

For discussion on  
3 January 2017

## **Legislative Council Panel on Security**

### **Replacement and Enhancement of the Closed Circuit Television Systems for Tai Lam Correctional Institution, Tong Fuk Correctional Institution and Tung Tau Correctional Institution**

#### **PURPOSE**

This paper presents a proposal to replace and enhance the closed circuit television (CCTV) systems for Tai Lam Correctional Institution (TLCI), Tong Fuk Correctional Institution (TFCI) and Tung Tau Correctional Institution (TTCI) and seeks Member's views.

#### **BACKGROUND**

2. The Correctional Services Department (CSD) is committed to providing a secure, safe, humane, decent and healthy environment for persons in custody (PICs). Most of the correctional facilities in Hong Kong were either aged or converted from buildings originally used for other purposes. A reliable and secure CCTV system is necessary in each correctional facility to monitor the behaviour of individual PICs, support the operation of institutions, ensure the safety of correctional staff and PICs and maintain institutional security.
3. The existing CCTV system at TFCI, a medium security institution, consists of six sub-systems while the existing CCTV systems at TLCI and TTCI, both minimum security institutions, each consist of two sub-systems. Most of the cameras of these sub-systems were installed at different times over ten years ago.
4. According to the Electrical and Mechanical Services Department, most of the components of the existing CCTV systems at the three institutions have reached the end of their serviceable life and their performance has deteriorated notably. To maintain normal operation, it is necessary to carry out maintenance work regularly to replace the cameras and video storage system, etc. of the existing CCTV systems. Since the CCTV systems were set up largely according to the technical standards of ten-odd years ago, the videos captured are of unsatisfactory quality and could only provide black and white

images in some circumstances. The unsatisfactory quality of the images captured by the system does not meet the security requirements of correctional institutions nowadays.

## **PROPOSAL FOR REPLACING AND ENHANCING THE CCTV SYSTEMS FOR TLCI, TFCI AND TTCI**

5. CSD proposes to replace and enhance the existing CCTV systems at TLCI, TFCI and TTCI with new and enhanced digital systems. The proposal involves the installation of approximately 1 400 high resolution cameras to cover the institutional areas of TLCI, TFCI and TTCI (except offices and specific areas such as shower rooms, toilets and sick bays). With the introduction of CCTV systems with video analytical function at some security sensitive locations such as the restricted areas of TLCI and TTCI, the level of security in these areas will be further enhanced. Each system will also be installed with a server, video storage system, network equipment and uninterrupted power supply.

## **JUSTIFICATIONS FOR THE PROPOSAL**

6. CSD proposes to fully replace and enhance the CCTV systems at TLCI, TFCI and TTCI for the following justifications –

(i) Addressing the maintenance problems arising from the ageing system

As advised by the Electrical and Mechanical Services Trading Fund (EMSTF), the normal service life of the existing CCTV systems is eight to ten years for CCTV cameras and around six years for video storage systems. However, most of the CCTV cameras and video storage systems in TLCI, TFCI and TTCI have been in operation for over ten years. Breakdowns and the need for repairs of cameras, video storage systems and other components have been adversely affecting the operation and security of the three institutions.

Following the replacement of the systems, the frequency of system malfunctioning due to the ageing problem can be reduced. Moreover, the new open systems will meet the international industry standards of more cost-effective maintenance services.

(ii) Enhancing the system configuration, improving the quality and increasing the storage capacity of video recordings

The existing systems and cameras of TLCI, TFCI and TTCI have been in operation for a long time. They cannot meet the standards of modern technology. For example, the six sub-systems in TFCI and two sub-systems in TLCI and TTCI were installed at different times in the past, comprising both digital and analogue systems which have different modes of operation, recording quality and storage capacity. These sub-systems were not interconnected to facilitate centralised monitoring in each correctional institution. Most of the cameras have been in operation for over ten years. Their resolution is low and the video recordings are not clear enough. The images refresh at a comparatively slow rate and the video recordings cannot be played smoothly. Retrieval of image data is inconvenient due to different sub-systems operating in different modes. In 2012, the Coroner's Court recommended that without intruding into personal privacy, CSD should enhance the coverage of CCTV system within the areas of correctional institutions, improve the image resolution and introduce the use of coloured images<sup>1</sup>. Furthermore, following the investigation of another case, the Office of The Ombudsman recommended that CSD should retain the video recordings for not less than 30 days<sup>2</sup>.

CSD proposes to install new CCTV systems at the three correctional institutions to provide better images with higher resolution and video recordings which will be clear enough for facial identification of the person(s) captured. The recordings can be retained for up to 31 days<sup>3</sup> with centralised control and administration in each correctional institution. The design of open digital CCTV system will be adopted and the recording and storage mechanisms will be standardised and re-configured to suit the latest operation standards and changing operational needs. The automation features in the new systems will

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<sup>1</sup> In an inquest into the death of a person in custody, the Coroner's Court commented that the video recordings made by the CCTV at correctional institutions were not clear enough due to their low resolution and the coverage was not sufficiently extensive.

<sup>2</sup> In the investigation into a complaint, the Office of The Ombudsman commented that the 14-day retention period for audio or video recording was not adequate and recommended that CSD should review its procedural guideline on retention and disposal of files and records.

<sup>3</sup> Regarding the retention of the CCTV data, CSD has made reference to the practice adopted by the Hong Kong Police Force in retaining CCTV data obtained at police stations and also the standards stipulated in the guidelines provided by the police of the United Kingdom for users of CCTV systems. In deciding on the retention period of 31 days, CSD has given due consideration to the recommendation made by the Office of The Ombudsman to retain the recordings for not less than 30 days.

enhance operational efficiency and system reliability.

(iii) Extending the system coverage and efficiency in surveillance

Since the existing CCTV systems at TLCI, TFCI and TTCI can only cover part of the institutions, their coverage is considered inadequate.

Taking into account the current circumstances and the recommendation of the Coroner’s Court mentioned at paragraph 6(ii) above, the proposed new CCTV systems will cover all areas accessible by PICs (except toilets, shower rooms and sick bays etc.) so as to enhance the effectiveness of surveillance. Moreover, in some security sensitive areas (such as areas in the proximity of perimeter fence of TLCI and TTCI), the cameras installed will be equipped with video analytical function. Any intruding objects or creatures close to human body temperature into these areas will be identified by the systems which will generate alert messages to notify the staff to take contingency measures. This will further enhance the level of security in restricted areas.

## FINANCIAL IMPLICATIONS

### Capital Expenditure

7. The estimated total capital costs of replacing and enhancing the CCTV systems at TLCI, TFCI and TTCI are \$24,510,000, \$35,274,000 and \$15,940,000 respectively. The detailed breakdown is as follows –

	<b>\$’000</b>			
	TLCI	TFCI	TTCI	Subtotal
(a) Building services works for server & control rooms	3,260	1,800	1,030	6,090
(b) CCTV cameras <sup>4</sup>	3,363	7,273	3,935	14,571
(c) Control and surveillance system <sup>5</sup>	3,941	5,130	2,596	11,667
(d) Video storage system	4,160	4,200	1,530	9,890

<sup>4</sup> Including the procurement of about 354, 680 and 336 sets of CCTV cameras at TLCI, TFCI and TTCI respectively, including those to be installed at security sensitive locations which will have a video analytic function.

<sup>5</sup> Including the procurement of workstation computers, display panels and video management sub-systems.

(e) Network and cabling system <sup>6</sup>	2,625	4,220	1,656	8,501
(f) System infrastructure and associated building services <sup>7</sup>	2,104	5,373	1,904	9,381
(g) EMSTF project management services <sup>8</sup>	3,112	4,479	2,024	9,615
(h) Contingencies (approximately 10% of items (a) to (f) above)	1,945	2,799	1,265	6,009
<b>Total</b>	<b>24,510</b>	<b>35,274</b>	<b>15,940</b>	<b>75,724</b>

8. The estimated cash flow requirement is as follows –

Financial year	\$'000			
	TLCI	TFCI	TTCI	Subtotal
2017-18	934	3,000	607	4,541
2018-19	622	9,500	405	10,527
2019-20	7,577	9,500	4,928	22,005
2020-21	15,377	9,500	10,000	34,877
2021-22	-	3,774	-	3,774
<b>Total</b>	<b>24,510</b>	<b>35,274</b>	<b>15,940</b>	<b>75,724</b>

## Recurrent Expenditure

9. It is estimated that after the new CCTV systems are put into use in TLCI, TFCI and TTCI, the relevant annual recurrent cost (including expenses on maintenance, equipment spare parts and electricity tariffs etc.) will be around \$4.73 million.

## IMPLEMENTATION PLAN

10. Subject to Members' comments on the proposal, we plan to seek funding approval from the Finance Committee in the first half of 2017. A tentative implementation timetable is as follows –

<sup>6</sup> Including the procurement of network equipment, such as core switches, edge switches, network supporting units, and the carrying out of the associated cabling works.

<sup>7</sup> Including the procurement of support system infrastructure facilities/associated building services works.

<sup>8</sup> The services provided by EMSTF include the preparation of tender documents, tender evaluation, approval of contractor's design submissions, monitoring of contractor's installation, acceptance tests, and co-ordination with various government departments and the contractors during the project.

Activity	Target Date of Completion		
	<u>TLCI</u>	<u>TFCI</u>	<u>TTCI</u>
(a) Project planning, system design/tender preparation	March 2018	May 2018	March 2018
(b) Tendering and award of contracts	October 2018	December 2018	October 2018
(c) Approval of system design by EMSTF	January 2019	May 2019	January 2019
(d) Manufacturing of equipment, delivery and site work preparation	July 2019	November 2019	July 2019
(e) Installation and building service works	December 2020	October 2021	December 2020
(f) Acceptance test and training	February 2021	January 2022	February 2021
(g) System commissioning	March 2021	March 2022	March 2021

11. The above schedule has been drawn up with reference to previous experience and the advice of EMSTF. As the said projects will cover all areas of the three institutions, the installation and replacement works will be carried out by phases so as to accommodate the normal operation of the three institutions. During the installation period, CSD will ensure that the operation of the institutions remains unaffected.

## **ADVICE SOUGHT**

12. Members are invited to comment on the above proposal.

**Security Bureau  
Correctional Services Department  
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