For information

Legislative Council Panel on Security
Replacement of Fireboat No. 4

Purpose

This paper informs Members of our proposal to procure a new medium fireboat with up-to-date features to replace the existing Fireboat No. 4 for the Fire Services Department (FSD).

Background

The existing fireboat fleet

2. The existing fireboat fleet comprises two major fireboats, three medium fireboats, one personnel carrier, one diving support vessel, two diving speedboats, one maintenance reserve medium fireboat and one reserve catamaran rescue boat. Each fireboat plays a specific role to provide water-based fire and rescue services in Hong Kong waters.

3. At present, the two major fireboats (Fireboat Elite and Fireboat Excellence) and the three medium fireboats (Fireboats No. 2, 4 and 5) are strategically deployed to provide maritime fire coverage at specific areas. Details of the coverage are at **Annex A**. As regards the other vessels, the diving support vessel and the two diving speedboats are provided for diving rescue purposes, but they are also at times mobilized to support fire-fighting operations in shallow waters. The catamaran was a rescue boat for the old Kai Tak Airport. It has been modified to serve as a reserve vessel to cater for contingency.

The existing Fireboat No. 4

4. Commissioned in 1985, Fireboat No. 4 is one of the three purpose-built steel-hulled medium fire-fighting vessels. It has on board fire pumps, deck monitors, foam-making equipment, salvage suction equipment and an inflatable dinghy for use in shallow waters. It is currently deployed at the Aberdeen Fireboat Station to provide maritime fire coverage to the Aberdeen Harbour and Typhoon Shelter, East Lamma Channel, Tai Tam Bay, Lamma Island and Lamma Power Station.

Justification for the Proposed Replacement

5. The Director of Marine (D of M) advises that the normal life expectancy of steel-hulled vessels in the Government fleet is about 20 years, after which the vessels will be beyond economical repair. With more than 20 years of service, Fireboat No. 4 is reaching the end of its normal serviceable life. Therefore, we propose to replace it by a new vessel in 2008.

6. It has become increasingly difficult and costly to maintain Fireboat No. 4 in good operating condition. Suitable spare parts for its main engines, gearboxes and fire pumps, which are all obsolete models, are difficult to find in the market. Replacement of the main engines, gearboxes and fire pumps will cost about $4 million. As the vessel ages further, the annual maintenance cost is estimated to increase from $0.6 million in 2005/06 to $0.93 million in 2008/09. Also, as Fireboat No. 4 ages, the docking time for repair and maintenance of the vessel will continue to increase, thereby affecting its availability. In 2006, Fireboat No. 4 is scheduled to be docked for repair and maintenance for about 55 days.[1]

7. Besides the increasing maintenance cost and docking time, the design of Fireboat No. 4 can hardly meet the current operational requirements due to its intrinsic limitation of speed, sea keeping capability[2] and fire-fighting capacity. In order to meet the operational requirements nowadays, the replacement vessel will have higher speed and better sea keeping capability, as well as other enhanced and upgraded features as summarized below -

(a) the replacement vessel can operate at a higher speed of 22 knots instead of the present 8 knots of Fireboat No. 4, thus enabling quicker response to incident scenes;

(b) in addition to the two fire pumps driven by the two main engines via the power-take-off system, which are similar to the design of Fireboat No. 4, an independent fire pump will be installed in the replacement vessel to ensure the reliability of the fire-fighting capability. Among other things, the fire pump will enable higher water/foam output for extinguishing fire; and

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[1] Apart from the condition of the vessel, the duration of docking for repair and maintenance in a particular year is also affected by factors such as the scheduled survey cycle of the vessel, the availability of spare parts and the number of accidents occurred to the vessel in that year.

[2] Sea keeping capability is the ability of a vessel to remain stable, and reduce the seasickness of the crew and passengers on board under rough sea conditions.

(c) the fuel tank and fresh water tank capacities of the replacement vessel will be 4 200 litres and 460 litres respectively, which are twice as large as that of the existing ones. The enhancement will generate higher engine power, and enable greater endurable hours and longer operating time.

8. The Standing Committee on Government Craft agreed with the proposed replacement of Fireboat No. 4.

Financial Implications

9. The estimated non-recurrent cost of the replacement vessel with the necessary fire-fighting and communications equipment is $13 million. A detailed breakdown is at **Annex B**. This does not include the cost of the portable fire-fighting and communications equipment as such equipment currently on board the existing Fireboat No. 4 is still in serviceable condition. The equipment will be retained and transferred to the replacement vessel for use.

10. The annual recurrent cost for Fireboat No. 4 is $0.6 million. The additional annual recurrent cost for the replacement vessel is estimated to be $1.4 million. The more than twofold increase in the annual recurrent cost is to cover mainly the additional maintenance cost ($0.6 million), including the procurement of spare parts, and to cover the additional fuel cost ($0.8 million) attributable to higher vessel power (22 knots for the replacement vessel vs 8 knots for the existing fireboat) and in turn enhanced sailing, maritime fire-fighting and rescue capabilities. The additional recurrent cost will be absorbed by FSD's existing resources.

11. No additional staff cost will be involved since the Director of Fire Services (D of FS) will deploy the existing staff to man the replacement vessel.

12. D of FS estimates that $7.8 million and $5.2 million will be required for 2007-08 and 2008-09 respectively.

Implementation Plan

13. We plan to seek funding approval from the Finance Committee (FC) in May 2006. Subject to the funding approval by FC, details of the implementation plan are as follows -

	Activity	Target completion date
(a)	Design and preparation of tender specifications	December 2006
(b)	Tendering	March 2007
(c)	Tender evaluation and award of contract	April 2007
(d)	Construction and delivery of vessel	April 2008

Interim Measure

14. Prior to the commissioning of the replacement vessel in 2008, the Government Dockyard will carry out necessary repairs to the existing Fireboat No. 4 to maintain its service at an acceptable standard. D of FS will temporarily deploy a maintenance reserve medium fireboat to stand in during the downtime of Fireboat No. 4. D of M will reshuffle and shorten the docking schedules of other fireboats as far as practicable.

Security Bureau
28 March 2006

Annex A

Deployment of major and medium fireboats in Hong Kong waters

Name of Fireboat (Category)	Berthing Base	Areas of Deployment	Functions
Fireboat Elite (Major)	Central Fireboat Station	Victoria Harbour & Eastern Waters	To provide fire coverage to vessels berthed or anchored in the harbour, and provide assistance to on-shore installations in the close proximity.
Fireboat Excellence (Major)	Tsing Yi Fireboat Station	Western Waters	To provide fire coverage to oil tankers and container ships berthed at the nearby oil terminals, potentially hazardous installations, container terminals, floating docks and shipyards.
Fireboat No. 2 (Medium)	Mui Wo Fireboat Station	Western Waters	To provide fire coverage to vessels berthed or anchored in Lantau Island, and protect on-shore residents of Lantau Island, Cheung Chau, Peng Chau, Tai A Chau and Hei Ling Chau.
Fireboat No. 4 (Medium)	Aberdeen Fireboat Station	Southern Waters	To provide fire coverage to Aberdeen Harbour and Typhoon Shelter, East Lamma Channel, Tai Tam Bay, Lamma Island and the Lamma Power Station.
Fireboat No. 5 (Medium)	Tuen Mun Fireboat Station	Western Waters	To provide fire coverage to the River Trade Terminal, Tuen Mun Area 38, and supplement the level of fire protection to the adjacent Hong Kong International Airport, potentially hazardous installations, Sha Chau and the future Tuen Mun Port Development.

Annex B

Detailed breakdown of the non-recurrent cost for procurement of the replacement fireboat

			$ million
(a)	Basic vessel		10.50
(b)	Spare parts		1.15
	(i) Spare main engine, gearbox, generator set, fire pump set, etc.	0.80	
	(ii) On board running spares	0.30	
	(iii) Electronic spares and testing tools	0.05	
(c)	Payment to Electrical and Mechanical Services Trading Fund (EMSTF) for project management		0.15
(d)	Contingency (10%)		1.20
		Total	**13.00**