

## **ITEM FOR FINANCE COMMITTEE**

### **CAPITAL WORKS RESERVE FUND**

### **HEAD 708 - CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT**

#### **Hong Kong Police Force**

#### **New Subhead “Replacement of Digital Radar Security System for the Marine Region”**

Members are invited to approve a new commitment of \$39,785,000 for the replacement of the Digital Radar Security System of the Marine Region of the Hong Kong Police Force.

### **PROBLEM**

The Hong Kong Police Force (HKPF) needs to replace an existing Digital Radar Security System (DRSS) to maintain the capability of crime prevention and detection at sea and to maintain maritime security.

### **PROPOSAL**

2. The Commissioner of Police, with the support of the Secretary for Security, proposes to replace the existing DRSS at an estimated cost of \$39,785,000.

### **JUSTIFICATION**

#### **Importance of the DRSS**

3. The DRSS, which was launched in 2003 and installed at the Marine Regional Command and Control Centre as well as the Small Boat Division of the Marine Region, receives raw radar data from the Vessel Traffic Services System of the Marine Department. The DRSS processes the raw data and converts it into operational and navigational information to meet the specific requirements of the Marine Police in maintaining law and order at sea.

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4. The DRSS provides invaluable information to support anti-smuggling and anti-illegal immigration operations by tracking, monitoring and locating suspicious vessels. Moreover, it provides real time information to coordinate search and rescue operations in case of maritime accidents and hazards as well as to conduct marine traffic control during fireworks displays and other maritime events. In addition, the radar signals are crucial to bolster action plans against possible maritime terrorist threat. The system also records and provides printouts of vessel positions and movements which are essential for presentation as Court evidence.

### **Need for timely replacement of the existing DRSS**

5. The existing DRSS has been in place for about ten years. The normal serviceable life span of similar systems is around 13 years and the existing DRSS is approaching the end of its serviceable lifespan in the coming three years. The Electrical and Mechanical Services Trading Fund has examined the system and found that a number of its components were showing signs of aging which might affect the reliability of the system. We need to start preparation work by mid-2013 for the replacement so as to allow sufficient lead time for tendering, system development and testing. The proposed new system is planned to be commissioned in 2016-17.

### **Benefits of the replacement proposal**

6. Timely replacement of the system will ensure continued effectiveness of the Marine Police in preventing and detecting crimes, and performing search and rescue operations in local waters. This will help support our maritime trade and regional transport hub for cargo vessels and cruise liners by keeping Hong Kong free from the threat of terrorism and crimes. This will also be conducive to maintaining Hong Kong as one of the safest and most stable places in the world.

7. The proposal will also enable us to take advantage of the latest available technology to enhance the performance of the system. The enhancements are summarised as follows –

- (a) the processing power of the proposed new system will be greatly enhanced to strengthen the current service provision. For instance, the current signals for fast and small vessels are intermittent under inclement weather whereas the new radar data processors with enhanced tracking capability can provide more stable signals to minimise the risk of losing track of fast and small vessels;

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- (b) the proposed new system can support viewing signals from all radar sites at a single terminal which will enable holistic monitoring of the entire Hong Kong waters and improve the efficiency of the police officers significantly. Currently, individual DRSS terminals can only preview signals from a maximum of four radar sites at any one time. This situation is not ideal as police officers have to switch from one terminal to another in order to trace the movement of targets covered by other radar sites; and
- (c) the proposed new system can capture real time signals and playback signal history simultaneously at a single terminal which will avoid the loss of important information for further analysis and investigation. In contrast, due to the limited processing power of the existing system, playback of signal history of target vessels and receipt of real time signals cannot be shown on the same terminal at the same time.

## FINANCIAL IMPLICATIONS

### Non-recurrent Expenditure

8. The total non-recurrent cost for replacing the DRSS is estimated to be \$39,785,000. The detailed breakdown is as follows –

	<b>\$ '000</b>
(a) System and workstation hardware	9,180
(b) System and workstation software	7,650
(c) Site preparation and transition	3,393
(d) Implementation services	15,945
(e) Contingency [10% of items (a) to (d)]	3,617
<b>Total</b>	<b>39,785</b>

9. On paragraph 8(a) above, the estimated expenditure of \$9,180,000 is for the supply of system hardware that covers workstation consoles, network and radar interface equipment and spare parts required to keep the system operational.

10. On paragraph 8(b) above, the estimated expenditure of \$7,650,000 is for the acquisition of computer software that includes operating system software, interface software and workstation software.

11. On paragraph 8(c) above, the estimated expenditure of \$3,393,000 is for site preparation and system transitional work to ensure an uninterrupted service during system migration.

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12. On paragraph 8(d) above, the estimated expenditure of \$15,945,000 is for implementation services associated with hardware installation, software customisation, interfacing, system integration, testing, data conversion and project management.

13. On paragraph 8(e) above, the estimated expenditure of \$3,617,000 represents 10% of the contingency on the items 8(a) to 8(d).

14. The estimated cash flow requirement is as follows –

<b>Year</b>	<b>\$ '000</b>
2013 – 14	600
2014 – 15	593
2015 – 16	2,800
2016 – 17	33,342
2017 – 18	2,450
<b>Total</b>	<b>39,785</b>

### **Recurrent Expenditure**

15. The estimated annual recurrent cost for maintenance of the proposed new system will be \$4,000,000 in a full year from 2018-19 onwards, representing an increase of about \$1,900,000 over that of the existing system (\$2,100,000 for 2012-13). The increase is mainly due to the adoption of advanced technologies to meet the operational need of Marine Police. No additional staff cost will be incurred. The requirements of recurrent expenditure will be reflected in the Estimates of the relevant years, with the breakdown as follows –

	<b>2017-18</b>	<b>2018-19</b>
	<b>\$'000</b>	<b>onwards</b>
	<b>\$'000</b>	<b>\$'000</b>
(a) Maintenance cost of the new DRSS	1,000	4,000
<u>Less</u>		
(b) Maintenance cost of the existing DRSS	(2,100)	(2,100)
<b>Total</b>	<b>(1,100)</b>	<b>1,900</b>

16. On paragraph 15(a) above, the estimated annual expenditure of \$4,000,000 is for new DRSS maintenance. The new system will commission in December 2016 but it will incur maintenance cost only from January 2018 after expiry of the one-year warranty period. The estimated \$1,000,000 maintenance cost for 2017-18 is a pro-rata figure of the full year cost.

17. On paragraph 15(b) above, the estimated annual expenditure of \$2,100,000 is for the existing DRSS maintenance which will cease operation from January 2017 upon acceptance of the new system.

## IMPLEMENTATION PLAN

18. Subject to the approval of the Finance Committee (FC), we plan to implement the replacement project according to the following schedule –

	Activity	Target completion date
(a)	Preparation of tender documents	November 2013
(b)	Tendering, evaluation and award of contract	August 2014
(c)	Detailed system design	February 2015
(d)	Equipment manufacture, delivery and installation	June 2016
(e)	System development, testing and training	December 2016
(f)	Commissioning of the system	December 2016

## PUBLIC CONSULTATION

19. We consulted the Legislative Council Panel on Security on 1 March 2013. Members supported the proposal.

## BACKGROUND

20. The existing DRSS was approved by the FC on 22 October 1999 vide FCR(1999-2000)40, with an approved commitment of \$16,500,000 for the replacement of the analogue Radar Surveillance System of the Marine Police with a digital system. The existing DRSS was launched in 2003 and has proven to be a mission critical system supporting the policing business.

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