

CONTROLLING OFFICER'S REPLY

THB(T)266

(Question Serial No. 6331)

Head: (60) Highways Department
Subhead (No. & title): (-) Not Specified
Programme: (2) District and Maintenance Works
Controlling Officer: Director of Highways (Jimmy P M CHAN)
Director of Bureau: Secretary for Transport and Housing

Question:

Early this year, a tendon wire on the Shenzhen Bay Bridge was found snapped. The Department then stated that no rupture was found on the wires in the inspection conducted two weeks before the incident. In this regard, will the Administration inform this Committee of the following -

Please set out, in table form, the dates of bridge inspections and materials strength tests conducted since the commissioning of the Shenzhen Bay Bridge, the company responsible for inspection and maintenance, follow-up actions taken by the Highways Department (HyD) so far and the contractor responsible for the repair works.

The HyD stated that it will conduct inspections on other similar bridges. Please set out, in table form, the names of the bridges concerned, the companies responsible for routine inspection and maintenance (if any), the dates of structural inspections and material strength tests conducted and the contractors responsible for the repair works.

Asked by: Hon KWOK Ka-ki (LegCo internal reference no.: 421)

Reply:

The Shenzhen Bay Bridge (the Bridge) was commissioned in 2007. Since its commissioning, the Bridge had been maintained by the maintenance term contractor of HyD while the inspections were conducted by an Independent Inspection Consultant (IIC). The current maintenance term contractor and the IIC are China Road and Bridge Corporation and AECOM Asia Co Ltd. respectively.

There are three main types of inspections. The six-monthly inspection mainly involves visual inspection of the condition of facilities of the bridge deck and main structures as well as ancillary components of the Bridge. The biennial general inspection mainly involves close visual inspection of the condition of the Bridge. The ten-yearly principal inspection mainly involves more in-depth examination of the concealed components of the Bridge by removing the decorative cladding panels and covering materials as well as conducting tests such as concrete carbonation, chloride content and concrete cover. The inspections of the Bridge had been carried out according to the above schedule, with the principal inspection carried out in 2013.

As soon as an external pre-stressed tendon of the Bridge was found broken on 15 February 2019, HyD immediately verified the overall integrity and confirmed the structural safety of the Bridge. For prudent's sake, two lanes of the Bridge were closed. HyD carried out inspections on other external pre-stressed tendons of the Bridge and found no irregularities. The replacement works for the broken tendon were completed in mid-March 2019 and all the closed road sections were reopened to traffic on 21 March 2019. With the assistance of independent experts, HyD has also set up an investigation team to investigate the cause of the incident.

Inspections of other bridges maintained by HyD with external pre-stressed tendons have been carried out since the incident in February 2019. The bridges include Tsing Yi Bridge, Kwai Tsing Bridge, Cheung Tsing Bridge, Tsing Sha Highway, Tsing Long Highway, Penny's Bay Highway, Cheung Tsing Highway, Tsing Yi North Coastal Road, Kong Sham Western Highway, Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road and Tuen Mun-Chek Lap Kok Link. The inspections have been conducted by corresponding IICs except bridges in the Tsing Ma Control Area and Tsing Sha Control Area the inspections of which have been carried out by the respective operators. The name of the respective maintenance term contractors, IICs/Operators and the dates of last inspection are shown in the table below:

Bridge	Maintenance Term Contractor	Independent Inspection Consultant / Operator	Date of Last Inspection
Tsing Yi Bridge	Shun Yuen Construction Company Limited	Greg Wong & Associates Ltd.	October 2018
Kwai Tsing Bridge	Shun Yuen Construction Company Limited	Greg Wong & Associates Ltd.	November 2018
Cheung Tsing Bridge	TMIL MOM Limited	TMIL MOM Limited	November 2018
Tsing Sha Highway	Gamon-Welcome Joint Venture & Serco Lam JV	Atkins China Limited & Serco Lam JV	January 2019
Tsing Long Highway	China Road and Bridge Corporation	AECOM Asia Co Ltd	March 2019
Penny's Bay Highway	China Road and Bridge Corporation	AECOM Asia Co Ltd & FL Engineering Consultant Ltd.	March 2019
Cheung Tsing Highway	TMIL MOM Limited	TMIL MOM Limited	October 2018
Tsing Yi North Coastal Road	TMIL MOM Limited	TMIL MOM Limited	December 2018

Bridge	Maintenance Term Contractor	Independent Inspection Consultant / Operator	Date of Last Inspection
Kong Sham Western Highway	China Road and Bridge Corporation	AECOM Asia Co Ltd	March 2019
Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road	China Road and Bridge Corporation	Atkins China Limited	March 2019
Tuen Mun - Chek Lap Kok Link - Southern Connection	China Road and Bridge Corporation	Atkins China Limited	March 2019

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