

ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND

HEAD 710 – COMPUTERISATION

Fire Services Department

New Subhead “Implementation of an Integrated Licensing, Fire Safety and Prosecution System”

Members are invited to approve a new commitment of \$32,726,000 for implementing an Integrated Licensing, Fire Safety and Prosecution System in the Fire Services Department.

PROBLEM

The existing fire protection information system of the Fire Services Department (FSD) has limited functions only and hence constrains FSD's efficiency in discharging its duties of reducing fire hazards in the community and ensuring fire safety. Failure to replace the system in a timely manner would affect the operational efficiency of FSD.

PROPOSAL

2. The Director of Fire Services, with the support of the Secretary for Security and the Government Chief Information Officer, proposes to create a new commitment of \$32,726,000 to replace the existing fire protection information system with an Integrated Licensing, Fire Safety and Prosecution System (LIFIPS).

JUSTIFICATION

Need to Replace the Existing Fire Protection Information System

3. In 2005, FSD commissioned an external consultant to carry out a

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study to assess the need for replacing the existing fire protection information system. The study identified the following limitations of the existing system and recommended replacing it with a new system to better support FSD's operational needs –

(a) Storage capability

The existing fire protection information system, which is a commercial off-the-shelf system, can only keep basic information such as the dates and results of inspections conducted by various Commands of FSD. It cannot store other types of information that would facilitate FSD's operations, including –

- (i) the layout and description of buildings, such as information of occupancy, number of staircases, existence of dangerous goods stores, co-existence of restaurants / clubs with child care centres / schools / residential care homes of elderly, etc.; and
- (ii) important documents, such as building plans, fire service installation (FSI) drawings and summonses.

At present, most of the above information, which is crucial for conducting risk assessments of buildings and formulating effective plans for rescue and fire-fighting, is kept separately in paper form.

(b) Information sharing capability

The existing fire protection information system only allows limited data interface among divisions in a Command, and among Commands. Apart from the brief history of inspections conducted by various Commands, individual divisions in each Command cannot obtain any further information through the system, such as relevant actions taken by other divisions.

(c) Failure to support mobile devices

The existing fire protection information system only allows very limited interface with mobile devices. As a result, FSD officers have to manually input into personal digital assistants reference information (for example, case-related data) before inspections and inspection findings during inspections. After the fieldwork, the findings have to be input manually into the system.

In conclusion, the existing system can no longer fully meet the operational needs of FSD.

The Proposed LIFIPS

4. The proposed LIFIPS is a customised information management system which will provide a common platform for information sharing among divisions in a Command, and among Commands of FSD. It has the following enhanced functions, as compared with the existing system –

(a) Enhanced information management

The proposed LIFIPS will be able to store and process a much greater variety of information, including those types of information mentioned in paragraph 3(a) above. Moreover, all information relating to the same building / premises will be made accessible to all authorised officers in different divisions and Commands. This will provide an electronic data platform through which FSD officers can better coordinate their law enforcement activities and make more informed decisions in relation to the fire safety matters of each building / premises, and enhance their efficiency in processing licence applications.

(b) More fieldwork support

The proposed LIFIPS will enable inspecting officers to electronically access case-related data and reference information in the field, capture inspection findings and upload inspection results to LIFIPS upon return to office through mobile devices. This can streamline the inspection process and remove the need for repeated data entry, which will achieve manpower savings of about 600 man-hours per year as estimated by the consultancy study mentioned in paragraph 3 above.

(c) Facilitating processing of e-submission of forms

The proposed LIFIPS will enable more efficient processing of e-submissions of applications for dangerous goods and timber store licences, and for sale or supply of portable fire equipment (such as fire extinguishers); and submission of maintenance forms of FSIs and ventilating systems. Under the current arrangements, applicants may make their submissions to FSD via e-mails but the related data has to be manually input into the existing fire protection information system in the processing of the applications. After the implementation of the proposed LIFIPS, template forms will be available online and the data provided by the applicants will be automatically input into the system for further processing. This will make the e-submission channel more cost-effective and convenient for the Department and for the public.

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(d) Enhanced contractor performance monitoring

The proposed LIFIPS will store information about contractors of FSIs and ventilating systems, including their registration, renewal and performance records. It will also record any installation defects, number of warnings issued, appeals and prosecutions, etc. in respect of each registered contractor. With the proposed LIFIPS, FSD can better monitor the performance of the contractors.

(e) Effective work management

The proposed LIFIPS will provide a comprehensive database for data collection, analysis and reporting which will facilitate the planning and management of the daily operations of FSD. In addition, its workflow engine, which includes task scheduling, event notification and event archiving, will help FSD officers to plan and arrange their cases and inspection schedules more efficiently, and enable the FSD management to obtain a quick and comprehensive view of staff workload for maximising resource utilisation. The proposed LIFIPS will also keep the status of each case up-to-date, and automatically alert the relevant officers of outstanding and late cases. Furthermore, users will be allowed to define the access privilege and the security of data will be further enhanced.

Cost Savings

5. We estimate that the implementation of the proposed LIFIPS will bring about annual savings of \$9,363,000 as from 2009-10 onwards, comprising –

(a) Realisable savings of \$2,613,000 per annum

These are the recurrent maintenance cost of the existing fire protection information system and the rental fees of its data lines. The savings will be used to fully cover the recurrent cost of the proposed LIFIPS detailed in paragraph 19 below.

(b) Notional savings of \$6,750,000 per annum

With the enhanced functions mentioned in paragraph 4 above, after the implementation of the proposed LIFIPS, notional savings in staff cost will be achieved through more efficient work processes. The notional savings will be re-deployed to provide better and more efficient fire protection services to the public. We set out at Enclosure 1 a detailed breakdown of the estimated notional savings.

Cost and Benefit Analysis

Encl. 2 6. A cost and benefit analysis of the proposed LIFIPS is at Enclosure 2.

FINANCIAL IMPLICATIONS**Non-recurrent Expenditure**

7. We estimate that the implementation of the proposed LIFIPS will require a total non-recurrent expenditure of \$32,726,000 over a period of three years from 2007-08 to 2009-10, broken down as follows –

	2007-08 \$'000	2008-09 \$'000	2009-10 \$'000	Total \$'000
(a) Hardware	-	4,416	-	4,416
(b) Software	-	3,353	-	3,353
(c) Implementation services	-	8,331	3,571	11,902
(d) Contract staff	700	2,056	189	2,945
(e) Site preparation	-	230	-	230
(f) Training	-	105	-	105
(g) Consumables	-	1,043	-	1,043
(h) Document scanning services	-	5,757	-	5,757
Sub-total	700	25,291	3,760	29,751
(i) Contingency	70	2,529	376	2,975
Total	770	27,820	4,136	32,726

8. On paragraph 7(a) above, the estimate of \$4,416,000 is for the acquisition of computer hardware, including production and development servers, personal computer (PC) workstations, pocket PCs, scanning devices, peripherals, network equipment and uninterrupted power supply system.

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9. On paragraph 7(b) above, the estimate of \$3,353,000 is for the acquisition of computer software, including server software, development software, PC workstation software, network software and reporting software.

10. On paragraph 7(c) above, the estimate of \$11,902,000 is for the acquisition of services for the project implementation, including system analysis and design, data modeling, database design and development of application programmes.

11. On paragraph 7(d) above, the estimate of \$2,945,000 is for the hiring of contract staff to prepare the tender, provide technical advice and support, and monitor system implementation and roll-out. The expenditure also includes the estimated manpower required to sort out the case files for scanning purpose.

12. On paragraph 7(e) above, the estimate of \$230,000 is for the site preparation work, including installation of conduit and trunking facilities, and provision of the required cabling and electrical installation.

13. On paragraph 7(f) above, the estimate of \$105,000 is for the provision of user training on system administration and the end-user reporting tool.

14. On paragraph 7(g) above, the estimate of \$1,043,000 is for the acquisition of computer consumables such as Radio Frequency Identification (RFID) tags and backup tapes for data storage.

15. On paragraph 7(h) above, the estimate of \$5,757,000 is for the hiring of contract staff to convert the barcode labels attached to each document to RFID tags and to scan existing selected documents into the computer.

16. On paragraph 7(i) above, the estimate of \$2,975,000 represents a 10% contingency on the cost items set out in paragraphs 7(a) to (h) above.

Other Non-recurrent Expenditure

17. The implementation of the proposed LIFIPS will also entail an additional non-recurrent staff cost of \$624,000, with breakdown as follows –

/Staff

	2007-08 \$'000	2008-09 \$'000	2009-10 \$'000	Total \$'000
Staff cost	117	468	39	624
Total	117	468	39	624

18. The staff cost estimated above represents a total of 12 man-months of a Senior Station Officer / Station Officer and a Principal Fireman for managing the project. FSD will absorb the requirement through internal redeployment.

Recurrent Expenditure

19. We estimate that the recurrent expenditure arising from the project is \$2,236,000 per annum from 2010-11 onwards, with breakdown as follows –

	2009-10 \$'000	2010-11 and onwards \$'000
(a) Hardware & software maintenance	556	556
(b) System maintenance	416	998
(c) Contract staff	455	497
(d) Consumables	185	185
Total	1,612	2,236

20. On paragraph 19(a) above, the estimated annual expenditure of \$556,000 is for the provision of hardware maintenance, acquisition of software licence and the subscription fees.

21. On paragraph 19(b) above, the estimated annual expenditure of \$998,000 is for the acquisition of on-going support services from external service providers to maintain the proposed system. Major services include system monitoring and tuning, bug fixing, launching of security patches, etc. to ensure the smooth operation of the system.

22. On paragraph 19(c) above, the estimated annual expenditure of \$497,000 is for the hiring of contract IT professional staff services to supplement the in-house support teams for the management and development of the project.

23. On paragraph 19(d) above, the estimated annual expenditure of \$185,000 is for the rental of web hosting and fax lines as well as procurement of other computer consumables such as RFID tags and backup tapes.

24. After netting off the realisable savings of \$2,613,000 mentioned in paragraph 5(a) above, FSD will achieve net savings in recurrent expenditure of about \$377,000 from 2010-11 onwards.

IMPLEMENTATION PLAN

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

Activity	Target Completion Date
(a) Tender preparation, and evaluation and award of contract	December 2007
(b) System analysis and design	June 2008
(c) Site preparation, procurement of hardware / software and installation	August 2008
(d) System development including programming and unit testing, and data conversion / migration	February 2009
(e) System integration test, user acceptance test, reliability test, disaster recovery rehearsal, user training, documentation and final data conversion / migration	April 2009
(f) System commissioning	April 2009
(g) System nursing and review	October 2009

26. In carrying out the migration plan, FSD will ensure that all data stored in the existing fire protection information system will be removed by means of de-magnetisation and the hard disks physically destroyed before they are disposed of. FSD will ensure that these physically destroyed hard disks and other unserviceable microcomputers and accessories like routers and modems will be disposed of in accordance with the relevant government procedures.

PUBLIC CONSULTATION

27. We consulted the Legislative Council Panel on Security on the proposal on 6 February 2007. Members were generally supportive of the proposal and raised no objection to submitting it to the Finance Committee for funding approval.

BACKGROUND

28. FSD is committed to reducing fire hazards in the community and ensuring the provision of appropriate fire protection measures in buildings / premises according to their intended use(s). In order to meet its operational requirements in performing such duties, FSD has since February 2001 been using a commercial off-the-shelf information system. The system mainly records basic information such as the dates and results of inspections conducted and the history of the steps taken in the certification process. Only some of the information can be shared online among divisions in a Command, and among Commands of FSD due to the limitations of the system as set out in paragraph 3 above.

Security Bureau
April 2007

Notional savings arising from the implementation of the proposed LIFIPS

<u>Work process which brings about the savings</u>	<u>Manpower involved</u> (no. of post)			<u>Savings</u> \$'000
	<u>Clerical</u> ^{Note 1}	<u>Uniformed</u> ^{Note 2}	<u>Technical</u> ^{Note 3}	
(a) Inspection-related activities	-	3.442	1.488	2,858
(b) File/Statistics management	3.781	-	-	1,082
(c) Fire safety requirements formulation and report compilation	-	2.064	0.237	1,396
(d) Licence processing	2.073	-	-	597
(e) Complaints/Enquires handling	-	1.096	0.032	695
(f) Other miscellaneous matters	0.243	0.085	0.001	122
Total	6.097	6.687	1.758	6,750

- Note : 1. Clerical staff includes the following ranks
 Clerical Officer
 Assistant Clerical Officer
 Clerical Assistant
 Office Assistant
2. Uniformed staff includes the following ranks
 Senior Station Officer
 Station Officer
 Principal Fireman
 Senior Fireman
3. Technical staff includes the following ranks
 Senior Building Services Inspector
 Building Services Inspector
 Assistant Building Services Inspector
 Contract Building Services Inspector
 Contract Assistant Building Services Inspector

Cost and Benefit Analysis for the Proposed LIFIPS

	Cash flow (\$'000)							
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Cost								
Non-Recurrent								
- Expenditure	770	27,820	4,136	-	-	-	-	32,726
- Staff Cost	117	468	39	-	-	-	-	624
Sub-total	887	28,288	4,175	-	-	-	-	33,350
Recurrent								
- Expenditure	-	-	1,612	2,236	2,236	2,236	2,236	10,556
Sub-total	-	-	1,612	2,236	2,236	2,236	2,236	10,556
Total Cost	887	28,288	5,787	2,236	2,236	2,236	2,236	43,906
Savings								
Realisable Savings	-	-	2,613	2,613	2,613	2,613	2,613	13,065
Notional Savings	-	-	6,750	6,750	6,750	6,750	6,750	33,750
Total savings	-	-	9,363	9,363	9,363	9,363	9,363	46,815
Net Savings	-887	-28,288	3,576	7,127	7,127	7,127	7,127	2,909
Net Cumulative Savings	-887	-29,175	-25,599	-18,472	-11,345	-4,218	2,909	
