

For information
4 June 2009

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

West Island Line
Use of Explosives

Purpose

This paper briefs Members on the background information of the use of explosives under the West Island Line.

Construction by Drill and Blast Method

2. Drill-and-blast is one of the commonly used methods for underground excavation and construction of tunnels in rock in Hong Kong and overseas. The MTRCL has over 30 years experience in using drill-and-blast method to build underground railway stations and tunnels in densely populated areas. Some of the MTR stations that were built by this method are Causeway Bay Station, Quarry Bay Station, Taikoo Station, Fortress Hill Station, North Point Station and its modification under the Quarry Bay Relief project, as well as many tunnels on Hong Kong Island, Kowloon and New Territories.

3. As most sections of the tunnels and pedestrian tunnels of the West Island Line (including the pedestrian tunnel underneath the buildings of The Belcher's) are located deep in rock, drill-and-blast is the most suitable and effective construction method.

4. To meet the target completion date of the West Island Line in 2014, blasting will have to be carried out twice a day, in the morning and evening hours, at most work fronts.

Risk Assessment

5. Under the requirements of the Environmental Impact Assessment (EIA) Ordinance a risk assessment on the transport, storage and use of explosives for the project must be undertaken and this has been completed and endorsed by the relevant authorities.

6. The approved EIA report of the WIL has included a Quantitative Risk Assessment (QRA). The results showed that the risks are within the acceptable limit of the risk guideline. The QRA report, which is part of the approved EIA report, is available in website of the Environmental Protection Department for public inspection. The relevant webpage is:

http://www.epd.gov.hk/eia/register/report/eiareport/eia_1532008/EIA-pdf/Appendix/app%2010.pdf

Supervision and Monitoring of Using Drill-and-Blast Method

7. The use of explosives is governed by the Dangerous Goods Ordinance and supervised by the Mines Division of the Civil Engineering Development Department, as well as the Fire Services Department and the Hong Kong Police Force.

8. The MTRCL will ensure strict compliance with the regulations of the Dangerous Goods Ordinance and will enforce stringent risk control and safety measures to ensure the delivery, use and storage of explosives are safely operated during the construction period.

9. The MTRCL must submit blasting assessment reports to Mines Division for their approval prior to gaining permission to carry out blasting at any location along the alignment. These reports contain details of the

proposed blasting methods, identify all sensitive receivers and assess any adverse effects arising from blasting, and the mitigation measures to be taken to ensure the integrity of the buildings and services within the vicinity of blasting.

10. Furthermore, once the construction contracts commence, the contractors must make a further application to Mines Division for a blasting license. Blast design details must also be provided to Mines Division prior to each and every blast being carried out. The quantity of explosives for each blast will be subject to stringent control so that the blasting work will not affect the safety of buildings and services within the vicinity of blasting.

11. Suitably qualified professionals will be employed for the blasting operations and a set of stringent control measures in accordance with the Buildings Ordinance and relevant statutory requirements will be adopted. Monitoring points will be installed prior to the works to monitor possible impact to adjacent building structures. Building Department and Mines Division will also carry out site audit monitoring to check for compliance.

12. Before the commencement of the construction of the WIL, a condition survey will be carried out to record the condition of the buildings in the proximity of the alignment of the WIL.

13. The MTRCL will continue to communicate with residents on the project and the construction methods especially the blasting to relieve residents' concern on the method and to keep residents informed of the times of blasting.

14. Members are invited to note the contents of this paper.

Transport and Housing Bureau

June 2009