For discussion
on 18 March 2014

Legislative Council Panel on Security

Replacement of Radio Communications System of the Operations Department of the Independent Commission Against Corruption

PURPOSE

This paper seeks Members' support for the proposal to replace the existing radio communications system of the Operations Department of the Independent Commission Against Corruption (ICAC) with a new radio communications system (the proposed system).

BACKGROUND

2. The existing radio communications system has been operating since 2002, and plays an integral part in supporting investigations and operations carried out by officers of the Operations Department in the fight against corruption. With a normal life span of ten to 15 years, the existing system is approaching the end of its serviceable life and cannot be extended to meet the operational needs of the department.

JUSTIFICATIONS

Need for replacement of the existing system

3. Built on a conventional narrowband technology, the existing system experiences the following major problems:

(a) the technology employed by the existing system is now obsolete and phased out. Repair and maintenance of the system is becoming increasingly difficult as a result of diminishing availability or non-availability of spare parts. Long-term maintenance of the system is considered infeasible;

(b) the frequency band allocated to the existing radio channels is susceptible to interference from other radios commonly available in the local market and operating in similar frequency bands. The existing system, however, cannot be upgraded to operate in other interference-free frequency bands;

(c) the existing system is not compatible with more advanced equipment introduced in recent years, rendering it infeasible for an upgrade to provide advanced functions like higher encryption level; and

(d) there has been a significant deterioration of radio communications coverage in the past decade as a result of rapid urban development. Coverage expansion or capacity improvement for the existing system is not feasible due to its obsolete technology.

4. There is an imminent need to acquire a new system in order to ensure the performance, efficiency and effectiveness in discharging the enforcement duties by the Operations Department.

The proposed system and its benefits

5. The proposed system will replace the existing obsolete system using the latest wireless technologies and system design. It will provide better support for the work of the Operations Department with the following key benefits –

(a) adopting design of open standards which are widely used by the industry, easy maintenance and upgrading as well as equipment sourcing from multiple vendors can be assured for the proposed system;

(b) taking advantage of the latest technologies, the proposed system will offer better protection against interference. It will work on dedicated frequency bands which are allocated for the sole use of the Government and will be less susceptible to interference;

(c) using advanced encryption and authentication algorithms, eavesdropping of the communication or unauthorized access to the proposed system are almost impossible, and hence enhancing security to operations;

(d) with capabilities provided by the latest technologies, the proposed system can support more simultaneous users and offer improved voice quality. The proposed system can also support fast information transmission, and allow automatic handover of a communication session to another repeater[1] without termination so as to ensure continuation of communication when users cross the repeater coverage boundaries, which in turn facilitates more effective and efficient operations; and

(e) the proposed system will have 60 repeater stations across the territory (as opposed to 21 in the existing system) and therefore provide more comprehensive radio communications coverage, particularly in some highly-congested urban areas.

FINANCIAL IMPLICATONS

Non-recurrent expenditure

6. It is estimated that the non-recurrent cost for the replacement of the existing radio communications system by the proposed system will be $78.73 million over a three-year implementation period from 2014-15 to 2016-17. A breakdown is given below.

	2014-15 $'000	2015-16 $'000	2016-17 $'000	Total $'000
(a) Radio transceivers (portable and mobile radios)		4,250	1,500	**5,750**
(b) Radio repeaters		8,750	30,000	**38,750**
(c) Central management system		14,800	3,500	**18,300**
(d) Dispatcher terminals		1,500		**1,500**
(e) Installation and engineering services	1,250[2]	3,000	3,750	**8,000**
(f) Contingency		2,930	3,500	**6,430**
Total:	**1,250**	**35,230**	**42,250**	**78,730**

[1] A repeater receives a signal and re-transmits it so that signal can cover a longer distance.

[2] Stage payment after completion of system design.

Recurrent expenditure

7. The estimated annual recurrent cost of the proposed system is $1.406 million from 2018-19 onwards. A breakdown is given below. ICAC will absorb the recurrent cost from within its existing resources.

		2017-18 $'000	**From 2018-19 onwards $'000**
The Proposed System			
(a)	Spare parts and consumables	0	1,249
(b)	Radio licence fee	157	157
	Sub-total:	157	1,406
Less: Saving from the Existing System			
(a)	Spare parts and consumables	(222)	(222)
(b)	Radio licence fee	(75)	(75)
	Sub-total:	(297)	(297)
	Total:	**(140)**	**1,109**

IMPLEMENTATION PLAN

8. Subject to Members' views on the proposal, ICAC plans to seek funding approval from the Finance Committee in a bid to fully implement the proposed system by February 2017 in accordance with the following implementation plan:

	Activity	**Target Date**
(a)	Preliminary system design and tendering	Jun 2014 to Jun 2015
(b)	System design	Jul 2015 to Sep 2015
(c)	Equipment manufacture and delivery	Oct 2015 to Jun 2016
(d)	Installation, acceptance test, training and system commissioning	Jul 2016 to Feb 2017

ADVICE SOUGHT

9. Subject to Members' views on the proposal, funding approval will be sought from the Finance Committee in May 2014.

Independent Commission Against Corruption
March 2014