

ITEM FOR FINANCE COMMITTEE

**CAPITAL WORKS RESERVE FUND
HEAD 710 – COMPUTERISATION
Government Logistics Department
New Subhead “Replacement of procurement management system”**

Members are invited to approve a new commitment of \$37,210,000 for replacing the existing procurement management system of the Government Logistics Department.

PROBLEM

The existing Procurement Management System Upgrade (PMSU) of the Government Logistics Department (GLD) is approaching the end of its serviceable life. It is also incapable of meeting the up-to-date operational requirements of GLD and constrains the Department’s ability in providing better procurement services to bureaux/departments (B/Ds).

PROPOSAL

2. The Director of Government Logistics, in consultation with the Government Chief Information Officer and with the support of the Secretary for Financial Services and the Treasury, proposes to replace the existing PMSU at an estimated cost of \$37,210,000.

JUSTIFICATION

The Need to Replace the Existing PMSU

3. The existing PMSU is used in GLD mainly for procurement administration and contract management of major purchases of goods required by the Government. It provides online facilities for users in GLD and other B/Ds to

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handle procurement-related activities such as processing and monitoring of tender requests, tender invitations, tender offers, contracts/orders, suppliers enlistment and contractors performance, and procurement information analysis.

4. PMSU will reach the end of its serviceable life in 2009-10. In 2003, GLD conducted a study to, *inter alia*, assess the serviceability of PMSU. The result showed that both the major hardware and software of PMSU were becoming obsolete. With the cessation of hardware and software support services upon the expiry of the current ten-year maintenance agreement in 2009-10, the continued ability of the system in providing reliable services to GLD and B/Ds has been called into question. Furthermore, due to the limitation of the hardware and the licence scheme of the software of the existing system, we could not enhance system accessibility by increasing the number of concurrent users. Not only was this not cost effective, it would also adversely affect the performance of the existing system. As such, the study recommended developing a new system to replace PMSU before the expiry of the current maintenance agreement.

5. Furthermore, as the core applications of PMSU are proprietary software packages, enhancements and integration with new technologies are very difficult and costly. The software developer has also ceased providing enhancements to the software packages. Such limitation makes it difficult for PMSU to establish interface with other key government computer systems such as the future Government Financial Management Information System (GFMIS) of the Treasury to facilitate payment arrangement.

6. We have considered options other than developing a new replacement system. Reverting to manual mode operation is not practicable, as this would require producing hard copies of a large volume of different types of records, such as tender request details, tender offer details, tender and contract history, procurement statistics and suppliers records, etc., that are currently stored and processed in the system electronically for tender administration and contract management. In addition to the significant amount of space that would be required for storage of hard copies of these data and records, additional manpower will be required for managing/processing the manual data. The processing time will inevitably be lengthened, thereby adversely affecting the efficiency and quality of GLD's services.

7. In view of the foregoing, we consider that a new system with enhanced functionalities should be developed to overcome the maintenance problem of the existing PMSU and to provide better online procurement services to the system users.

Proposed System

8. GLD launched a feasibility study on the replacement of the existing system in 2005. Based on the recommendations of this study, we propose to replace the existing PMSU with the most up-to-date technology and features.

9. In addition to performing the full range of functions of the existing PMSU, the proposed replacement system will be equipped with new functions to enhance data sharing and user-friendliness. It will allow GLD to introduce the following main new/enhanced services to users and suppliers –

(a) Term Contract Depository

The proposed system will allow the images and specifications of the items under GLD term contracts to be stored electronically and retrieved conveniently. Users will be able to identify the correct items for ordering easily.

(b) e-Ordering

When users have selected from the Term Contract Depository items to be purchased, the proposed system will allow them to generate and issue purchase orders electronically via e-mail or e-fax.

(c) Improved workflow processes

The proposed system will allow users to confirm approval of purchasing order and availability of funding electronically. As soon as the processing of a case is completed by a user, the system will automatically transfer the case file to the next concerned officer for further processing.

(d) Online functions for suppliers

The proposed system will allow the enlisted suppliers to view their own information registered with GLD and to update/maintain such information, including telephone numbers and addresses, etc. after office removal.

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(e) Interface with other government systems

The development of the proposed system based on government standards will facilitate interface and data sharing with other government systems. For instance, it will be able to interface with GFMIS of the Treasury. After B/Ds have confirmed funding for the purchase of items under GLD term contracts and approved the purchase orders, the proposed system will generate and send a purchase order information file to GFMIS. GFMIS will then automatically create a commitment record and return a notification to B/Ds via the system.

BENEFITS

Intangible Benefits

10. The proposed replacement system will enable GLD to continue to provide reliable procurement-related services to B/Ds. We also expect that the introduction of the above new/enhanced services will bring about the following intangible benefits –

(a) Extended coverage of users

The user population will be expanded from the existing 1 320 users to 3 000 users, while the number of concurrent users can be increased by more than 100% from 120 to 250. The system accessibility will be extended to cover users in the sub-units of B/Ds responsible for handling procurement-related activities, such as confirming funding availability, placing purchasing orders, and receiving and responding to call returns. Apart from this, based on the experience of a major user department, it is estimated that the time for preparing a purchase order will be reduced by around 15%.

(b) Accessibility by suppliers

The proposed system will provide round-the-clock accessibility for the suppliers to submit applications for supplier enlistment. As mentioned in paragraph 9 above, enlisted suppliers can use their passwords to view their information registered with GLD and update it online through the Internet. This will improve the accuracy of supplier information.

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(c) **Better monitoring and control**

The proposed system will enable faster data retrieval and compilation of management information conducive to facilitating management decision-making and strategic planning.

(d) **More streamlined and paperless workflow**

B/Ds can generate digitally-signed purchase orders that can be transmitted in an electronic format. Moreover, they can produce reports on their purchases in the system. This will reduce paper reports, printing cost, as well as the efforts required to produce, circulate, store and retrieve hard copies. This will also promote the concept of green and environmentally-friendly office.

(e) **Better scalability and extendibility**

The proposed system will leverage on the latest technology so that it is easily adaptable to meet new demands due to change in business needs in future. The adoption of government standards for the new system will also greatly facilitate its interface and exchange of procurement-related information with other government information technology systems.

Cost Savings

11. We estimate that the proposed replacement system will bring about annual savings of \$5,816,000 from 2010-11 onwards, comprising –

(a) **Realisable savings of \$3,229,000 per annum**

These are the recurrent system maintenance cost of the existing PMSU and its web-interface, communication network rental fees, as well as data security protection recurrent cost. The savings will be ploughed back to cover part of the recurrent costs of the proposed system.

(b) **Notional savings of \$2,587,000 per annum**

After the implementation of the project, notional savings in staff cost of GLD as well as B/Ds will be achieved through increased operational efficiency, resulting from enhancement of the following processes/activities –

/(i)

(i) *Creation and placing of purchase orders*

The proposed system will provide functions of a Term Contract Depository which will make it more efficient for the B/Ds to prepare a purchase order by selecting required items from GLD term contracts. In addition, it will allow direct generation of electronic purchase orders using the e-Order function, resulting in less manual effort required.

(ii) *Consolidation of call returns*

The proposed system will allow B/D users (down to sub-unit level) to file returns required by GLD via their headquarters offices electronically. This will facilitate B/D users as well as GLD users to consolidate data from different returns more easily and efficiently.

(iii) *Suppliers information management*

The proposed system will notify suppliers regularly to update their information via a proposed web system. This new function will save the manual effort required in suppliers information management.

(iv) *Enhancement of existing functions*

Many existing functions will be enhanced so as to make them more user-friendly. For example, the default cases will be logged into the proposed system so that their status and relevant records can be retrieved through the system. As a result, less effort will be required to search and locate a case file. More pre-defined reports will be created in the proposed system so that less effort will be required to compile statistical reports. Apart from this, users can navigate amongst the required modules and records easily through hyperlinks.

Cost and Benefit Analysis

Encl. 12. A cost and benefit analysis of the project is set out at the Enclosure.

/FINANCIAL

FINANCIAL IMPLICATIONS**Non-recurrent Expenditure**

13. We estimate that the implementation of the project will require a total non-recurrent expenditure of \$37,210,000 over a period of three years from 2007-08 to 2009-10, broken down as follows –

	2007-08	2008-09	2009-10	Total
	\$'000	\$'000	\$'000	\$'000
(a) Hardware	110	590	5,270	5,970
(b) Software	40	370	4,140	4,550
(c) Communication services	-	-	40	40
(d) Implementation services	-	9,000	11,000	20,000
(e) Contract staff	100	1,770	1,150	3,020
(f) Site preparation	-	-	10	10
(g) Training	-	-	100	100
(h) Consumables	-	10	130	140
(i) Contingency	30	1,170	2,180	3,380
Total	280	12,910	24,020	37,210

14. On paragraph 13(a), the estimate of \$5,970,000 is for the acquisition of hardware and network equipment, including web servers, application servers, database servers, development workstations, system printers, firewall and security devices, switches and routers, and other computing peripherals.

15. On paragraph 13(b), the estimate of \$4,550,000 is for the acquisition of software, including system software to drive and support the hardware, intrusion detection software, end user computing tools and development tools.

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16. On paragraph 13(c), the estimate of \$40,000 is the rental charge for additional network bandwidth from Government Backbone Network (GNET)/Central Internet Gateway (CIG) to GLD and rental charge for fax lines during system implementation.

17. On paragraph 13(d), the estimate of \$20,000,000 is the service charge for the implementation contractor to develop and implement the proposed system and the necessary infrastructure. Major activities include system analysis and design, data analysis and modelling, application development and deployment, database conversion and migration, as well as system integration and testing.

18. On paragraph 13(e), the estimate of \$3,020,000 is for the hiring of contract staff for providing technical advice, monitoring system implementation and roll-out, and performing data conversion.

19. On paragraph 13(f), the estimate of \$10,000 is for the alteration works at existing sites, including installation of additional conduit facilities, network nodes and power points for computer equipment.

20. On paragraph 13(g), the estimate of \$100,000 is for the provision of user training on end user computer tools and e-training materials development kits.

21. On paragraph 13(h), the estimate of \$140,000 is for the acquisition of computer consumables such as storage media and toner cartridges to be used during implementation for data conversion and testing.

22. On paragraph 13(i), the estimate of \$3,380,000 represents an approximately 10% contingency on the cost items set out in paragraphs 13(a)-(h).

/Other

Other Non-recurrent Expenditure

23. The implementation of the project will also entail an additional non-recurrent staff cost of \$5,900,000, broken down as follows –

	2007-08 \$'000	2008-09 \$'000	2009-10 \$'000	Total \$'000
Staff cost	885	3,540	1,475	5,900
Total	885	3,540	1,475	5,900

24. The staff cost estimated above represents a total of 113 man-months of Supplies and Analyst/Programmer grades staff for managing the project, quality control and user-acceptance. GLD will absorb the requirement through internal redeployment.

Recurrent Expenditure

25. We estimate that the recurrent expenditure for supporting the proposed replacement system is \$5,006,000 per annum as from 2010-11, which will be absorbed by GLD from within its existing resources. A breakdown is provided below –

	2009-10 \$'000	2010-11 and onwards \$'000
(a) Hardware maintenance	238	1,099
(b) Software maintenance ^{Note}	37	676
(c) Communication services	95	162
(d) System maintenance	-	2,792
(e) Consumables	46	79
(f) Server hosting service	116	198
Total	532	5,006

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^{Note} In addition, an estimated amount of \$16,000 will be incurred in 2013-14 for renewal of a three-year licence for the token of the security authentication in the proposed system. The licence will be renewed and hence the corresponding expenditure incurred once every three years thereafter.

26. On paragraph 25(a), the estimate of \$1,099,000 is for the provision of hardware and network maintenance, and network monitoring services.

27. On paragraph 25(b), the estimate of \$676,000 is for the acquisition of software licence and subscription fees.

28. On paragraph 25(c), the estimate of \$162,000 is the rental charge for additional network bandwidth from GNET/CIG to GLD and rental charge for fax lines.

29. On paragraph 25(d), the estimate of \$2,792,000 is for the acquisition of on-going support services from external service providers to maintain the proposed system and related infrastructure. Major services include bug fixing, minor enhancement, launching of security patches, updating of configuration files, and system monitoring and tuning.

30. On paragraph 25(e), the estimate of \$79,000 is for the acquisition of computer consumables such as storage media and toner cartridges for on-going system operation after implementation.

31. On paragraph 25(f), the estimate of \$198,000 is for the acquisition of hosting services at the Central Computer Centre of the Office of the Government Chief Information Officer.

32. The project also entails recurrent staff cost of \$1,720,000 per annum, representing 26 man-months of Supplies and Analyst/Programmer grades staff, for providing on-going system administration services to the proposed system. As the cost will be absorbed by GLD by redeploying existing staff efforts currently engaged in the maintenance of PMSU, there will be no additional recurrent staff cost incurred for the proposed system.

IMPLEMENTATION PLAN

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

/Activity

Activity	Target completion date
(a) Tender preparation and invitation	April 2007
(b) Tender evaluation, negotiation and award of contract	December 2007
(c) System analysis and design	June 2008
(d) Program development, data conversion and tests	March 2009
(e) System acceptance test and training	July 2009
(f) System roll-out	August 2009

34. In implementing the proposed project, GLD will ensure that all data stored in the existing PMSU will be removed by means of de-magnetisation and the hard disks physically destroyed before they are disposed of. GLD will also ensure that these physically destroyed hard disks and other unserviceable microcomputers and accessories like printers, monitors, routers and modems will be disposed of in accordance with the relevant government procedures.

PUBLIC CONSULTATION

35. We consulted the Legislative Council Panel on Financial Affairs on the proposal on 14 December 2006. Members were generally supportive of the proposal and raised no objection to putting the proposal to the Finance Committee for funding approval.

BACKGROUND

36. PMSU was developed in 1998 and brought into operation in October 1999. To enhance the user-friendliness and expand the reach of PMSU to more users in B/Ds, GLD conducted a system enhancement in December 2003 by introducing a web-interface for PMSU to enable users in B/Ds to gain access to the PMSU applications through CIG.

37. PMSU is currently serving 120 users in GLD and another 1 200 users in B/Ds. In 2005-06, PMSU processed some 1 300 purchase requests and 1 820 tender offers. The total estimated value of tenders issued through PMSU in 2005-06 was \$6.41 billion. As of 1 December 2006, PMSU was maintaining some 680 contracts and 6 800 GLD enlisted suppliers.

Financial Services and the Treasury Bureau
January 2007

**Cost and Benefit Analysis for the Replacement of
the Procurement Management System of GLD**

	Cash flow (\$'000)								
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Total
Cost									
Non-recurrent									
Expenditure	280	12,910	24,020						37,210
Staff cost ¹	885	3,540	1,475						5,900
<i>Total non-recurrent</i>	<i>1,165</i>	<i>16,450</i>	<i>25,495</i>						<i>43,110</i>
Recurrent ²									
Expenditure			532	5,006	5,006	5,006	5,022	5,006	25,578
<i>Total recurrent</i>			<i>532</i>	<i>5,006</i>	<i>5,006</i>	<i>5,006</i>	<i>5,022</i>	<i>5,006</i>	<i>25,578</i>
Total cost	1,165	16,450	26,027	5,006	5,006	5,006	5,022	5,006	68,688
Savings									
Realisable savings			1,884	3,229	3,229	3,229	3,229	3,229	18,029
Notional savings			1,509	2,587	2,587	2,587	2,587	2,587	14,444
Total savings			3,393	5,816	5,816	5,816	5,816	5,816	32,473
Net savings	(1,165)	(16,450)	(22,634)	810	810	810	794	810	(36,215)
Net cumulative savings	(1,165)	(17,615)	(40,249)	(39,439)	(38,629)	(37,819)	(37,025)	(36,215)	

¹ The staff efforts required for managing the project, quality control and user-acceptance will be absorbed by GLD through internal redeployment.

² The project also entails recurrent staff cost of \$1,720,000 per annum for providing on-going system administration services to the proposed replacement system. As the cost will be absorbed by GLD by redeploying existing staff efforts currently engaged in the maintenance of PMSU, there will be no additional recurrent staff cost incurred for the proposed system.