Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways
Railway System for South Island Line (East)

Introduction

The South Island Line (East) (SIL(E)) is a new railway line linking Admiralty with South Horizons in Ap Lei Chau, thus extending railway service to the southern part of Hong Kong Island. This paper provides a brief overview of the new railway system which will be adopted for SIL(E).

Background

2. SIL(E) is approximately 7km long connecting the MTR network at Admiralty to the Southern District of Hong Kong via Ocean Park, Wong Chuk Hang, Lei Tung and South Horizons (see **Appendix 1** for the route map). The SIL(E) scheme was authorized by the Chief Executive in Council on 30 November 2010. Construction works commenced in May 2011 for completion in 2015.

Project Progress

3. Since the commencement of the works in May 2011, SIL(E) has been making steady progress. The tunneling works for the Nam Fung Tunnel between Admiralty and Wong Chuk Hang and the Ap Lei Chau Tunnel on Ap Lei Chau have commenced. Segment erection and connection works of the section of viaduct between the Nam Fung Tunnel portal in Wong Chuk Hang and the Ocean Park have been completed. The connection works of the segments of the remaining viaduct sections are expected to be completed in 2013. Site formation works of Wong Chuk Hang depot have been completed. Foundation works and construction of the structures for the depot and stations are being carried out in accordance with the programme.

New railway system of SIL(E)

4. Upon commissioning, SIL(E) will provide a convenient and

reliable railway service to the travelling public in the Southern District. We anticipate that SIL(E) will serve the 350,000 residential and working population in the Southern District in 2016, with about 170,000 daily patronage.

5. The area along the rail alignment in the Southern District is densely populated with limited space available for accommodating railway stations and the associated facilities. By operating a medium capacity railway system, SIL(E) is expected to meet the transport needs of the commuters in the Southern District. Its stations and the associated facilities will be of a smaller scale compared to those in other MTR lines, thus providing more flexibility for alignment planning and station design and allowing stations to be built in the heart of the densely populated communities. This will not only bring convenience for passengers to access to the stations, but also create less disturbance to the daily life of the public during the construction of the railway.

6. The headway of SIL(E) services will be similar to other existing MTR lines with a peak hour headway of around 3 minutes. SIL(E) will be operated with a 3-car configuration with a capacity of about 20,000 passengers per hour in each direction, which would meet the transport needs in the Southern District. The size, specification and seating arrangements of the train cars will be similar to those in other existing MTR lines. Train speed in SIL(E) would also be similar to those in the existing MTR lines such as Island Line, Kwun Tong Line and Tsuen Wan Line. It would take about 11 minutes to complete the journey between Admiralty and South Horizons and about 4 minutes between Admiralty and Ocean Park.

Fully Automatic Operations

7. A new and standalone signaling system is required for the operation of SIL(E). MTR Corporation Limited (The Corporation) will take this opportunity to apply the proven technology to introduce Fully Automatic Operation (FAO) for this new line with a view to achieving enhanced rail service with a higher level of reliability and more flexibility in train operation.

8. FAO is based on a set of mature and well developed railway operation technologies and is being commonly adopted in some of the railway lines in many overseas cities, such as Paris, London, Barcelona, Vancouver, Detroit, Seoul, Taipei, etc., with proven performance in safety, reliability and system recovery. The Disneyland Resort Line of MTR is also operated under FAO which has been performing satisfactorily since the service commencement in 2005.

9. The safety standard applicable to SIL(E) would be the same as that in other existing MTR lines. Like other existing MTR lines, detailed testing and trial runs will be conducted before the operation of SIL(E) to ensure safety and reliabilty.

10. FAO supports a highly efficient signaling system with automatic recovery function, enabling operational control from trains, stations, as well as the Operations Control Centre (OCC). Under the operation of FAO system, preparation for train service including function tests before service, setting trains in motion, speed control, train stopping, as well as door opening and closing will be fully automatic under the control of the OCC with preset commands. The adoption of FAO helps enhance train service stability. Train service could be resumed via reset of train and automatic recovery supported by control from the OCC without reliance on manual control onboard.

11. Trains on standby at the depot can be deployed by the OCC without the need for arranging staff onboard to hit the start button. This will enhance the flexibility of increasing train frequency especially in the event of a sudden increase in service demand.

12. Safety specifications of train compartments such as fire detection and resistance, and emergency intercom facilities will comply with stringent international standards. Train operations and train compartments will be continuously monitored in real time by the OCC, which can communicate with passengers directly. Further services will be provided by station staff whenever necessary. .

Conclusion

13. The Corporation is now carrying out the detailed design of the railway system of SIL(E), which will provide a safe, stable and reliable service that will meet the transport need of the Southern District.

MTR Corporation
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Appendix 1

Alignment Plan of South Island Line (East)