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**Panel on Security**

**Background brief prepared by the Legislative Council Secretariat  
for the meeting on 27 May 2013**

**Replacement of aircraft and the associated mission equipment of the  
Government Flying Service**

**Purpose**

This paper provides background information on the replacement of aircraft and the associated mission equipment of the Government Flying Service ("GFS") and gives an account of the discussion relating to the replacement of aircraft of GFS by the Panel on Security ("the Panel").

**Background**

2. In Hong Kong, GFS provides a wide range of flying services to support the work of various government departments, employing more than 200 civil servants responsible for flight operations, maintenance and administration. GFS currently operates a fleet of 11 aircraft comprising two fixed-wing Jetstream 41 (J-41) aircraft, one Zlin Z242L fixed-wing aircraft, one Diamond DA42NG fixed-wing aircraft, three Eurocopter AS332 L2 (Super Puma L2) helicopters and four Eurocopter EC155 B1 (EC 155) helicopters. The seven helicopters are mainly used for search and rescue ("SAR"), air ambulance, fire fighting, tactical police support, lifting loads and internal cargo, airborne monitoring in the event of a nuclear accident, the carriage of VIPs and government passengers.

3. In 2001, the GFS helicopter fleet underwent a phased replacement programme with the eventual introduction of eight new helicopters to further enhance the service capabilities of the department. The helicopter replacement programme costing some \$728 million was completed in early 2003.

## **Relevant deliberations of the Panel**

4. At the Panel meeting on 5 May 2009, the Administration sought the Panel's support for the replacement of two J-41 aircraft and the associated mission equipment with two new jet planes and new mission equipment for GFS. The Finance Committee approved in June 2009 the funding sought for the replacement. The relevant deliberations of the Panel are summarized in the following paragraphs.

### Procurement of the replacement jet planes

5. There was a view that the estimated non-recurrent cost of \$776 million for the two new jet planes was very expensive in comparison with that of the two J-41 aircraft to be replaced, which was about \$140 million when procured in 1997. Concern was also raised about the provision of \$100 million for modifying a new jet plane. There was a query as to whether such extensive modifications to GFS's J-41 aircraft were necessary.

6. According to the Administration, the non-recurrent expenditure of \$776 million for the two new jet planes included the costs of two small multi-purpose jet planes with mission equipment, modification and certification work for the installation of mission equipment, the initial batch of essential spare parts and tools, and training of the aircrew and engineering staff for the operation, maintenance and repair of the new aircraft. For the purpose of estimating the cost of replacing the two serving J-41 aircraft, GFS had conducted market research for a suitable fixed-wing aircraft type based on its operational requirements and found out that available aircraft types that were able to meet GFS's requirements in terms of capability, performance, size and cost-effectiveness were dominated by small jet planes.

7. Regarding the need for carrying out modification of the new GFS aircraft, the Administration advised that there was no off-the-shelf jet plane in the market that met all the requirements of GFS. Therefore, GFS had to procure two fixed-wing aircraft made for general purpose and modify them to accommodate the installation of all the necessary mission equipment and to tailor the aircraft for GFS's operational needs, such as inflight dropping of rescue aids to survivors at sea. With the modification to accommodate all essential mission equipment, the two new aircraft would be able to carry out the full range of services. The Administration considered that this was a more cost-effective solution than procuring a larger fleet with each aircraft being deployed for only limited, dedicated functions. The Administration stressed that GFS's unique operational needs required its aircraft to undergo extensive modification to accommodate different types of mission equipment and to meet the requirements in the Civil Aviation Ordinance (Cap. 448).

Subsequent mandatory certification had also to be carried out to ensure that the aircraft was operationally safe after modification.

8. The Administration added that GFS carried out a wide range of functions, including SAR, emergency medical services, assistance in law enforcement and fire fighting, photography for aerial surveys, and other flying services in support of the work of various government departments and agencies. In other parts of the world, such diverse functions were normally undertaken by different and often highly specialized agencies or military establishment. Their fleet size was considerably larger than that of GFS and there was a higher degree of functional specialization of the aircraft deployed. The aircraft used by military organizations were not subject to civil aviation regulations.

#### Maintenance of aircraft

9. Noting that the two aircraft to be replaced were introduced into service in 1999, members expressed concern about the relatively short serviceable life of GFS's aircraft. An enquiry was raised about the anticipated serviceable life of the replacement jet planes and whether training on the operation and maintenance of the new jet planes would be provided by the manufacturer.

10. The Administration explained that the relatively short serviceable life of the aircraft was due to the fact that GFS's J-41 aircraft constantly flew at altitudes below 3 000 feet where the highly corrosive salt-laden atmosphere brought about a higher rate of wear and tear on the components of J-41 aircraft. The wear and tear on a J-41 aircraft flying at low altitude for one hour would be equivalent to that of a three-hour flight for a commercial aircraft flying at a high altitude. GFS had no information on the anticipated serviceable life of the replacement jet planes. In taking forward the replacement project, GFS would consider laying down in the tender the requirement for the jet planes to be capable of being overhauled after about 10 years' service so that the serviceable life of the jet planes could be extended. Members were advised that following GFS's review of its aircraft fleet in 2008, it was noticed that the level of technical support for the J-41 aircraft from the manufacturer and spare parts suppliers had gradually declined. GFS estimated that there would be a shortage of spare parts for the J-41 aircraft in about four years' time, thus affecting the serviceability of the aircraft and the reliability of GFS's operations. Regarding the training for aircrew and engineering staff for the replacement jet planes, members noted that the non-recurrent expenditure of \$8 million had been earmarked for the purpose.

11. Pointing out that there were many proposals of the Administration concerning procurement of advanced technological equipment where the main

reason for procurement was the discontinuation of technical support and supply of spare parts from the manufacturers, some members questioned why GFS had not sought for a longer guarantee period from the manufacturers and spare parts suppliers. The Administration explained that it depended on the size of the aircraft fleet. Given its relatively small fleet of aircraft, it was not cost-effective for GFS to develop an overhaul programme with the manufacturer.

#### Safety and disposal of the aircraft to be replaced

12. Concern was raised about the safety of the two aircraft to be replaced given that they had to remain in service until 2013 and that they were constantly subject to shortage in the supply of spare parts, extreme weather and poor operating conditions. The Administration responded that GFS proposed to replace the J-41 aircraft as the aircraft manufacturer had ceased the production of the model, such that the spare parts supply had become unreliable and expensive. However, GFS had stocked up sufficient spare parts for maintaining the safe operation of the two J-41 aircraft in the next three to four years.

13. On the disposal of the two J-41 aircraft to be replaced, doubt was raised as to whether there would be any buyer for the obsolete aircraft as there were no spare parts available from the suppliers. The Administration advised that the two J-41 aircraft would be disposed by invitation of tenders in accordance with the established procedures. Members noted that there were two fixed-wing aircraft of GFS and the associated spares and equipment disposed of through an open tender exercise conducted in March 1999, generating revenue of US\$2,648,000 (HK\$20,654,400).

#### **Relevant papers**

14. A list of the relevant papers on the website of the Legislative Council is in **Appendix**.

## Appendix

### Relevant papers on the replacement of aircraft of the Government Flying Service

Meeting	Date of meeting	Paper
Panel on Security	5.5.2009	<a href="#">Agenda</a> <a href="#">Minutes</a> <a href="#">CB(2)1734/08-09(01)</a>

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