

Supplementary Information on MTR Tung Chung Line Train Operations

Introduction

At the meeting of the Legislative Council Panel on Transport Subcommittee on Matters Relating to Railways held on 30 March 2007, Members requested further information on MTR Tung Chung Line train operations. The relevant information is set out below.

Manual Route Setting

2. Occasionally for service reasons and owing to untoward happening, e.g. obstruction on tracks, Tung Chung Line (TCL) trains will be diverted to operate on the Airport Express (AEL) tracks and likewise AEL trains on TCL tracks by making use of rail crossings.

3. From January 2007 to March 2007, about 1.05% of trains running on TCL and AEL tracks required manual route setting.

Double Confirmation on Manual Route Setting

4. At the above-mentioned meeting, Members suggested that for manual route setting, a pop-up message on the workstation that required the duty Traffic Controller to acknowledge and confirm the route setting operation before the route setting command was executed should be introduced.

5. In relation to this, the Corporation held discussion with its technical staff and experts to explore the effectiveness of installing additional technical modifications and safeguards to the current manual route setting operation. A wide range of factors were considered, including various degrees of technical modifications, human elements, and the possible effects on the operational efficiency of the train's operations in different circumstances.

6. MTR trains are normally under automatic operation and manual route setting is not a frequent activity for Traffic Controllers. Traffic Controllers will only use manual route setting under special circumstances, e.g. when railway services are delayed, for recovery of train service and to enable the computer system to resume automatic route setting as soon as possible. If such delays occur during peak hours, Traffic Controllers will need to make quite a number of manual route settings within a short period of time in order to minimize the impact on service. In this regard, if the confirmation procedure in manual route setting is too simple, it will not be of effect in reminding the Traffic Controllers. However, if such procedure is too complicated, it may slow down recovery and have a negative impact on efficiency.

7. In fact, if the automatic pop-up message was a simple one similar to a “Yes or No” message box on the computer screen of a personal computer, which requires an operative confirmation every time a manual route setting operation is carried out, such an operative confirmation would quickly degenerate into a mechanical and habitual activity and defeat the original purpose of incorrect manual route setting prevention. When a Controller has to manually set up a route and has to respond under that procedure, he may be inclined simply to acknowledge the message rather than pause to read the message content.

8. If the automatic pop-up message was a complex one, it would involve detailed design and modification works in which other safety-related train control and signaling systems would be implicated. The whole process would be time consuming, let alone cost implications. Also, when a complex system fails, it would take a much longer time to trouble shoot and rectify the failure; the more complex the system, the longer the time. Needless to say, operational efficiency would be compromised in such circumstances.

9. The Corporation is therefore of the view that finger-pointing procedure is a more credible operation than a simple click on the message box to confirm a manual route setting activity. The Corporation has already implemented this finger-pointing procedure since the occurrence of the incident which involved a TCL train entering the AEL track by

mistake in March 2007. The Corporation now requires the duty Controller to move his finger along the intended route from its start to the end point on the schematic diagram shown on the computer screen at his workstation when he has to manually set up a route. This additional activity necessitates the duty Controller to be more attentive and vigilant in carrying out the manual route setting operation. Currently, finger-pointing is commonly used in Japanese railway systems. This shows that this procedure is commonly accepted by world leading railway systems as being practical.

10. After implementing this additional safeguard process, the Corporation notes that the duty Controllers strictly adhere to this procedure and have become more vigilant during the performance of duty.

11. The Corporation will continue to monitor the performance of the staff concerned and will reinforce the relevant training in the refresher training and experience sharing sessions. The Corporation will also report to the relevant Government departments on the effectiveness of the finger-pointing procedure in six months' time. The Corporation will further consider whether there are other practicable computerized auxiliary measures to be implemented when the opportunity of major computer system upgrade arises in future.

MTR Corporation
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