

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 Marine Police Central Command System and its Electro-Optical Sensors as well as the Procurement of New Sensors”

Members are invited to approve a new commitment of \$54,229,000 for the replacement of the Marine Police Central Command System and its seven Electro-Optical Sensors as well as the procurement of two new Electro-Optical Sensors.

PROBLEM

The existing Central Command System (CCS) and its seven land-based Electro-Optical Sensors (EOSs) of the Marine Region of the Hong Kong Police Force (HKPF) need to be replaced as they are approaching the end of their serviceable life. Besides, two additional new EOSs are required to strengthen the operational capability and efficiency of the Marine Police in law enforcement and protection of public safety.

PROPOSAL

2. The Commissioner of Police, with the support of the Secretary for Security, proposes to replace the existing CCS and its seven land-based EOSs, and procure two additional new EOSs at an estimated total cost of \$54,229,000.

/JUSTIFICATION

JUSTIFICATION

Importance of the CCS and EOSs

3. The CCS of the Marine Police is used in monitoring the offshore waters and co-ordinating marine operations by the Marine Region. It comprises EOSs, central servers, consoles, workstation hardware and software, etc. The EOSs are for the detection, recognition and identification of objects at sea. Each EOS comprises (a) a long range daylight camera; (b) a thermal imager (TI) which works by detecting the temperature difference between different objects at night and during periods of low visibility (e.g. on foggy days); and (c) a pan-tilt platform for controlling the EOSs. The existing CCS and its seven EOSs have been in use since October 2010 and have a projected lifespan of approximately ten years.

4. Operators at HKPF's Marine Regional Command and Control Centre (RCCC MAR) are able to conduct round-the-clock monitoring over the majority of the Hong Kong Special Administrative Region (HKSAR) sea boundary and waters within. The EOSs are usually placed at remote external locations, locating suspicious vessels or targets and tracking them during day time, at night and during periods of low visibility, and displaying them on the console at the RCCC MAR. Locations not covered by the CCS often require monitoring by police craft deployed there. Therefore, HKPF proposes to install EOSs at two additional locations in order to strengthen the operational capability and efficiency of the Marine Police in law enforcement and protection of public safety (e.g. assisting in maritime search-and-rescue (SAR) operations).

5. The CCS plays an instrumental role in effectively safeguarding the HKSAR sea boundary against illegal activities, such as illegal immigration and smuggling, as well as establishing a potent defence system against the threat of maritime terrorism. Between 2017 and 2019, the Marine Region detected 359 illegal immigration cases leading to the arrest of 983 illegal immigrants (IIs) by the Marine Region. In addition, the Region detected 79 smuggling cases resulting in the arrest of 97 persons and seizure of over \$268 million of contraband.

Timely System Replacement and Upgrade

6. The existing CCS has been in use for over nine years since its rollout in October 2010. The current maintenance contract is due to expire in late 2021. Subject to any extension of maintenance services and availability of parts and components, the maintenance contract can be extended until September 2022, and the system will have exceeded its projected serviceable life by then. Furthermore, the system has experienced increasing fatigue problems in recent years, causing frequent service suspension. The TIs, which are a key component of the CCS, are showing clear signs of ageing with associated maintenance issues.

/There

There is thus a need for HKPF to start preparatory work for replacing the existing CCS by mid-2020 so that the new system can commission in 2022-23 in view of the lead time for tendering, system development and testing.

7. When replacing the old system, we will take the opportunity to upgrade it as follows –

- (a) Two additional EOSs will be installed at Tsim Bei Tsui (TBT) in Yuen Long and at Fan Lau (FL) on the south-western tip of Lantau Island. With two more EOSs, the coverage of the new CCS will be expanded¹, thereby enhancing detection capability.
- (b) With the development of EOS technology, we can source new equipment with improvement in video quality to enable better recognition of target vessels and a swifter evaluation of incidents at sea and of the response required.

8. TBT, located at the western side of Hong Kong in close proximity to the Mainland, has seen the frequent occurrence of illegal entry and cross-boundary smuggling of high value contraband. Between 2017 and 2019, there were 44 illegal immigration cases with 51 IIs arrested. During the same period, there were 19 smuggling cases detected with an estimated seizure value of over \$59.78 million and 23 persons arrested. The proposed new EOS would strengthen the coverage in the north of Deep Bay, and facilitate the two Police Barge Operating Platforms located in Deep Bay as well as the shore-based TBT Police Post to effectively deploy small craft to intercept these IIs and interdict smuggling activities.

9. FL, on the south-western tip of Lantau Island, is only one nautical mile from HKSAR's Boundary of Administration and is a frequent landing location of IIs. Between 2017 and 2019, three illegal immigration cases were detected in the area with seven IIs arrested.

10. FL is also adjacent to the busy high-speed ferry channel between Hong Kong and Macau. Over the past few years, there have been a number of cases of vessel collisions. One collision occurred to the west of FL leaving the body of the sampan's coxswain missing; another incident occurred close to the nearby island of Siu A Chau, with over 120 persons injured. The sea area surrounding FL

/faces

¹ Including seven existing EOSs at East Ping Chau, Tai Long Au, Waglan Island, Bluff Head, Shek Kwu Chau, Kau Yi Chau and Black Point, two proposed additional EOSs at TBT and FL, as well as the one at the Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Link Road which was installed under the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road" project (844TH PWSC(2011-12)31) in 2018 and will be re-connected to the new CCS under this proposal.

faces not only maritime safety issues, but also offences such as illegal trawling. To tackle the maritime incidents in the vicinity of FL, we propose installing a new EOS there to enable the Marine Police to effectively and quickly vector appropriate units to the scene to conduct SAR operations.

11. The proposal to install new EOSs at TBT and FL will enable virtual patrols to be conducted through RCCC MAR, enabling a more comprehensive monitoring of these areas of strong policing and security interest. In handling incidents, the Marine Police will be able to quickly deploy and more effectively manage resources. When undertaking SAR operations, the EOS video signals will enable commanders at RCCC MAR to make an effective early appraisal of the emergency situation without the need to wait for a police vessel to arrive at scene to conduct evaluation and make reports.

FINANCIAL IMPLICATIONS

Capital Expenditure

12. The total capital expenditure is estimated to be \$54,229,000, covering the installation and connection of replacement EOSs at seven existing sites (namely East Ping Chau, Tai Long Au, Waglan Island, Bluff Head, Shek Kwu Chau, Kau Yi Chau and Black Point), new EOSs at two other sites (i.e. TBT and FL) and the re-connection of the existing EOS at the HZMB Hong Kong Link Road to the upgraded CCS. The detailed breakdown is as follows –

	\$ '000
(a) EOS hardware and software	20,363
(b) CCS central servers, consoles, workstation hardware and software	12,430
(c) Communications network service and telecommunications equipment	6,251
(d) Site preparation	4,600
(e) System implementation and support services	5,655
(f) Contingency [10% of items (a) to (e) above]	4,930
Total	54,229

13. On paragraph 12(a) above, the estimate of \$20,363,000 is for the acquisition of hardware and software of EOSs for nine EOS sites, including long range daylight cameras, TIs, pan-tilt platforms for controlling EOSs, uninterruptible power supply, and for connection of the existing EOS at the HZMB Hong Kong Link Road to the new CCS.

14. On paragraph 12(b) above, the estimate of \$12,430,000 is for the acquisition of hardware and software of the CCS, including central servers, consoles, workstations, RCCC MAR's wall display as well as recording and playback facilities.

15. On paragraph 12(c) above, the estimate of \$6,251,000 is for the procurement of communications network equipment, including microwave links equipment, and for the establishment of private data network connecting to the equipment rooms of the two new EOS sites and the RCCC MAR.

16. On paragraph 12(d) above, the estimate of \$4,600,000 is for site preparation at EOS sites and RCCC MAR.

17. On paragraph 12(e) above, the estimate of \$5,655,000 is for the acquisition of implementation services, including project management, system installation and configuration services.

18. On paragraph 12(f) above, the estimate of \$4,930,000 represents a 10% contingency on the total cost of items in paragraphs 12(a) to 12(e).

19. The estimated cash flow requirements are as follows –

Year	\$ '000
2020-21	2,725
2021-22	3,391
2022-23	45,711
2023-24	2,402
Total	54,229

/Recurrent

Recurrent Expenditure

20. HKPF estimates that when the new system is initially launched in 2022-23², the recurrent expenditure is \$903,000 and will increase to \$7,829,000 in a full year from 2024-25 and onwards, representing a decrease of about \$2,932,000 from that of the existing system which is about \$10,761,000³. No additional staff cost will be incurred. The breakdown is as follows –

	2022-23	2023-24	2024-25 and onwards
	\$'000	\$'000	\$'000
Proposed CCS			
(a) Hardware and software maintenance	0	3,313	6,625
(b) Communications network service	813	1,084	1,084
(c) Spectrum licence fee	90	120	120
Total	903	4,517	7,829

IMPLEMENTATION SCHEDULE

21. HKPF estimates the schedule for project implementation as follows –

Activity	Tentative Completion Date
(a) Tender preparation	March 2021
(b) Tendering and contract award	September 2021
(c) Remote site preparation	March 2022
(d) Marine equipment room and RCCC site preparation	March 2022
(e) Equipment delivery and installation	May 2022
(f) Acceptance tests, training and commissioning	September 2022

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² Subject to any extension of maintenance services and availability of parts and components, the existing CCS can continue to operate until September 2022, involving an expenditure of \$5,380,500.

³ This amount includes the full-year annual maintenance cost of the existing system and existing rental cost of the leased lines, and will be saved from October 2022 onwards.

PUBLIC CONSULTATION

22. We consulted the Legislative Council Panel on Security on the proposal on 5 March 2019. Members had no objection to the submission of the proposal to the Finance Committee.

Security Bureau
Hong Kong Police Force
July 2020