

## **ITEM FOR FINANCE COMMITTEE**

### **CAPITAL WORKS RESERVE FUND**

### **HEAD 710 – COMPUTERISATION**

### **Customs and Excise Department**

### **New Subhead “Customs and Excise Information and Risk Management System”**

Members are invited to approve a new commitment of \$37,954,000 for the development of the Customs and Excise Information and Risk Management System of the Customs and Excise Department.

### **PROBLEM**

The Customs and Excise Department (C&ED) needs to replace the existing obsolete Single Trader Database (STD) and Customs and Excise Intelligence System (CEIS) by a new Customs and Excise Information and Risk Management System (CEIRMS) for meeting operational needs as well as enhancing efficiency and effectiveness.

### **PROPOSAL**

2. The Commissioner of Customs and Excise, with the support of the Secretary for Security and the Government Chief Information Officer, proposes to create a new commitment of \$37,954,000 to develop CEIRMS, featuring a centralised repository of investigation findings, intelligence and trader records with analytical tools. The proposed system will facilitate C&ED’s core business of crime investigation and risk profiling<sup>1</sup> of traders.

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<sup>1</sup> Risk profiling is the process of using available information to determine how likely the defined risks, e.g. breaking of law, may occur.

**JUSTIFICATION**

3. C&ED is the law enforcement department responsible for, among others, facilitation of legitimate trade, protection of Government revenue on dutiable goods and suppression of smuggling activities. C&ED maintains various computer systems in discharging these duties with the assistance of advanced technology. These systems contain, inter alia, findings from past investigations, intelligence and records of traders, etc. They enable C&ED officers to store, categorise and retrieve data for analysis and operation planning. In addition, the records of traders stored in these systems provide an important basis for risk profiling, based on which C&ED carries out spot checks against targeted traders. The systems are therefore crucial to C&ED's law enforcement work. Efficient and user friendly systems could support C&ED's law enforcement work effectively.

4. STD and CEIS were set up in 1998 and 2005 respectively. STD stores information about traders. It facilitates risk profiling in frontline operations such as cargo examination. CEIS is a database system keeping the findings of past investigations and intelligence collected to facilitate analysis of emerging trends and latest modus operandi of crime. It enables C&ED officers to retrieve such information for the purpose of crime investigation as well as deployment of departmental resources.

**Need to Replace the Existing CEIS and STD**

5. The Efficiency Unit and C&ED conducted business process re-engineering studies on the above two systems in 2012 and 2014 respectively. The studies recommended, inter alia, an integration of STD and CEIS to enhance efficiency and effectiveness. To follow up on the recommendation, C&ED conducted a detailed feasibility study on the integration of the two systems in 2015.

6. The studies mentioned in paragraph 5 above concluded that, apart from the obsolescence of the technology used, STD and CEIS fell short of meeting the current operational needs of C&ED. A major deficiency is that different information of an entity (e.g. a person, a vehicle number or a company) is scattered among various systems that cannot communicate efficiently with one another. If an investigator wants to check the full range of information about an entity, he has to search on different systems. This renders the search process time-consuming and susceptible to human errors. Secondly, there is a substantial time lag in STD in registering a new trader and updating an existing trader's information before the data can be retrieved from the system. This means that C&ED officers have to make strenuous manual efforts in compiling the traders' latest information. Such deficiencies adversely affect C&ED's investigation and law enforcement capability. There is a need for a new system capable of integrating various databases with more powerful search tools, e.g. one search engine for multiple databases.

7. The hardware maintenance contracts for STD and CEIS will expire in 2018. As the technologies of the two systems are obsolete, C&ED may not be able to secure further extension of the maintenance contracts in the market. If there is no suitable maintenance and technical support for the existing systems after the expiry of the contracts, the risk of system failure will increase. Such system failure which will cripple C&ED's ability in risk profiling and crime investigation. As such, the need for replacing the existing systems is urgent and essential. Taking into account about two years' lead time required to procure and develop a new system, the procurement work should start as soon as possible in 2016.

### **The Proposed System and Its Benefits**

8. The proposed CEIRMS will be a centralised repository of investigation findings, intelligence and trader records which is capable of communicating with other C&ED's existing systems<sup>2</sup>. It will save C&ED officers the need to log into multiple systems to access the information now stored separately in various databases. Customised tools will be designed to facilitate entity matching and analysis, such as an automatic function to capture the latest investigation findings of an entity being searched.

9. The new automated functions of CEIRMS will substantially improve the operation of C&ED's trader grading mechanism which assigns risk grading to individual traders according to their profiles and consignment history. There are currently some 400 000 traders whose information is stored in various C&ED systems. Currently, some traders cannot be graded in a timely manner due to technical constraints of the existing systems. CEIRMS will be capable of automatically identifying traders with high risks for C&ED officers to grade or review their grading. This will enable more traders to be graded in a timely manner, thereby facilitating C&ED's law enforcement work more effectively.

10. Apart from providing a more efficient and user-friendly platform for data entry and retrieval, CEIRMS will be designed to allow accommodation of new system components to meet the users' needs in the future.

11. CEIRMS will be equipped with more advanced security control as compared with the existing systems. CEIRMS will enable different levels of security control for access to information on traders by different classes of users on the basis of the security and operational needs for such information.

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<sup>2</sup> For example, the Road Cargo System, the Air Cargo Clearance System and the Case Processing System.

**FINANCIAL IMPLICATIONS****Capital Expenditure**

12. We estimate that the implementation of CEIRMS will incur a total capital expenditure of \$37,954,000 over three financial years from 2016-17 to 2018-19, with breakdown as follows –

	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>Total</b>
	<b>\$'000</b>	<b>\$'000</b>	<b>\$'000</b>	<b>\$'000</b>
(a) Hardware and software	3,019	3,982	-	7,001
(b) Communication network	-	100	-	100
(c) Contract staff and implementation services	7,219	15,448	3,457	26,124
(d) Site preparation, training and miscellaneous	36	1,243	-	1,279
(e) Contingency (10%)	1,027	2,077	346	3,450
<b>Total</b>	<b>11,301</b>	<b>22,850</b>	<b>3,803</b>	<b>37,954</b>

13. On paragraph 12(a) above, the estimate of \$7,001,000 is for the acquisition of computer hardware and software. The hardware will include computer servers and storage systems. The software will include operating systems, database management systems and application development tools, etc.

14. On paragraph 12(b) above, the estimate of \$100,000 is for the installation and rental of communication lines for initial setup.

15. On paragraph 12(c) above, the estimate of \$26,124,000 is for the engagement of contract staff and hiring services for project implementation, including system analysis and design, software development, equipment installation and configuration.

16. On paragraph 12(d) above, the estimate of \$1,279,000 is for the cabling work of site preparation, customised training services, acquisition of start-up consumables and other miscellaneous items.

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17. On paragraph 12(e) above, the estimate of \$3,450,000 represents a 10% contingency on the items set out in paragraphs 12(a) to (d).

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

18. Implementation of the proposed system is estimated to require a non-recurrent staff cost of \$2,671,000. The cost represents a total of 20.5 man-months of Inspector/Superintendent Grade staff of C&ED and seven man-months of Analyst/Programmer Grade staff for overseeing the procurement, system development and implementation of CEIRMS, which will be absorbed from within C&ED's existing resources.

### **Recurrent Expenditure**

19. We estimate that the recurrent expenditure arising from the project will be \$5,295,000 after the system has been introduced in 2018-19, rising to \$5,417,000 per annum from 2020-21 onwards. Such requirements will be reflected in the Estimates of the relevant years.

### **Cost Savings/Avoidance**

20. If the proposed CEIRMS could **not** be approved and C&ED has to stay with the existing STD and CEIS for the corresponding operation, the following costs will be involved –

(a) *Extraordinary expenses on enhancing the operation*

A recurrent provision of \$2,727,000 would be required as staff costs for a limited enhancement of the business operation which could be supported by the new automated functions of CEIRMS. These costs would be avoided if the new system is approved; and

(b) *Regular maintenance and staff costs under existing systems*

A recurrent provision of \$5,245,000 would be needed for the limited hardware and software maintenance and system support service for the existing STD and CEIS, as well as staff costs for sustaining existing business operations which could be supported by CEIRMS in re-engineering workflows and automating the process of investigation findings and trader profiling. These costs would be saved if the new system is approved.

Encl. 21. A cost and benefit analysis for the development of the proposed CEIRMS is at Enclosure.

## IMPLEMENTATION PLAN

22. We plan to implement CEIRMS according to the following schedule –

Activity	Target timing
(a) System analysis and design	June – September 2016
(b) Procurement of hardware and software	October 2016 – May 2017
(c) System development	October 2016 – September 2017
(d) User acceptance test	September – November 2017
(e) Training	December 2017 – January 2018
(f) System live run	January – March 2018

## PUBLIC CONSULTATION

23. We consulted the Legislative Council (LegCo) Panel on Security on the proposal on 2 February 2016. Members supported the submission of the proposal to the Finance Committee of the LegCo for funding approval.

## BACKGROUND

24. STD and CEIS are internal systems of C&ED. Access to information in the systems is restricted to authorised officers only on a need-to-know basis. The two systems currently have about 1 800 users in total.

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Security Bureau  
April 2016

## Cost and Benefit Analysis for the Development of CEIRMS

	Cash flow (\$'000)							
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
<b>Costs of the proposed system</b>								
Capital Expenditure	11,301	22,850	3,803	-	-	-	-	37,954
Other non-recurrent Expenditure	1,213	1,109	349	-	-	-	-	2,671
Sub-total	12,514	23,959	4,152	-	-	-	-	40,625
Recurrent Expenditure	-	332	5,295	5,329	5,417	5,417	5,417	27,207
<b>(A) Total Cost</b>	<b>12,514</b>	<b>24,291</b>	<b>9,447</b>	<b>5,329</b>	<b>5,417</b>	<b>5,417</b>	<b>5,417</b>	<b>67,832</b>
<b>Savings and cost avoidance</b>								
<u>Recurrent</u>								
Staff costs for enhancing business operation	-	-	2,727	2,727	2,727	2,727	2,727	13,635
Maintenance cost and staff costs for existing operation	-	-	5,245	5,245	5,245	5,245	5,245	26,225
<b>(B) Total Savings</b>	<b>-</b>	<b>-</b>	<b>7,972</b>	<b>7,972</b>	<b>7,972</b>	<b>7,972</b>	<b>7,972</b>	<b>39,860</b>
<b>(C) = (B) – (A)</b>	<b>-12,514</b>	<b>-24,291</b>	<b>-1,475</b>	<b>2,643</b>	<b>2,555</b>	<b>2,555</b>	<b>2,555</b>	<b>-27,972</b>
<b>Net Costs (-)/ Net Savings (+)</b>								
<b>Net Cumulative Costs/Savings</b>	<b>-12,514</b>	<b>-36,805</b>	<b>-38,280</b>	<b>-35,637</b>	<b>-33,082</b>	<b>-30,527</b>	<b>-27,972</b>	<b>-</b>

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