Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Retrofitting of Automatic Platform Gates on the East Rail Line

Purpose

This paper sets out the Government's assessment on the findings of MTR Corporation Limited (MTRCL) on the retrofitting of automatic platform gates (APGs) on the East Rail Line (EAL).

Background

2. To facilitate the consideration of retrofitting APGs on the EAL, MTRCL conducted a trial on the mechanical gap filler (MGF) system at Lo Wu Station from mid-2008 to the end of 2009. The purpose of the MGF system was to resolve the problem of wide platform gaps at some stations of the EAL in order to reduce the risk of passengers inadvertently stepping into the platform gaps because of sight line obstructions caused by the APGs. During the trial period, MTRCL arranged a site visit for Members of the Subcommittee to Lo Wu Station at the end of 2008 and explained to Members a number of issues that had to be addressed when considering the retrofitting of APGs on the East Rail Line. Based on the results of the trial, MTRCL has come to the view that the performance of the MGF system was not satisfactory and MTRCL has been examining how best to take forward the retrofitting of APGs.

3. Apart from the unsatisfactory outcome of the MGF trial, MTRCL has also identified some technical difficulties if APGs were to be retrofitted on the EAL. MTRCL has come to the view that both the signalling system and the train fleet would have to be replaced to solve all the problems. Separately, under the Shatin to Central Link (SCL) project, MTRCL also made a similar proposal of replacing the signalling system and new trains of the EAL in order to permit operation of the

North-South Line (NSL)[1]. As such, MTRCL is of the view that retrofitting of APGs in tandem with construction of the NSL of the SCL would achieve synergy. The results of the MGF trial, the technical difficulties involved in retrofitting of APGs on the EAL and MTRCL's findings on how to address the issues are set out in the paper submitted by MTRCL for discussion at the meeting of the Subcommittee on 21 January 2011. The Government's assessment is set out in the following paragraphs.

Trial of MGFs

4. According to MTRCL, the trial showed that the MGF system performed poorly in terms of availability and reliability and incurred a high number of failures during the trial period. The system was even less reliable during typhoons and when there was heavy rain, with the MGFs stalling and jamming persistently in adverse weather. The Electrical and Mechanical Services Department (EMSD) has examined and agreed with the findings that the performance of the MGF system was unsatisfactory.

Technical difficulties involved in retrofitting of APGs

5. In parallel to conducting the MGF trial, MTRCL has been studying the technical feasibility of retrofitting of APGs on the EAL and has identified several technical difficulties. They include technical limitations of the existing signalling system and existing trains, which are detailed in MTRCL's paper. EMSD has examined and agreed with the findings.

Technical Solutions

6. Having studied the results of the trial of the MGF system and the technical difficulties, MTRCL is of the view that both the signalling system and the East Rail trains have to be replaced to ensure safe operation and maintenance of existing passenger service levels. In addition, given the unsatisfactory performance of the MGF system during

[1] Under the SCL project, the existing EAL will be extended from Hung Hom, crossing the harbour to reach Admiralty, thereby forming a strategic line from the border at Lo Wu or Lok Ma Chau to the heart of the business centre on Hong Kong Island. This strategic line is termed North-South Line.

the trial, MTRCL has to find another solution to solve the problem of wide platform gaps. MTRCL is of the view that procurement of trains with wider bodies could solve this problem. EMSD agrees that the signalling system has to be replaced to enable APG operation given that the major upgrading required would be akin to replacing the entire system and that new trains with wider bodies could solve the problem of wide platform gaps since the performance of the MGF system was unsatisfactory.

Synergy with SCL

7. Based on its proposal that a new signalling system and new trains would be required for the operation of the NSL of the SCL project, MTRCL is of the view that retrofitting of APGs on the EAL should be carried out in tandem with the SCL project in order to achieve synergy and minimize abortive works and the adverse impact of the works on passengers. We agree that retrofitting of APGs on the EAL in tandem with the SCL project will achieve synergy.

Options

8. In order to implement the retrofitting of APGs as soon as possible, we have requested MTRCL to explore retrofitting of APGs as a standalone project or to retrofit APGs at those East Rail stations which do not have wide platform gaps first. With regard to a standalone project, according to MTRCL, the completion date of a standalone project would not be earlier than the estimated completion date of the NSL of the SCL of 2020. As regards those stations which do not have wide platform gaps, due to the problems with the existing system, it would not be possible to retrofit APGs unless at least the signalling system is replaced. As such, we agree that it is not justifiable to pursue retrofitting of APGs as a standalone project or to retrofit APGs at stations without wide platform gaps first. The slightly earlier completion date does not justify the abortive works involved.

Conclusion

9. We agree with MTRCL's findings and that synergy could be

achieved if retrofitting of APGs on the EAL is carried out in tandem with the SCL project, and we have asked the consultant[2] of the Railway Development Office (RDO) of the Highways Department to examine the appropriateness of MTRCL's programme for the retrofitting of APGs. Having studied the information provided by MTRCL, the consultant was of the view that a standalone APG programme would only be slightly shorter in terms of time frame than pursuing the retrofitting in tandem with the SCL project. However, the shorter duration of 1.5 years does not justify the higher associated costs as some of the works would be abortive upon construction of the SCL. As such, pursuing the retrofitting of APGs at the EAL stations in tandem with the SCL project is a sensible and cost-effective approach.

Transport and Housing Bureau
January 2011

[2] RDO has engaged an independent consultant to review and verify the design and project costs of the SCL project.