

CONTROLLING OFFICER'S REPLY

THB(T)043

(Question Serial No. 2313)

Head: (60) Highways Department
Subhead (No. & title): (-) Not Specified
Programme: (1) Capital Projects
Controlling Officer: Director of Highways (Daniel K W CHUNG)
Director of Bureau: Secretary for Transport and Housing

Question:

It was pointed out in Programme (1) that the Highways Department (HyD) would “continue to monitor closely the construction progress of the Hong Kong-Zhuhai-Macao Bridge (HZMB) Main Bridge in the Mainland waters” in 2017-18. In this regard, would the Government please advise this Committee -

- (a) The latest progress of the HZMB project, the number of delayed items, causes of delay and the completion date;
- (b) The additional expenditures and staff establishment involved in the above delayed items;
- (c) Given a large number of industrial accidents in the course of construction, whether the HyD currently has any specific measures to improve construction safety and reduce safety incidents; if yes, what is the expenditure involved?

Asked by: Hon TAM Man-ho, Jeremy (Member Question No. 1)

Reply:

(a)

The construction of the tunnel and artificial islands of the HZMB Main Bridge within the Mainland waters is still in progress. Its critical process involves the placement of 33 sub-sea tunnel segments and the final connection. As of 7 March 2017, all 33 sub-sea tunnel segments were placed. Given that the works site is in a complex sea environment, the project faces huge technical difficulties arising from the need to cater for wind speed and under-water current conditions. Its challenges include overcoming the inclement weather and sedimentation of the tunnel bedding conditions. The bridge section of the HZMB Main Bridge was connected in end-September 2016 and bridge deck surfacing works are underway. Given the immense scale of the surfacing works and the high technical requirements, the progress of works may also be affected by inclement weather. In addition, remaining works for the HZMB Main Bridge include the installation of public utilities and testing for commissioning.

As for the Hong Kong projects, reclamation for the Hong Kong Boundary Crossing Facilities (HKBCF) was largely completed in late 2016 while the remaining works of installing armour rocks and the removal of preloading materials are in progress. The 9 works contracts for the superstructures of the HKBCF are now in full swing: the construction of superstructures and installation of prefabricated roof segments are being carried out for the passenger clearance building; installation of precast bridge deck segments are being carried out for the land infrastructure works; construction of the vehicle clearance plaza, ancillary buildings and associated facilities are also in progress. As regards the Hong Kong Link Road (HKLR), bored piles, pile caps, piers and precast bridge deck segments for the marine and land viaducts have all been completed. The bridge decks of land viaduct have all been erected and stressing of their post-tensioning tendons is being carried out. The erection of bridge decks of the marine viaducts, construction of the tunnel section and at grade road works are also in progress. According to the latest works progress, the HyD assesses that the Hong Kong projects will be completed and ready for commissioning by end 2017.

In summary, the HZMB Main Bridge as well as projects of the 3 sides encounter a lot of difficulties and challenges (including risks in respect of technical challenges, extreme weather, works safety and works interface, etc.). At this stage, to commission the project by end 2017, there are still certain problems that will have to be resolved. Without compromising the quality and safety of works, the HZMB Authority and the 3 sides, the Governments of Guangdong, Hong Kong and Macao, are adopting every possible measure to resolve the problems they encountered so as to proceed with their relevant projects. Based on the further consolidated assessment by the Joint Works Committee of the 3 Governments, the 3 sides strive to complete the entire HZMB project by end 2017 for early simultaneous commissioning subject to factors such as the implementation of cross-boundary transport arrangements.

(b)

Through deploying in-house staff resources (estimated establishment of 71 staff members as at 31 March 2018), the HyD monitors the implementation of the HZMB Main Bridge and the Hong Kong projects (including the HKBCF and HKLR projects), with a staff cost of about \$70 million in 2017-18.

The above staff establishment includes 3 supernumerary directorate posts. The 3 posts will lapse on 31 December 2017. The HyD proposes to retain 2 supernumerary directorate posts up to the end of 2019, as well as retain 1 supernumerary directorate post up to the end of 2020. The Transport and Housing Bureau and the HyD will consult the Legislative Council Panel on Transport on the above proposal in 2017 before submitting the proposal to the Establishment Subcommittee of the Finance Committee (FC) for consideration and finally to the FC for approval.

(c)

Contractors of the HKBCF and HKLR projects are required to formulate and implement safety management systems in accordance with the contract terms and relevant safety regulations. The contractors shall ensure that all the workers are provided with adequate safety training and appropriate personal protective equipment such as helmet, safety shoes, reflective tabard, life-jacket and safety belt prior to entering the site to work.

The foreman and safety supervisors of the contractor are to carry out daily site inspection to

monitor construction safety (weekly inspection of site for safety officers), and each vessel is to assign one works supervisor to monitor construction safety at sea.

In order to ensure adequate supervision of the works both before its commencement and at the construction stage, resident site staff members of the consultant engaged by HyD are tasked with vetting the works programme submitted by the contractor and conducting risk assessment. Site Safety and Environmental Management Committee is also set up by resident site staff and the contractor to formulate and implement safety management systems and monitor the contractor's safety performance. Staff of the HyD and the departments concerned (including the Labour Department) shall attend the meeting of the Committee and conduct inspection. If any safety issues are found during the routine safety inspections conducted by the resident site staff of the consultant, as well as the site foreman and safety personnel of the contractor, the contractor will be required to follow up on the issues immediately.

As the safety measures mentioned above are included in the contract terms, no additional costs will be involved.

In order to further enhance site safety, apart from the requirements of existing legislation and the contracts, the contractors are also required to engage independent safety auditors accredited by the Occupational Safety and Health Council to carry out regular audit on the contractors' safety management systems and safety measures for 3 relatively large scale contracts under the HKBCF and HKLR projects of the HZMB. The costs involved is about \$1.63 million.

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