.

Tel: 25372319

Fax: 25371469/25374874

香港立法會  
交通事務委員會主席劉健儀女士

劉主席，

### 就 10 月 17 日交通事務委員會的書面提問

就 10 月 17 日的交通事務委員會會議，本人在閱覽立法會就檢討地鐵服務的文件後，發現有多項需要跟進的地方，鑒於會議時間有限，本人謹預備了下列書面問題，謹希望閣下轉交政府及地鐵，在稍後時間提供書面答覆。

以下為有關問題：

#### 檢討地鐵服務 (CB(1)2617/01-02)

1. 文件指將軍澳車廠的維修員工的每週 54 小時，當中是否已包括加班工時？若否，員工每週一般需加時時數為何？
2. 由於該車廠的員工的工時明顯較其他車廠的員工，地鐵會否考慮停止外判，或在日後的標書列明每名員工的工作時數，以減少員工出錯的機會？
3. 最近，本人曾往南韓，與當地的 Rotem 車廠會晤，他們表示內嵌式車門是地鐵主動要求的設計，當初地鐵的原意為何？近兩月，地鐵有否再收到乘客被夾的報告？
4. 據本人了解，列車的微調工作一般不會超過六至八個星期，地鐵可否告知引進韓製列車後，微調工作需時多久？
5. 附件一中，除了最早期系統及機鐵不計外，八十年代的荃灣線、港島線的測試運行時間只需要一週半至兩週半左右，將軍澳線的線路並不如機鐵般那麼長，也不如地鐵最初啓用時需要多方測試，為何將軍澳線會較荃灣線及港島線需要多四至六週的時間？在試行期間，地鐵有否發現問題，若有，發現了那些問題及如何糾正？另外，由於觀塘線引進韓製列車，該車在觀塘線的測試運行所需時間為何？

6. 附件四的文件只列出發出紅色警報的時間，並無列明所指的「緊急事故」所發生的時間，地鐵需再補充這方面的資料。

7. 就附件五，請列出採用自動編號系統前後的控制台人手編制數目，現時有關各個人員在控制室內的職能分別為何？

**檢討地下鐵路服務及事故 (CB(1)54/02-03(01))**

8. 文件第 11 段指地鐵在系統較為穩定可靠前，會盡量減少使用韓國製列車接載乘客，在班次上，地鐵如何減少，請具體說明。

9. 文件第 13 段指車門控制線路某些組件需要更換，軟件也需要更新，有關更換及更新預計需時多久。有關更新及更換的開支所費為何？

10. 附件 A 中列出了八月以來的地鐵事故內容摘要，其中八月二十一日、九月十三日及十月八日的列車故障，由於文件並無指明是韓製列車，因此，相信是其他類型的列車，惟報告中指出地鐵也需進行「繼續微調電腦系統」的工作，為何該等非韓製列車也須進行微調？微調的原因是否訊號系統出現問題？有關的微調工作預計需時多久？而該等微調是否不尋常的補救措施？

立法會議員鄭家富  
2002 年 10 月 17 日

**Response to the Hon Cheng Kar-foo's written questions  
on 17 October 2002**

1. The 54 working hours per week do not include overtime. Under normal circumstances, staff is not required to work overtime. In the initial period of the contract, staff overtime was incurred to facilitate their training on train preventive maintenance. Overtime from staff will be required from time to time under exceptional circumstances, i.e. staff on sick leave.
2. The outsourcing contracts for maintenance services are generally performance-based and do not have specific requirement on working hours per staff. This arrangement offers flexibility for the contractors to plan and deploy their resources and make their own commercial decision. In addition, all employment contracts of MTRCL's contractors are required to follow Hong Kong Labour Laws. There is also no indication that staff working hours have any impact on the performance of the maintenance service.
3. Trains on Tung Chung Line also use the plug-in door design since their introduction in 1998. The plug-in design ensures a quieter and comfortable MTR journey for passengers. Quite a number of new railway systems including underground systems in Europe have adopted the plug-in door design, for example, the metro systems in Paris and Madrid, both of them are heavily utilised systems. The new train doors have been operating smoothly in the Kwun Tong Line after the enhancement of publicity on the new operation mode. There were three and one accidents of passenger hurt by doors of Korean train in September and October 2002 respectively which reflect an improving trend.
4. The fine-tuning of the trainborne signalling equipment is in progress. MTRCL and the signalling supplier have targeted to improve service every month. With the current progress, MTRCL aims to ensure that the fine-tuning would not be noticeable to passengers, i.e. no significant implication to train service, before end December 2002.
5. The MTR system on the Tsuen Wan Line and Island Line was relatively simple, with only one type of signalling system and one type of train. In the present case, there were two signalling systems and two types of trains in operation. As a result, there was a matrix of four variables to be tested. The need for system flexibility and inter-operability between Tseung Kwan O Line and Kwun Tong Line had necessitated a longer trial running period for Tseung Kwan O Line although it has a rail length shorter than Tsuen Wan Line and Island Line. All the problems identified

in the Tseung Kwan O Line had been solved by upgrading the software and replacement of parts. Separately, before entering service, the new Korean train underwent a six-month testing and trial running at Kowloon Bay Depot and on Kwun Tong Line without passenger to prove compatibility with the existing railway systems.

6. The times of the incidents stated in Annex IV of Paper No. CB(1)2617/01-02 are set out in **Appendix I**.
7. The manning level remains unchanged after the introduction of the automatic train regulation workstation with two traffic controllers at each of the Operation Control Panel of the Operations Control Centre. The major operational staff at the centre responsible for train services regulation and information dissemination include:
  - (i) Chief Controller who is responsible for the overall operation of the Operations Control Centre;
  - (ii) Traffic Controllers who are responsible for monitoring and managing the operation of respective MTR lines; and
  - (iii) Communication Controllers who assist the Chief Controller and Traffic Controllers to communicate internally and externally and disseminate operational information to relevant parties.
8. The Corporation minimises the number of Korean trains for passenger service and more spare modernised trains have been used until a higher reliability of the systems concerned is achieved. MTR train frequency has been maintained at normal level and there is no implication to train frequency on the line.
9. Replacement of parts and components is an on-going activity in a system of high complexity. For items which are included under contract requirement and within the scope of the contract, the costs will be absorbed by the contractor. After the expiry of the contract which is one year after the commissioning of Tseung Kwan O Line, a dedicated team of MTRCL staff will be responsible for the maintenance works and the cost will become a part of its on-going maintenance cost.
10. Fine-tuning of signalling systems and train borne facilities is an on-going process for continuous improvement. The hardware and the related parts that caused those incidents have been replaced.

**Red Alert**

In accordance with the circular issued by the Transport Department on “Emergency Transport Arrangements”, a “Red Alert” is issued as a signal to indicate that a serious disruption has continued or is expected to continue for over 20 minutes, and emergency transport support services from other operators are required. Upon being alerted, the recipient should urgently mobilise their resources to provide appropriate supporting services as quickly as possible.

**Red Alert Record in Year 2000**

<b>Date</b>	<b>Incident Time</b>	<b>Declared Time</b>	<b>Step Down Time</b>	<b>Cause of Issuing Red Alert</b>
7 Jan 2000	2156	2156	2254	Fire in Quarry Bay Congestion Relief Works work-site.
19 Mar 2000	1607	1617	1720	Person run under train at Choi Hung Station Down Track.
18 Jul 2000	1913	1932	2315	Overhead line equipment defect at Chai Wan Station Down Track.
6 Sep 2000	0825	0846	0916	Immobile Train between Quarry Bay and Tai Koo Up Track.
22 Nov 2000	1545	1546	1632	Train service suspension due to Bomb Hoax at Quarry Bay Station Down Platform.

**Red Alert Record in Year 2001**

<b>Date</b>	<b>Incident Time</b>	<b>Declared Time</b>	<b>Step Down Time</b>	<b>Cause of Issuing Red Alert</b>
22 Jun 2001	2256	2318	2353	Traction current tripping from Central to Admiralty Up Track.
25 Jun 2001	1644	1701	2100	Power supply failure at Yam O.
21 Jul 2001	1947	2029	2055	Immobile Train at Mei Foo.
2 Sep 2001	0628	0637	0752	Power supply failure at Lam Tin.
6 Nov 2001	0528	0548	0825	Tunnel Fibre short circuit with overhead line equipment at Tsing Yi Ventilation Building Airport Express Up Track.
10 Dec 2001	1756	1817	1900	Police action at Prince Edward.

**Red Alert Record in Year 2002**

<b>Date</b>	<b>Incident Time</b>	<b>Declared Time</b>	<b>Step Down Time</b>	<b>Cause of Issuing Red Alert</b>
5 Apr 2002	1407	1439	1505	Police action at Fortress Hill Station.
5 Apr 2002	2210	2210	2253	Police action at Tin Hau Station.
8 Apr 2002	1710	1710	1819	Signalling failure between Lam Tin and North Point stations.
24 Jun 2002	1118	1308	1321	Signalling failure at Tsing Yi.
15 Aug 2002	1750	1805	1821	Train defect at Prince Edward Station Down Platform.
5 Sep 2002	0838	0854	0924	Train defect at North Point Station Down Platform.
23 Sep 2002	1541	1556	1558	Train defect at Tai Wo Hau Station Up Platform.



**No. of Incidents with Delays of 5 minutes or more by line for the Years 1999 to 2002(Up to Aug)  
(Breakdown by cause of failure)**

**Island Line**

**(a) Delays of 5 min. to 9 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	3	2	5	1
Signalling - Trainborne	7	7	22	13
Train	27	20	19	16
Other Major Equipment	1	0	1	0
Passenger Action	3	13	16	17
Miscellaneous	1	3	7	0
Subtotal	42	45	70	47

**(b) Delays of 10 min. to 19 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	3	1	3	2
Signalling - Trainborne	5	10	10	1
Train	10	6	4	4
Other Major Equipment	1	0	0	0
Passenger Action	4	4	5	1
Miscellaneous	1	1	1	1
Subtotal	24	22	23	9

**(c) Delays of 20 min. or more**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	0	1	0	1
Signalling - Trainborne	0	1	0	0
Train	1	4	1	0
Other Major Equipment	2	0	0	0
Passenger Action	1	1	1	0
Miscellaneous	0	0	1	1
Subtotal	4	7	3	2

**Tsuen Wan Line**

**(a) Delays of 5 min. to 9 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	5	4	10	8
Signalling - Trainborne	7	10	22	12
Train	35	27	23	11
Other Major Equipment	1	0	1	0
Passenger Action	7	14	18	19
Miscellaneous	1	7	6	16
Subtotal	56	62	80	66

**(b) Delays of 10 min. to 19 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	4	4	6	5
Signalling - Trainborne	11	4	3	1
Train	8	7	6	2
Other Major Equipment	0	1	0	0
Passenger Action	5	4	8	5
Miscellaneous	0	0	6	0
Subtotal	28	20	29	13

**(c) Delays of 20 min. or more**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	0	0	1	0
Signalling - Trainborne	3	0	1	0
Train	1	1	2	0
Other Major Equipment	1	0	0	0
Passenger Action	4	1	3	2
Miscellaneous	0	0	1	1
Subtotal	9	2	8	3

**Kwun Tong Line**

**(a) Delays of 5 min. to 9 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	10	11	40	27
Signalling - Trainborne	7	11	23	92
Train	12	15	13	22
Other Major Equipment	1	1	0	3
Passenger Action	4	8	12	13
Miscellaneous	1	3	12	12
Subtotal	35	49	100	169

**(b) Delays of 10 min. to 19 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	2	2	19	18
Signalling - Trainborne	9	6	4	0
Train	4	6	4	1
Other Major Equipment	1	1	0	4
Passenger Action	7	2	3	9
Miscellaneous	4	2	0	6
Subtotal	27	19	30	38

**(c) Delays of 20 min. or more**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	1	0	1	5
Signalling - Trainborne	1	0	2	0
Train	0	2	0	1
Other Major Equipment	0	1	0	1
Passenger Action	2	6	1	2
Miscellaneous	0	1	1	0
Subtotal	4	10	5	9

**Total (MTR Urban Lines) \***

**(a) Delays of 5 min. to 9 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	18	17	55	36
Signalling - Trainborne	21	28	67	117
Train	74	62	55	49
Other Major Equipment	3	1	2	3
Passenger Action	14	35	46	49
Miscellaneous	3	13	25	28
Subtotal	133	156	250	282

**(b) Delays of 10 min. to 19 min.**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	9	7	28	25
Signalling - Trainborne	25	20	17	2
Train	22	19	14	7
Other Major Equipment	2	2	0	4
Passenger Action	16	10	16	15
Miscellaneous	5	3	7	7
Subtotal	79	61	82	60

**(c) Delays of 20 min. or more**

Cause of Failure	No. of Incidents			
	1999	2000	2001	2002 (Jan-Aug)
Signalling - Trackside	1	1	2	6
Signalling - Trainborne	4	1	3	0
Train	2	7	3	1
Other Major Equipment	3	1	0	1
Passenger Action	7	8	5	4
Miscellaneous	0	1	3	2
Subtotal	17	19	16	14

\* Tung Chung Line is excluded because it shares the same track with Airport Express Line.

**Annex D****No. of Incidents with Delays  $\geq$  5 minutes for the first 2 months of Tsuen Wan Extension and Tseung Kwan O Extension Opening**

<b>Cause of Failure</b>	<b>Tsuen Wan Line</b>		<b>Tseung Kwan O Line</b>	
	<b>May-82</b>	<b>Jun-82</b>	<b>Aug-02</b>	<b>Sep-02</b>
Signalling	7	8	6	5
Train	8	14	5	3
Passenger Action	1	2	0	1
Miscellaneous	3	1	1	1
Total	19	25	12	10