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28 April 2016

Ms Shirley CHAN  
Clerk to the Panel on Economic Development  
Legislative Council Complex  
1 Legislative Council Road  
Central  
Hong Kong

Dear Ms CHAN,

**Panel on Economic Development  
Follow-up to the Meeting on 24 March 2016**

I refer to your letters dated 7 April 2016 and 14 April 2016. This serves as a consolidated reply from the Transport and Housing Bureau (THB) and the Civil Aviation Department (CAD) to the issues raised therein.

**(A) “Snapshot” review completed by NATS**

2. As detailed in the paper prepared by THB and CAD for discussion at the Panel on Economic Development (ED Panel) meeting on 24 March 2016 (LC Paper No. CB(4)735/15-16(06)), the National Air Traffic Services (NATS), an independent consultant from the United Kingdom (UK) engaged by THB, completed a “snapshot” review based on the situation in December 2015 on the system technical aspects, operations and training documents of the new Air Traffic Management System (ATMS). Based on that review, NATS recommended the phased functional implementation (PFI) of the new Air Traffic Control (ATC) system. CAD has accepted the recommendation. To

recapitulate, NATS recommended the PFI as it would allow more time for ATC staff to familiarise themselves with the system's functions and operations in phases, and help minimise the risk of providing full functional services during the typhoon season which would induce additional workload and pressure on ATC staff. In accepting the recommendation, CAD has considered, among others, the views of ATC staff who welcomed the phased approach as it would enhance staff confidence and relieve their pressure with an extended transition period.

3. Subsequent to the ED Panel meeting, THB engaged NATS to conduct a further round of independent assessment on the overall scheme of PFI, the readiness of various safety documents, and the final stage of staff training. NATS' report on the overall readiness of the operational transition for Stage I of the PFI will be available **within May 2016**. We will be pleased to provide NATS' upcoming report for Members' information when it is available in May 2016. The updated report is more relevant to the present purpose as it would capture the latest progress of the new ATC system under the PFI, as compared to the earlier "snapshot" review which is slightly dated by now.

#### **(B) Hon Wong Yuk-man's letter to PAC dated 6 April 2016**

##### *Use of Raytheon's ATC systems/products*

4. In Hon Wong's letter, it is alleged that the paper prepared by THB and CAD for discussion at the ED Panel on 24 March 2016 was "misleading". This is an unfounded allegation. The paper was prepared according to the latest progress of the new ATMS project substantiated by factual information, quite some of which had been reported to the Public Accounts Committee (PAC) before.

5. We have in the past explained to the PAC the Government procurement procedures followed by CAD when inviting tenders for the new ATMS, and the basis for choosing Autotrak III, as a result of the procurement process. In the interest of brevity, we would not repeat the information here. As for the track record of Raytheon, it is the developer of the existing ATMS (Autotrak I) in Hong Kong. The system has been in operation for close to 18 years. Raytheon's ATC systems/products are also used in, for example, the US, Germany, Canada, Dubai and India, etc. In the US, Raytheon has provided

ATC systems/products in more than 130 ATC centres, including Atlanta (the busiest airport in the world in 2015), Chicago, Dallas and New York. In 2014 and 2016, Raytheon was awarded contracts to upgrade some of US' ATC systems under the nation-wide Federal Aviation Administration's Next Generation Air Transportation System (NextGen) which aims to transform the US' air traffic control system from a radar-based system with radio communication to a satellite-based one. The track record of Raytheon's systems/products is proven both locally and internationally.

#### *Contract management*

6. CAD strictly followed the rules and procedures stipulated in the Government Stores and Procurement Regulations (SPR) and the World Trade Organisation Government Procurement Agreement (WTO GPA) throughout the procurement of the ATMS, and the supplier of the new ATMS i.e. Raytheon, was selected through a global and open tendering exercise.

7. Hon Wong's letter says that due to the delay of the ATMS implementation, the additional maintenance cost for the existing ATMS amounted to \$20 million per year. We are **not** sure about the source of this figure. The total expenditure on system maintenance of the existing ATMS from 2013 to 2015 was \$14.6 million. This has included a one-off enhancement for the existing ATMS conducted in 2014 to enhance the system's capability in handling the increasing air traffic volume. No additional manpower cost is involved for the general maintenance of the existing ATMS in addition to the new ATMS during the PFI.

8. In order to safeguard the Government's best interest with respect to the project delay, CAD, in consultation with the Government Logistics Department and the Department of Justice, is following up with the ATMS contractor in pursuing the Government's potential claim of liquidated damages.

#### *System reliability*

9. Hon Wong's letter says that "the ATMS broke down during trial". We suspect it might be referring to the one-month long Reliability Acceptance Tests (RAT) which commenced in mid July 2015. RAT was carried out to verify the reliability performance of various sub-systems of the new ATMS under different operational scenarios. In one of the tests done on 31 July 2015, relevant staff of CAD deliberately inputted abnormal flight information to verify system behaviours under abnormal circumstances. It was noted that, upon


receipt of abnormal instructions, the Flight Data Processing Systems (FDPS) did not execute them, as according to system design. More importantly, the FDPS of the "fallback" and the "ultimate fallback" sub-systems were running normally throughout the whole testing period. As pointed out in our reply to a LegCo question raised by Hon Wong Yuk-man in November 2015, the incident was part of the test process, and was certainly not a "failure" as reported in the media.

*Contingency plan*

10. As reported to the ED Panel on 24 March 2016, the new ATC System is implemented through a total of eight system contracts. Seven systems have already been running smoothly, and the remaining new ATMS will be launched incrementally from June 2016 onwards. The progress relating to the ATMS implementation and follow-up of Audit's/PAC's recommendations has also been reported to the PAC regularly. CAD is confident that a smooth transition can be achieved under the PFI approach. Since safety and the continued smooth operation of the Hong Kong International Airport are paramount, CAD has formulated a contingency plan to ensure that the existing ATMS can continuously provide a safe, reliable and stable ATC service during the transition. The contingency plan has reviewed, among others, the system maintainability, system availability, supply of spare parts, and provision of software maintenance support services from the system supplier for the existing ATMS.

11. We will continue to keep the ED Panel posted on this matter as we have been in the past.

Yours sincerely,



( Ms Joyce Chan )

for Secretary for Transport and Housing

c.c. Hon James TIEN Pei-chun, GBS, JP (Chairman)  
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