

## **ITEM FOR FINANCE COMMITTEE**

### **CAPITAL WORKS RESERVE FUND**

#### **HEAD 710 – COMPUTERISATION**

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

##### **New Subhead “Redevelopment of the Personnel Information Communal System”**

Members are invited to approve a new commitment of \$57,600,000 for redeveloping the Personnel Information Communal System of the Hong Kong Police Force.

### **PROBLEM**

The existing Personnel Information Communal System (PICS) of the Hong Kong Police Force (HKPF) is approaching the end of its serviceable life and can no longer fully meet the operational needs of HKPF. Without a replacement system, the PICS would become inoperable in time when both system support and hardware spare parts are increasingly unavailable. It will also affect the human resources (HR) management of HKPF and hence the service to the community.

### **PROPOSAL**

2. The Commissioner of Police (CP), with the support of the Secretary for Security and the Government Chief Information Officer (GCIO), proposes to create a new commitment of \$57,600,000 to redevelop the PICS and its satellite systems<sup>1</sup> into a new strategic HR planning and decision-support system.

**/JUSTIFICATION .....**

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<sup>1</sup> The satellite systems include Quarters and Housing System, Holiday Home Information System, Trust and Fund System, Leave Recording and Enquiry System, Health Impaired Officer Automation System, Discipline Office Automation System, Police Indebtedness Management System and E-Junior Police Officer Annual Report Form System.

## JUSTIFICATION

### Constraints of the Existing PICS

3. The PICS faces the following system problems and limitations –
  - (a) The PICS is approaching the end of its serviceable life of ten years. Certain key system components (e.g. central processing unit, memory modules and disks) are out of production and the annual maintenance costs of the PICS and its satellite systems are expected to rise by 50% from \$302,000 to \$453,000. It is also increasingly difficult to find technical personnel with the necessary expertise to service the system.
  - (b) The existing PICS, originally designed as an HR data storage and retrieval system, does not have the necessary analytical and decision-support capabilities to identify officers of suitable competency for posting and operational deployment. Nor does it allow the identification and analysis of the professional skills, knowledge gaps and training needs of individual officers and special units in HKPF.
  - (c) The obsolescent technical design of the existing PICS inhibits the development of electronic HR services (e.g. electronic applications and enquiry services for HR matters).
  - (d) As the electronic reports generated from the PICS (e.g. personnel records of officers) do not fully meet the requirements of the Electronic Transactions Ordinance (Cap. 553) and the Evidence Ordinance (Cap. 8), they cannot be directly used in legal proceedings.
  - (e) The limitations of the PICS and its satellite systems inhibit the adoption of the latest system security measures to better protect the data stored in these databases. For example, due to constraints in the design and capacity of the existing system, proactive detection of abnormal behaviour of authorised users or data encryption is not possible.

The existing PICS can no longer fully meet the operational needs of HKPF. To ensure that HKPF has an effective and efficient system to provide the necessary HR services to its 36 000 officers and to better serve the community by deploying suitable officers to various policing tasks, it is necessary to acquire a replacement system before the existing one becomes inoperable.

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## The Proposed System and its Benefits

4. We propose to replace the existing PICS and its satellite systems with a new system that will better meet HKPF's HR needs. The new system will have the following improved functions –

(a) Competency-based manpower and succession planning

The new system will have a comprehensive competency-based database of all officers in HKPF. The database will provide information on the functional competency (e.g. investigation of domestic violence cases, major event policing, technology crime investigation, intelligence analysis and bomb disposal skills), psychological competency (e.g. skills on crisis management, conflict management and counselling) and qualifications competency (e.g. accredited qualifications in information security, HR management and forensic science) of individual officers.

With its workforce analysis and people-oriented manpower planning tools using the competency approach, the system will facilitate analysis of the professional skills, knowledge gaps and training needs of individual officers and special units in HKPF, and the monitoring and timely development of talents and expertise in specialised fields as well as identification of appropriate measures to maintain the professionalism and efficiency of HKPF, so as to meet the policing needs of the community as well as the longer term development and succession planning of HKPF.

(b) Efficient matching of skills with different policing requirements

The new system, with its comprehensive HR decision-support functions, will facilitate the efficient matching of the skills and talents of police officers with different policing requirements, thus enabling effective deployment of talents with the relevant expertise and work experience to the appropriate headquarters units and districts/divisions. This will assist the effective implementation of various community policing strategies.

Police commanders at all levels can use the new functions to proactively manage and analyse the policing competencies and training needs of frontline officers, with reference to the prevailing crime trends and patterns in local areas and other policing

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requirements. HKPF's capability in identifying and tasking officers with the right skills to handle diversified and complicated policing problems will be enhanced. The redeveloped PICS will thus be instrumental to raising the professional standard of policing services to the community.

(c) Provision of e-HR self-services

e-HR self-services will be provided under a user-centric environment through a one-stop e-HR portal. Individual officers can access their personal profile and manage and plan their HR needs (e.g. applying for posting and transfer, making leave application and leave enquiries, etc.) conveniently at work and securely at home via web technology. This would provide the much needed convenience to frontline officers who are working on shifts 24 hours round the clock and only have limited time during meal breaks for handling various personnel matters. The e-HR self-services will also improve internal work efficiency and reduce the need for paper applications. 579 000 sheets of paper can be saved per year as a result, hence improving green management.

(d) Improved security features

The redeveloped PICS will have advanced security features such as digital signature, data encryption and enhanced access control and administration. The improved security features will ensure better protection of HR data in the new system. The reports and records generated from the new system will also meet the requirements under the Electronic Transactions Ordinance (Cap. 553) and the Evidence Ordinance (Cap. 8), and can be used for legal proceedings as appropriate.

5. The GCIO also notes that certain HR management functions of the proposed system have the potential to become common HR management applications for adoption by other bureaux/departments.

### **Cost Savings/Avoidance**

6. We estimate that the implementation of the proposed system will bring about annual savings of \$14,390,000 in a full year from 2016-17 onwards, comprising –

/(a) .....

- (a) Realisable savings of \$1,823,000 per annum

The realisable savings include \$1,515,000 from the recurrent staff savings of four posts (one Senior Clerical Officer, two Assistant Clerical Officers and one Confidential Assistant) and \$308,000 from savings in departmental expenses such as the maintenance cost of the existing system. The savings will be used to cover the recurrent cost of the redeveloped PICS detailed in paragraph 17 below.

- (b) Notional savings of \$6,125,000 per annum

With the enhanced functions mentioned in paragraph 4 above, notional savings in staff cost will be achieved through more efficient work processes upon the implementation of the proposed system. The notional savings in manpower, which are fragmented over 120 police stations and offices, will be internally re-deployed for various administrative tasks, such as the implementation of occupational safety and health initiatives, facilitating staff in attending duty-related training, etc. A detailed breakdown of the estimated notional savings is at Enclosure 1.

Encl. 1

- (c) Cost avoidance of \$6,442,000 per annum

The cost avoidance arises mainly from avoidance of staff efforts for conducting labour-intensive system security checks and user training as well as additional storage space for staff reports. A detailed breakdown of the estimated cost avoidance is at Enclosure 2.

Encl. 2

### **Cost and Benefit Analysis**

- Encl. 3 7. A cost and benefit analysis of the proposed system is at Enclosure 3.

## **FINANCIAL IMPLICATIONS**

### **Non-recurrent Expenditure**

8. We estimate that the proposed redevelopment of the PICS will require a total non-recurrent expenditure of \$57,600,000 over a period of four years from 2008-09 to 2011-12, broken down as follows –

/(a) .....

	2008-09 \$'000	2009-10 \$'000	2010-11 \$'000	2011-12 \$'000	Total \$'000
(a) Hardware	-	-	1,700	4,244	5,944
(b) Software	-	-	2,878	2,130	5,008
(c) System development and implementation services	-	-	7,304	29,216	36,520
(d) Data conversion	-	-	-	2,340	2,340
(e) Contract staff	125	1,000	1,000	885	3,010
(f) Training	-	-	-	2,028	2,028
Sub-total	125	1,000	12,882	40,843	54,850
(g) Contingency	5	51	650	2,044	2,750
<b>Total</b>	<b>130</b>	<b>1,051</b>	<b>13,532</b>	<b>42,887</b>	<b>57,600</b>

9. On paragraph 8(a) above, the estimate of \$5,944,000 is for the acquisition of computer hardware, including production, development and disaster recovery servers and smart card readers for processing digital signature of users.

10. On paragraph 8(b) above, the estimate of \$5,008,000 is for the acquisition of software, including operating system, database management system, reporting tools and key management software for digital signature.

11. On paragraph 8(c) above, the estimate of \$36,520,000 is for the acquisition of services to redevelop and consolidate the functions of the PICS and its satellite systems, to enhance system security, and to develop new functions for competency model, career planning, major event experience capturing, matching of skills and talents with policing requirements, training needs and gap analysis, manpower planning, succession planning, etc.

12. On paragraph 8(d) above, the estimate of \$2,340,000 is for the acquisition of services for data conversion and migration.

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13. On paragraph 8(e) above, the estimate of \$3,010,000 is for the hiring of contract staff for the management and necessary support for the overall project implementation.

14. On paragraph 8(f) above, the estimate of \$2,028,000 is for the development of computer-based self-learning module and provision of user training with classroom training and computer-based training for self-learning.

15. On paragraph 8(g) above, the estimate of \$2,750,000 represents a 5% contingency on the items set out in paragraphs 8(a) to (f) above.

### **Other Non-recurrent Expenditure**

16. The implementation of the proposed redevelopment will also entail an additional non-recurrent staff cost of \$12,909,000. The cost represents a total of 162 man-months of police officers and information technology staff for collecting user requirements, planning and monitoring the project, quality assurance, user acceptance and change management. HKPF will absorb the requirement through internal redeployment.

### **Recurrent Expenditure**

17. We estimate that the recurrent expenditure arising from the project will be \$1,674,000 per annum from 2013-14 onwards, broken down as follows –

	<b>2012-13</b>	<b>2013-14 and onwards</b>
	<b>\$'000</b>	<b>\$'000</b>
(a) Hardware maintenance	235	826
(b) Software maintenance	489	848
<b>Total</b>	<b>724</b>	<b>1,674</b>

18. On paragraph 17(a) above, the estimated annual expenditure of \$826,000 is for the provision of hardware maintenance for servers and smart card readers.

19. On paragraph 17(b) above, the estimated annual expenditure of \$848,000 is for the licence fee and support for the system software, database management software, reporting tool and key management software.

20. The project will also entail a recurrent staff cost of \$3,900,000 per annum, representing a total of 101 man-months of police/executive officers and information technology staff for providing on-going system administration services to the proposed system, which is the same as that for the existing PICS. HKPF will redeploy the existing staff effort to provide daily support to the proposed system. No additional recurrent staffing will be required.

### IMPLEMENTATION PLAN

21. We plan to implement the project according to the following timetable –

<b>Activity</b>	<b>Target completion date</b>
(a) Tender and specification preparation	May 2009
(b) Tendering and award of contract	November 2009
(c) System analysis and design	May 2010
(d) System development, customisation, data conversion and testing	April 2011
(e) User acceptance test and training	August 2011
(f) System roll-out	December 2011

22. After the redevelopment project, the hardware of the existing system will be traded-in. Before the contractor removes the hardware from HKPF's premises, the hard disk will be degaussed to ensure that data stored therein are destroyed permanently. The contractor will also be required to dispose of the parts in an environmentally friendly manner.

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## **PUBLIC CONSULTATION**

23. We consulted the Legislative Council Panel on Security on the proposal on 10 April 2008. Members generally supported the proposal and raised no objection to submitting it to the Finance Committee (FC) for funding approval.

24. At the Panel Meeting, Members enquired about the possibility of speeding up the project, in particular the tendering process. HKPF has since reviewed the implementation timetable. As many system modules in the PICS will be tailor-made to meet HKPF's service needs, the process of drawing up the detailed user requirements and the preparation of the tender document will take considerable time. The estimated time of 12 months currently allotted for the tender and specification preparation under the proposed implementation plan in paragraph 21(a) above is already very tight. This notwithstanding, HKPF shares Members' wish to take forward the project as quickly as possible and will monitor its progress closely to ensure the earliest completion of the project.

## **OTHER PROPOSALS CONSIDERED**

25. Apart from redeveloping the PICS, CP has also considered the option of upgrading the PICS and its satellite systems. However, as mentioned in paragraph 3 above, spare system components and technical support personnel with the necessary expertise are increasingly difficult to find to service the system. The existing system limitations also inhibit the adoption of the latest system security measures and the development of e-HR self-services for employees. Therefore, CP considers that redeveloping the PICS is the only feasible option.

## **BACKGROUND**

26. On 29 January 1993 and 19 July 1996, FC approved a commitment of \$299,370,000 (later revised to \$289,770,000) and an increase in commitment of \$66,000,000 respectively for the implementation of the Information Technology Strategy of HKPF. Under this strategy, \$13,404,000 was spent on the PICS,

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which was launched in 1997 as part of the Force Administrative Support Systems<sup>2</sup>. Together with its satellite systems (developed at a total cost of about \$15,000,000), the PICS is used for managing the HR records of about 36 000 regular, auxiliary and civilian officers in HKPF and the administration of personnel matters within HKPF.

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Security Bureau  
May 2008

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<sup>2</sup> Other Force Administrative Support Systems include the Accounting & Financial Management System and the Leave Recording System.

**Enclosure 1 to FCR(2008-09)13**

**Notional savings arising from the proposed system**

<u>Work process which brings about the savings</u>	<u>Manpower involved</u> (no. of post)		<u>Savings</u> \$'000
	<u>Clerical</u> <sup>Note 1</sup>	<u>Uniformed</u> <sup>Note 2</sup>	
(a) Handling of HR matters by frontline police officers	-	7.576	3,053
(b) Processing of leave applications	10.215	-	2,369
(c) Processing of internal transfers	-	0.420	505
(d) Identification of staff for various policing tasks	0.167	0.282	173
(e) Preparation of personnel records for legal proceedings	-	0.025	25
<b>Total</b>	<b>10.382</b>	<b>8.303</b>	<b>6,125</b>

Note 1 – Clerical staff include officers at the following ranks

Assistant Clerical Officer  
Clerical Assistant

Note 2 – Uniformed staff include officers at the following ranks

Senior Superintendent of Police  
Chief Inspector of Police  
Senior Inspector/Inspector of Police  
Station Sergeant  
Sergeant  
Police Constable

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**Enclosure 2 to FCR(2008-09)13**

**Cost avoidance arising from the proposed system**

<u>Work process/area which brings about cost avoidance</u>	<u>Manpower involved</u> (no. of post)		<u>Cost avoidance</u> \$'000
	<u>Civilian</u> <sup>Note 1</sup>	<u>Uniformed</u> <sup>Note 2</sup>	
(a) System security checks	-	5.334	5,940
(b) User training	0.236	0.210	274
(c) Additional storage space for staff reports	-	-	228
<b>Total</b>	<b>0.236</b>	<b>5.544</b>	<b>6,442</b>

Note 1 – Civilian staff include officers at the following ranks

Senior Executive Officer  
 Executive Officer I  
 Executive Officer II  
 Senior Clerical Officer  
 Clerical Officer  
 Assistant Clerical Officer  
 Clerical Assistant

Note 2 – Uniformed staff include officers at the following ranks

Senior Superintendent of Police  
 Superintendent of Police  
 Chief Inspector of Police  
 Senior Inspector/Inspector of Police  
 Station Sergeant  
 Sergeant

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**Cost and Benefit Analysis for the Proposed System**

	Cash flow (\$'000)											
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
<b>Cost</b>												
Non-recurrent												
- Expenditure	130	1,051	13,532	42,887	-	-	-	-	-	-	-	57,600
- Staff Cost	1,076	4,303	4,303	3,227	-	-	-	-	-	-	-	12,909
Sub-total	1,206	5,354	17,835	46,114	-	-	-	-	-	-	-	70,509
Recurrent												
- Expenditure	-	-	-	-	724	1,674	1,674	1,674	1,674	1,674	1,674	10,768
Sub-total	-	-	-	-	724	1,674	1,674	1,674	1,674	1,674	1,674	10,768
<b>Total Cost</b>	<b>1,206</b>	<b>5,354</b>	<b>17,835</b>	<b>46,114</b>	<b>724</b>	<b>1,674</b>	<b>1,674</b>	<b>1,674</b>	<b>1,674</b>	<b>1,674</b>	<b>1,674</b>	<b>81,277</b>
<b>Savings</b>												
Realisable Savings	-	-	-	-	1,812	1,813	1,814	1,814	1,823	1,823	1,823	12,722
Notional Savings	-	-	-	-	3,741	4,337	4,934	5,529	6,125	6,125	6,125	36,916
Cost Avoidance	-	-	-	-	6,214	6,214	6,214	6,214	6,442	6,442	6,442	44,182
<b>Total Savings</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11,767</b>	<b>12,364</b>	<b>12,962</b>	<b>13,557</b>	<b>14,390</b>	<b>14,390</b>	<b>14,390</b>	<b>93,820</b>
<b>Net Savings</b>	<b>-1,206</b>	<b>-5,354</b>	<b>-17,835</b>	<b>-46,114</b>	<b>11,043</b>	<b>10,690</b>	<b>11,288</b>	<b>11,883</b>	<b>12,716</b>	<b>12,716</b>	<b>12,716</b>	<b>12,543</b>
<b>Net Cumulative Savings</b>	<b>-1,206</b>	<b>-6,560</b>	<b>-24,395</b>	<b>-70,509</b>	<b>-59,466</b>	<b>-48,776</b>	<b>-37,488</b>	<b>-25,605</b>	<b>-12,889</b>	<b>-173</b>	<b>12,543</b>	

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