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**Panel on Economic Development**  
**Meeting on 28 November 2011**

**Background brief on the replacement of  
the weather radar of the Hong Kong Observatory**

**Purpose**

This paper provides background information on the replacement of the weather radar of the Hong Kong Observatory (HKO)<sup>1</sup> and summarizes concerns and views expressed by Members on related issues.

**Background**

2. Aviation safety is critical to the further development of Hong Kong as an aviation hub in the region. To contribute towards the safe, efficient and reliable operation of air traffic, HKO operates meteorological facilities serving international air navigation across Hong Kong's airspace, including flight operations at the Hong Kong International Airport (HKIA). It provides aviation weather information (including forecasts, warning and alerts) direct to users including airlines, pilots, the Civil Aviation Department (CAD), and the Airport Authority Hong Kong (AA). HKO also operates related infrastructure including information technology facilities for data processing and information transmission.

**Replacement of the Terminal Doppler Weather Radar and related facilities**

3. In order to meet the growth in air traffic and the demand for higher quality aviation weather services, HKO proposed in December 2008 to replace the ageing Terminal Doppler Weather Radar (TDWR) which was installed in 1996 for the detection of windshear, and to replace and upgrade

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<sup>1</sup> The Hong Kong Observatory is the designated meteorological authority in Hong Kong by virtue of Annex 3 to the Convention on International Civil Aviation.

the other meteorological and related infrastructural facilities of HKO for HKIA.

4. The existing TDWR is approaching the end of its functional life and its annual unserviceable time has been increasing in recent years<sup>2</sup>. Maintenance work has become increasingly difficult as many components are already out of production. HKO therefore proposed to install a new TDWR to ensure timely and uninterrupted provision of accurate windshear warnings to aircraft. After the new TDWR is in place, the existing one will be turned into a backup for as long as its economical useful life permits. As the operation of the existing TDWR must remain intact until the new equipment is fully functional, the new TDWR has to be installed on a separate site.

5. The other existing aviation meteorological and infrastructural facilities of HKO have been in operation since the opening of HKIA in 1998. Many of these facilities are also approaching the end of their serviceable lives<sup>3</sup>. They need to be replaced in a timely manner.

6. According to the information provided by the Administration in February 2009, the TDWR which cost about \$100 million would be in place in October 2013, whereas the other facilities which would cost some \$40 million would be installed in phases between December 2012 and January 2015. Under the "user pays" principle, the costs for providing aviation weather services will be fully recovered from AA for aircraft landing at HKIA and from airlines for overflying aircraft without landing at HKIA (as part of en-route navigation charges).

### **Views and concerns expressed by Members**

7. When the Administration briefed the Panel on Economic Development (the Panel) on HKO's proposal at the meeting on 16 December 2008, members in general indicated support for the proposal. Some members expressed concern that the existing system might have deteriorated to a level that would endanger aviation safety, and requested the Administration to expedite the development of the new TDWR. The Administration advised that the implementation plan already reflected a compressed timetable, and assured members that HKO would try to upkeep

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<sup>2</sup> The average annual unserviceable time of the present TDWR has increased from 27 hours for the period 2000-2003 to 47 hours for the period 2004-2007.

<sup>3</sup> The normal serviceable life of most meteorological facilities is between 10 to 15 years.

the reliability of the existing system. When the TDWR was out of service, HKO could still detect windshear and provide warnings manually using other meteorological facilities at HKIA.

8. When the relevant funding proposal was discussed at the Finance Committee (FC) meeting on 20 February 2009, the Administration advised that as a result of the proposal and taking into account other on-going aviation weather services, it was anticipated that the charges collected from AA would gradually increase to around \$99 million a year in 2013. The proposal was approved by FC on 20 February 2009.

### **Recent developments**

9. In August 2010, a concern group wrote to the Administration expressing concern about the Government's plan to install the new weather radar in the north of Tai Lam Kok. In response, the Administration provided clarification on the radiation safety, the implementation timetable, the feasibility of deploying weather radar of a smaller scale and site selection for housing the new TDWR. Details of the information are given in CB(1)2786/09-10(01) and (02).

10. When the Administration briefed the Panel on the 2011-2012 policy initiatives on 14 October 2011, the Administration indicated that it would seek funds from FC in 2011 to construct a station for housing the new TDWR for the continued provision of reliable windshear warnings.

11. The Administration will brief the Panel on its funding proposal for the construction of a station for the new weather radar of HKO at the meeting on 28 November 2011.

### **References**

12. The relevant papers are available at the following links -

Administration's paper on proposal to replace and upgrade meteorological facilities for the Hong Kong International Airport for the Panel meeting on 16 December 2008

<http://www.legco.gov.hk/yr08-09/english/panels/e/dev/papers/e/dev1216cb1-372-5-e.pdf>

Minutes of Panel meeting on 16 December 2008

<http://www.legco.gov.hk/yr08-09/english/panels/edev/minutes/edev20081216.pdf>

Administration's paper on Hong Kong Observatory: Replacement and Upgrading of meteorological facilities for the Hong Kong International Airport for FC meeting on 20 February 2009

<http://www.legco.gov.hk/yr08-09/english/fc/fc/papers/f08-69e.pdf>

Administration's supplementary information note on replacement and upgrading of meteorological facilities for the Hong Kong International Airport for FC meeting on 20 February 2009

<http://www.legco.gov.hk/yr08-09/english/fc/fc/papers/fc0220fc-74-2-e.pdf>

Minutes of FC meeting on 20 February 2009

<http://www.legco.gov.hk/yr08-09/english/fc/fc/minutes/fc20090220a.pdf>

Letter dated 20 August 2010 from a concern group on the new weather radar station (Chinese version only)

<http://www.legco.gov.hk/yr09-10/chinese/panels/edev/papers/edevcb1-2786-1-c.pdf>

Administration's response dated 27 August 2010 to the letter from the concern group on the new weather radar station (Chinese version only)

<http://www.legco.gov.hk/yr09-10/chinese/panels/edev/papers/edevcb1-2786-2-c.pdf>

Administration's paper on policy initiatives of the Commerce, Industry and Tourism Branch of the Commerce and Economic Development Bureau in the Chief Executive's 2011-2012 Policy Address for the Panel meeting on 14 October 2011

<http://www.legco.gov.hk/yr11-12/english/panels/edev/papers/edev1014cb1-43-1-e.pdf>

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