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18 January 2017

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 13 December 2016**

I refer to your letter dated 16 December 2016, requesting for the following information –

- (a) whether the current use of the electronic flight strips in the new Air Traffic Management System (“ATMS”) had any compatibility problems with other functions of the system, thus affecting the data display and stability of the system;
- (b) given that the Civil Aviation Department (CAD) had visited the Dubai International Airport (“DXB”) in 2015 to better understand its ATMS, report on the findings of the visit including whether DXB was using electronic or paper flight strips at that time;
- (c) whether DXB was using electronic or paper flight strips for its ATMS currently and the reasons for adopting such option.

2. On question (a), according to our understanding, the issue of “data display” raised by some members of the Panel at the meeting on 13 December 2016 concerns an incident which took place on 12 December 2016. On that date, the radar screens of the ATMS were unable to display certain flight information such as flight callsigns and flight speed, while the positions and the

altitudes of the flight targets were still available on the radar screens. The flight information in question reappeared automatically after about 75 seconds. The incident had not caused disruption to the work of air traffic control officers. This was because with the Automatic Dependent Surveillance–Broadcast (ADS-B) technology in the Hong Kong Flight Information Region (HKFIR) already in place, air traffic control officers were able to get the necessary information on flights travelling inside the HKFIR through ADS-B during the incident.

3. According to CAD's and Raytheon's investigation and analysis carried out subsequently, the cause of the occurrence on 12 December 2016 was not new but similar to another incident on 29 November 2016. The root cause for the incident on 29 November 2016 was that when working staff carried out system maintenance in retrieving and archiving data, the process was given priority by the system as per the system's design. According to the system's design, the flight plan association process was expected to take place shortly afterwards, and this resulted in the momentary (26 seconds) flight plan dis-association. Following the 29 November 2016 incident, CAD promulgated an internal guideline reminding staff not to retrieve and archive data from the Main System. Unfortunately, on 12 December 2016, a staff did not follow the guideline when retrieving and archiving data, hence triggering the incident described in the paragraph above. More details of the two incidents can be found in CAD's press releases –

<http://www.info.gov.hk/gia/general/201611/29/P2016112901000.htm>  
<http://www.info.gov.hk/gia/general/201612/12/P2016121201068.htm>.

4. The above-mentioned incidents are also not related to the Electronic Flight Strip (EFS) System at Air Traffic Control Tower, which is provided by Frequentis (not Raytheon) and has been in operation since 2012 when the old ATMS was still in use. With the commissioning of the new ATMS, the EFS System has been integrated into the new ATMS as a sub-system. As with other sub-systems, the EFS could have some sporadic issues occasionally whether in the past or following integration with the new ATMS. For instance, and as CAD explained publicly, there was an occurrence on 18 December 2016 during which some functions of the EFS System installed at the Air Traffic Control Tower of the CAD were temporarily and intermittently affected. The problem was resolved by rebooting the EFS System, without undermining aviation safety. Air traffic control officers, who have undergone professional training, are able to handle such and other known phenomena. CAD has been liaising with Frequentis to identify the root cause of the occurrence. More details can be found in CAD's press release –



<http://www.info.gov.hk/gia/general/201612/19/P2016121801060.htm>

5. The Transport and Housing Bureau has also invited its independent consultant from the UK, the National Air Traffic Services (NATS), to look into the incidents on 29 November and 12 December as well as 18 December. We would share NATS' reports with the LegCo Panel on Economic Development (ED Panel) upon their finalisation.

6. On questions (b) and (c), two CAD officers attended the 1st Air Traffic Management (ATM) Modernisation Symposium organised by Airbus ProSky held in Abu Dhabi from 8 – 10 April 2014. Taking the opportunity, the CAD officers made a side visit to the Dubai Air Navigation Services (DANS) to gather information and DANS' practical experience in the implementation and operation of its ATMS - the AutotrakIII (AT3).

7. Insofar as the use of electronic/paper flight strips by DANS is concerned, we have set out the relevant information in our response dated 18 January 2017 to the six motions passed at the ED Panel meeting on 13 December 2016. In gist, it is CAD's understanding that in April 2014 (the time of CAD's visit), electronic flight strips were used in Dubai International Airport (DXB)'s Air Traffic Control Tower (which serves air traffic within the aerodrome traffic zone), while paper strips were used in the Dubai Approach Control Centre (DACC) (which provides approach/departure service). At that time, the Dubai Air Navigation Services had a plan to gradually adopt electronic flight strips in DACC. Adaptation, procedure development and evaluation were then on-going.

8. In December 2016, Raytheon confirmed that DXB's Air Traffic Control Tower and the DACC were then still using electronic flight strips and flight paper strips respectively.

Yours sincerely,



( Ms Joyce Chan )

for Secretary for Transport and Housing

c.c. Hon Jeffrey LAM Kin-fung, GBS, JP (Chairman)  
Director-General of Civil Aviation (fax no. 2501 0640)