

**For discussion
on 6 July 2021**

Legislative Council Panel on Security

**The Strategy of the Government Flying Service on
Making Good Use of Retired Aircraft**

PURPOSE

This paper aims to brief Members on the strategy of the Government Flying Service (GFS) on making good use of retired aircraft.

BACKGROUND

Services and Fleet Composition of the GFS

2. The GFS was established under the Government Flying Service Ordinance (Cap. 322) to provide a wide range of flying services for various Government departments and people in need. These services include search and rescue (SAR), air ambulance, fire fighting, aerial survey and support for law enforcement, etc. The GFS fleet comprises fixed-wing aircraft and helicopters. The fixed-wing aircraft are mainly deployed for such tasks as long range maritime SAR, aerial survey, law enforcement support and tropical cyclone air data collection, while the helicopters are mainly deployed for mountain and maritime SAR, air ambulance, fire fighting, law enforcement support, etc.

Open Tendering for Retired Aircraft

3. The GFS handles retired aircraft in accordance with the established procedures of the Government Logistics Department (GLD), firstly by estimating their residual value through market surveys. If the residual value of a retired aircraft can achieve a reasonable return to the Treasury, the GFS will sell it in the second-hand market by open tender and the revenue will be brought into the Government's account. Two fixed-wing aircraft and eight helicopters retired between 1999 and 2003 were sold via open tender. Please refer to the **Annex** for details.

THE STRATEGY ON MAKING GOOD USE OF RETIRED AIRCRAFT

Circumstances of the Second-hand Market

4. Over the recent decade, global economic uncertainties have affected the aviation market, causing fluctuations and substantially reducing the demand for aircraft in the second-hand market. Moreover, since all GFS aircraft have undergone extensive modifications to carry out various flying missions, buyers in the second-hand market must restore the retired GFS aircraft they purchase at their own expenses to meet airworthiness requirements for general passenger carrying and transport. The relevant expenditure may even be much higher than that of purchasing an aircraft of the same age. Also, approval from the relevant aviation authority is required for the restoration works.

Various Uses of Retired Aircraft

5. Due to the aforesaid factors, market surveys conducted in recent years indicate that buyers in the second-hand market have little interest in purchasing retired GFS aircraft. Therefore, instead of sale by open tender, the GFS has made other arrangements for aircraft retired after 2010 to enable their use for exhibition, internal training and teaching with a view to utilising them in a more flexible manner for fulfilling different needs and benefitting more people. Please refer to the ensuing paragraphs and the **Annex** for the specific arrangements.

(i) The single-engine ZLIN Z242L training aircraft retired in 2015¹

6. In 2018, the GFS organised a three-month **public exhibition** featuring the single-engine training aircraft in collaboration with the Hong Kong Science Museum (HKSM) to deepen the public's understanding of the work of the GFS. The exhibition was well received by the public and the HKSM has expressed interest in putting on an exhibition of the retired single-engine training aircraft on a long-term basis.

¹ For training aircraft, the GFS currently keeps only one light twin-engine DA42NG fixed-wing aircraft for training and inshore patrol purposes. This fixed-wing aircraft provides crew members with additional skill enhancement and practical training opportunities. As the Hong Kong International Airport has imposed restrictions on the landing and taking off of single-engine light aircraft, the GFS's single-engine training aircraft ceased operation in mid-2014. The GFS is handling the retired aircraft in accordance with the established procedures.

(ii) **The two Jetstream 41 fixed-wing aircraft retired in 2016²**

The first Jetstream 41 fixed-wing aircraft for exhibition purpose

7. To echo with the aviation theme of the Kai Tak Runway Park, the GFS, in collaboration with the Energizing Kowloon East Office and other relevant Government departments, have installed a Jetstream 41 fixed-wing aircraft at the park for permanent exhibition since June 2018. During the process, the GFS was responsible for giving professional technical advice such as how to securely fix the airframe of the fixed-wing aircraft, while other Government departments were responsible for providing the venue and carrying out work such as transportation, installation and implementation of relevant safety measures. To enhance attractiveness of the exhibition, the GFS has made use of multimedia and virtual reality to introduce the functions of the fixed-wing aircraft and related aircraft engineering knowledge. The public can scan the QR codes near the aircraft exhibit to join a virtual reality tour of the interior and exterior of the aircraft to learn about its features and functions. The exhibition helps arouse the interest of the public in aviation and enhance their understanding of the work of the GFS. As for the remaining parts of the aircraft, including the engine, they have all been retained in accordance with the established procedures for **educational and training** purposes.

The second Jetstream 41 fixed-wing aircraft for training and educational purposes

8. All GFS aircraft are repaired, modified and maintained by the in-house Engineering Division. The Engineering Division strictly observes guidelines issued by the Civil Aviation Department to ensure that all GFS aircraft comply with the relevant airworthiness standards and aviation safety requirements, thereby enabling the GFS to have adequate aircraft and appropriate equipment for carrying out various missions round the clock throughout the year.

9. To cope with the increasingly heavy workload, the establishments of the Aircraft Engineer and the Aircraft Technician grades in the GFS are gradually expanding. With more inexperienced junior staff joining the Engineering Division, the demand for basic training has substantially increased. Physical aircraft is the key resources for the internal training

² The existing two Challenger 605 fixed-wing aircraft were fully commissioned in 2017 to replace the two Jetstream 41 fixed-wing aircraft that had been in service for 17 years. The latter ceased operation in mid-2016 upon completion of missions.

of GFS aircraft engineering staff, and is particularly important for the accumulation of practical repair experience by junior aircraft technicians. Therefore, the GFS has arranged the second fixed-wing aircraft for the internal training of aircraft engineering staff, with a view to enhancing the standard and efficiency of in-house aircraft maintenance, as well as reducing the wear and tear caused to operational aircraft by such training.

10. In addition, the GFS has cooperated with local educational organisations and tertiary institutions that have offered aircraft maintenance programmes to provide students of these programmes with opportunities for practical training using the physical aircraft during specific time periods without affecting the normal operation of the GFS with a view to nurturing talent for Hong Kong's aviation repair industry. The GFS will examine the effectiveness of training and review the arrangements after 2023 tentatively.

Future Plan

11. Taking into account the past experience, the GFS will consider similar retirement options for the five helicopters³ (including three Super Puma and two EC 155B1 helicopters) that have formally completed testing arrangements on retirement in mid-2020.

12. In view of the downturn in the aviation industry and impact of the pandemic, market survey results indicate that the second-hand market is expected to have little interest and buying capacity in medium and small size helicopters like EC 155B1. As such, the GFS recommends that the two retired EC 155B1 helicopters be dealt with in the following ways:

(i) The first EC 155B1 helicopter

13. As mentioned in paragraph 6 above, the HKSM plans to put a retired single-engine training aircraft on permanent exhibition. For increasing diversity and enjoyment of the exhibition, the HKSM wishes to showcase a retired EC 155B1 helicopter in the exhibition as well. The GFS welcomes and supports the plan.

³ Seven new H175 helicopters have come into full operation since the second half of 2019 to replace the old fleet comprising three Super Puma AS-322 L2 and four EC 155B1 helicopters. While two EC 155B1 helicopters from the old fleet are retained as emergency backup, the remaining five, namely three Super Puma and two EC 155B1 helicopters, have formally proceeded to the retirement stage upon completing the pre-retirement test in mid-2020.

(ii) The second EC 155B1 helicopter

14. Given the status of Hong Kong as an international aviation hub, the Hong Kong Special Administrative Region Government has been actively promoting the development of the aviation industry. Regarding the other retired EC 155B1 helicopter, the GFS will study and examine other options, such as using it for universal professional education purpose.

(iii) The three Super Puma AS-332 L2 helicopters

15. Regarding the three retired Super Puma helicopters, they were mainly deployed for mountain and maritime SAR, air ambulance, firefighting and law enforcement support throughout their almost two-decade long service. With excellent loading capacity, they were able to carry large fire extinguishing equipment to put out hill fires during the season of high fire danger, thereby protecting life and property. In 2008, they even flew to Sichuan to take part in earthquake rescue and post-disaster relief operations, making invaluable contributions.

16. The GFS will consider retaining one Super Puma helicopter that took part in the rescue operations following the Wenchuan earthquake and displaying it at a suitable public venue or exhibition hall, not only to enable members of the public to have a close encounter with a large helicopter, but also to arouse their interest in aviation. The initiative will also serve to recognise Hong Kong's post-quake relief efforts and help deepen the public's understanding of the work of the GFS.

17. We are liaising with interested parties to explore their views on staging outdoor exhibition of the retired Super Puma helicopter. In the process, we have to ensure that a suitable place for the exhibit has been identified at the receiving end. As the airframe of a helicopter comprises many movable parts, we must ensure that adequate safety measures are in place. In particular, the airframe and such parts as the main rotor must be able to withstand inclement outdoor weather conditions like typhoons and heavy rain. The GFS will provide technical support and make advance preparations.

18. With regard to the two remaining Super Puma helicopters, the GFS will closely monitor the market trend and make arrangements in accordance with the GLD's standard procurement procedures in order to bring about the maximum benefits.

CONCLUSION

19. As mentioned above, with reference to past experience and the GLD's established procedures, the GFS will estimate the residual value of retired aircraft through market surveys. If the residual value of a retired aircraft can achieve a reasonable return, we will sell it in the second-hand market by open tender and the revenue will be brought into the Government's account. If the result of the market survey indicates an estimated value far lower than the target level, the GFS will choose other ways to make good use of its residual value, such as using the retired aircraft for training, popular science research, public exhibition purposes, etc. Following the aforesaid strategy, the GFS will decide on the most suitable option for handling retired aircraft that complies with the Government's established procedures.

ADVICE SOUGHT

20. Members are invited to note the content of this paper and give their views.

Security Bureau
Government Flying Service
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Government Flying Service - Overview of the Retired Fleet

Aircraft model	Year of service	Year of retirement	Status	Remarks
3 Black Hawk S70 helicopters	1992	2003	Sold (Through open tender)	
5 Sikorsky S76 helicopters	1990 & 1991	2002 & 2003	Sold (Through open tender)	
2 Beechcraft Super King Air B200 twin-propeller fixed-wing aircraft	1987 & 1988	1999	Sold (Through open tender)	
ZLIN Z242L single propeller fixed-wing aircraft	2009	2015	Hong Kong Science Museum expressed interest in using the fixed-wing aircraft for permanent public exhibition.	<p>It was displayed at a public exhibition at Hong Kong Science Museum from May to August in 2018.</p> <p>Sales tender was cancelled in 2020 due to voting price far below target and the aircraft is now temporarily stored in GFS hangar.</p>

Aircraft model	Year of service	Year of retirement	Status	Remarks
Jetstream 41 twin-propeller fixed-wing aircraft	1999	2016	For permanent display at the Kai Tak Runway Park.	Currently managed by the Leisure and Cultural Services Department. Removed aircraft parts and components will be donated and distributed in equal manner to local educational institutions and universities for aviation training purposes.
Jetstream 41 twin-propeller fixed-wing aircraft	1999	2016	For internal technical and practical training.	For newly recruited GFS engineering staff.
			For practical and technical training for educational institutions.	More than 100 post-secondary students have received practical training since July 2018 with more than 6000 teaching hours.