

## **ITEM FOR FINANCE COMMITTEE**

### **HEAD 100 – MARINE DEPARTMENT Subhead 603 Plant, Vehicles and Equipment**

Members are invited to approve a new commitment of \$46,400,000 for the replacement of four patrol launches of the Marine Department.

#### **PROBLEM**

The Marine Department (MD) needs to replace four patrol launches, namely “Marine 1”, “Marine 2”, “Marine 7” and “Marine 23”, in order to effectively discharge its duties in marine traffic control and enforcement of marine regulations in Hong Kong waters.

#### **PROPOSAL**

2. The Director of Marine, with the support of the Secretary for Transport and Housing, proposes to replace four patrol launches at an estimated cost of \$46,400,000.

#### **JUSTIFICATION**

##### **Need for replacement**

3. The four patrol launches proposed to be replaced, together with another 21 launches, are assigned to patrol different water areas of Hong Kong on a daily basis to monitor and regulate marine traffic, to carry out law enforcement duties (including inspecting vessels to ensure compliance with marine legislation governing vessel safety standards, vessel licensing or registration matters, qualifications of personnel on board, etc.) and to respond to marine accidents.

/4. ....

4. The four launches which have been in service for 18 years since 1995 are approaching the end of their serviceable life. Taking into account the high maintenance costs and the expected increase in downtime for launches of such age, MD considers it more cost-effective to replace them than continuing to maintain them. Given the heavy marine traffic of both passengers and cargo in Hong Kong waters with over 190 000 vessel arrivals in 2012<sup>1</sup>, MD also sees the need to replace the four patrol launches in order to maintain effective patrolling services, and to ensure safe and orderly operation of the Port.

5. Taking into account the lead time required for completing the procurement, including tendering, construction, sea trial and delivery, etc., it is necessary for MD to commence the replacement process now to ensure continued operational capability.

### **Improvements from the proposed launches**

6. There will be a number of improvements in the design and fittings of the proposed launches, as set out below –

- (a) They will have a larger size: the size of the new launches will increase to about 16m (length) x 4.5m (breath) x 1.7m (draught) as compared with the existing launches which measure 13.7m (length) x 4.2m (breath) x 1.13m (draught). The design speed will be maintained at 20 knots. With a larger size and the design speed of 20 knots<sup>2</sup>, the proposed launches will enable a more stable working environment on board in exposed sea areas and speedier arrival on the scene of marine incidents.
- (b) The new launches will be fitted with up-to-date equipment for navigation, communication and performance of patrol duties, including Automatic Identification System (AIS), digital radar, echo sounder, powerful search light, loudhailers, etc. These will enable more efficient and effective provision of patrol services to the maritime communities.
- (c) Additional facilities will be installed. They include a second generator to ensure adequate backup of electrical power for 24-hour operation, larger water and fuel tank capacities to enable longer voyages, and a multi-tray cabinet and other fittings ready for use of

/computers .....

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<sup>1</sup> The figure includes arrivals of ocean-going vessels, river trade vessels and cross-boundary ferries.

<sup>2</sup> The existing launches are currently operating below 20 knots due to aging.

computers and electronic devices to provide a better working environment similar to a mobile office which will facilitate administrative and operational work by the duty officer and crew on board.

- (d) Environment-friendly measures will be adopted. They include the installation of diesel engines in compliance with the latest emission control standards and the use of solar panel lighting system to reduce fuel consumption by generators for electrical appliances.

7. With improved design and enhanced equipment, the new launches can operate for a longer duration without the need for frequent replenishments at base or fuel stations. They can thus provide uninterrupted service over a larger patrol area. In overall terms, they can provide better support to MD in performing its daily regulatory duties.

## FINANCIAL IMPLICATIONS

### Non-recurrent Expenditure

8. We estimate that the cost of the proposed replacement of the four patrol launches will be \$46,400,000, with the breakdown as follows –

	Unit cost (\$'000)	Total cost for four launches (\$'000)
(a) Glass reinforced plastic (GRP) hull with associated machinery and equipment	7,600	30,400
(b) Electronic equipment on board	600	2,400
(c) Solar power system	250	1,000
(d) Spare parts	1,200	4,800
(e) Project management charges	1,000	4,000
(f) Contingency [about 10% of items (a) to (d) above]	950	3,800
<b>Total</b>	<b>11,600</b>	<b>46,400</b>

9. On paragraph 8(a) above, the estimated expenditure of \$30,400,000 is for the design and construction of the GRP hull with all the associated machinery and equipment such as main engines, generators, anchor, etc.

10. On paragraph 8(b) above, the estimated expenditure of \$2,400,000 is for the electronic navigational aids and communications systems on board such as digital radar, compass, Global Positioning System, Very High Frequency Radio-telephone, AIS, etc.

11. On paragraph 8(c) above, the estimated expenditure of \$1,000,000 is for the solar panel lighting system.

12. On paragraph 8(d) above, the estimated expenditure of \$4,800,000 is for spare parts required to keep the proposed patrol launches in a good state of operational preparedness.

13. On paragraph 8(e) above, the estimated expenditure of \$4,000,000 is for project management charges for the procurement and construction of the new launches.

14. On paragraph 8(f) above, the estimate of \$3,800,000 represents about 10% contingency on the cost items as set out in paragraph 8(a) to (d) above.

15. The estimated cash flow requirement is as follows –

<b>Year</b>	<b>\$'000</b>
2014 -15	1,200
2015 -16	22,400
2016 -17	22,800
<b>Total</b>	<b>46,400</b>

### **Recurrent Expenditure**

16. The recurrent expenditure of the four patrol launches is estimated to be about \$4,324,000<sup>3</sup> in 2017-18 and \$7,924,000 per annum from 2018-19 onwards. This will partially be offset by the annual savings of \$4,311,000 from the current recurrent expenditure of the four decommissioned launches. The additional recurrent expenditure will thus be \$13,000 for 2017-18 and \$3,613,000 from 2018-19 onwards. The increase is due to the higher annual maintenance cost for the more powerful engines, an additional generator and other more advanced

/equipment .....

<sup>3</sup> The recurrent expenditure for 2017-18 is lower than those of the subsequent years because there is a one-year warranty (which will expire in April 2018) for maintaining the new launches and the equipment on board and docking services.

equipment/machinery of the new launches and higher fuel consumption. A higher annual fuel cost will be incurred due to the larger size of the new launches which leads to a 91% increase in the ship's displacement<sup>4</sup>, hence the need for increased horsepower to maintain the same speed and electricity supply for equipment on board. No additional staff cost will be incurred. The requirements of recurrent expenditure will be reflected in the Estimates of the relevant years.

## IMPLEMENTATION PLAN

17. We plan to implement the replacement project in May 2014 according to the following timeframe –

Activities	Target Completion Date
<b>(I) Outsourcing Project Management for Vessel Construction</b>	
(a) Preparation of tender documents for consultancy services	July 2014
(b) Tendering, evaluation and award of consultancy contract	February 2015
<b>(II) Vessel Construction and Delivery</b>	
(c) Preparation of tender documents	April 2015
(d) Tendering invitation	July 2015
(e) Tender evaluation and award of contract	January 2016
(f) Construction, inspection, delivery trial and commissioning	March 2017

## PUBLIC CONSULTATION

18. We consulted the Legislative Council Panel on Economic Development on 16 December 2013 on the proposal. Members supported the proposal but requested additional information, including a list showing the number of patrol launches which different government departments operate. Such information is summarised in paragraph 19 below.

**/BACKGROUND .....**

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<sup>4</sup> A ship's displacement is the weight of the water that a ship displaces when it is floating.

**BACKGROUND**

19. Apart from MD, patrol launches are deployed by the Hong Kong Police Force, Agriculture, Fisheries and Conservation Department and Customs and Excise Department for law enforcement purpose under the respective legislation. There are a total of 141 patrol launches as of end 2013. A table showing the different types of patrol launches operated by these departments is at the Enclosure.

Encl.

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Transport and Housing Bureau  
January 2014

**Number of Vessels for Patrol Operations**

<b>Vessel Type</b>	<b>Marine Department</b>	<b>Hong Kong Police Force</b>	<b>Agriculture, Fisheries and Conservation Department</b>	<b>Customs and Excise Department</b>	<b>Total</b>
Mechanised Daughter Boats	-	-	-	7	7
Mechanised and Non-mechanised Inflatable Boats	-	5	-	2	7
Minor Mechanised Vessels & Dinghies	-	10	3	-	13
Major Mechanised Vessels	21	33	4	7	65
High Speed Craft (large type)	-	4	-	3	7
High Speed Craft (medium type)	4	28	8	2	42
<b>Total</b>	<b>25</b>	<b>80</b>	<b>15</b>	<b>21</b>	<b>141</b>

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