For discussion
on 2 February 2016

Legislative Council Panel on Security

Customs and Excise Information and Risk Management System

PURPOSE

This paper seeks Members' views on the Customs and Excise Department (C&ED)'s proposal to develop a Customs and Excise Information and Risk Management System (CEIRMS), featuring a centralized repository of investigation findings, intelligence and trader records with analytical tools. The proposed system will facilitate C&ED's investigation of crimes and risk profiling[1] of traders. It will replace the existing Single Trader Database (STD) and the Customs and Excise Intelligence System (CEIS) of the Department.

BACKGROUND

2. 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 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, categorize and retrieve data for analysis and operations. 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 its law enforcement work. The more efficient and user-friendly these systems are, the more effective C&ED's law enforcement will be.

3. 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 previous investigations and intelligence collected. It enables C&ED officers to retrieve such

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

information, for the purpose of crime investigation as well as deployment of departmental resources by analyzing the emerging trends and latest modus operandi of crime.

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

JUSTIFICATION

5. The studies mentioned in paragraph 4 concluded that, apart from the obsolescence of the technology used, STD and CEIS fell short of meeting the current business 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. Second, 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 effort in compiling the traders' latest information. Such deficiencies adversely affect C&ED's investigation and law enforcement capability. To address them, a new system capable of integrating various databases with more powerful search tools, e.g. one search engine for multiple databases, is needed.

CEIRMS

6. The proposed CEIRMS will be a centralized repository of investigation findings, intelligence and trader records. It will save C&ED officers the need to log into multiple systems[2] to access the information now stored in various databases. Its customized tools will be designed to facilitate entity matching and analysis, such as an automatic capturing function to provide the latest investigation findings of an entity being searched.

7. The new automated functions of CEIRMS will also 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

[2] The proposed CEIRMS will be able to communicate with other C&ED's systems such as Road Cargo System (ROCARS) and therefore it will save the need for officers to separately log into these systems for information.

C&ED systems. Despite the existence of a trader grading system, most of the traders are not graded timely at present, due to manpower and system constraints. 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 timely and thereby assisting in law enforcement.

8. Apart from providing a more efficient and user-friendly platform for data entry and retrieval, CEIRMS will be a scalable system which enables the installation of new system components to meet the users' needs in the future.

9. CEIRMS will also be equipped with more advanced security control compared to the existing systems. Following the need-to-know principle, the more sensitive information, such as unpublished investigation findings, will be kept under a more secured setting, allowing only officers working on the relevant cases to obtain access, while other information such as general background of a trader and his trading record may be accessed by more frontline C&ED officers for daily operation purposes. In other words, CEIRMS will enable different levels of security control for access by different classes of users, corresponding to the security needs of the information and the operational needs.

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

FINANCIAL IMPLICATION

Non-Recurrent Expenditure

11. It is estimated that the implementation of CEIRMS will incur a total non-recurrent expenditure of $37.954 million over three financial years from 2016-17 to 2018-19. The cost breakdown is set out at **Annex A**.

12. A total non-recurrent staff cost of $2.671 million will be incurred for overseeing the procurement, system development and implementation of CEIRMS, which will be absorbed from within C&ED's existing resources.

Recurrent Expenditure

13. The proposal will entail an annual recurrent expenditure of $5.417 million per year from 2020-21 onwards. A detailed breakdown is set out at **Annex B**. C&ED will absorb the relevant expenditure and staff costs from within its existing resources.

SAVINGS AND COST AVOIDANCE

14. The implementation of CEIRMS will bring about annual recurrent savings of $7.972 million in total, which comprise the following -

(a) **Realisable savings** of $3.499 million per annum from the hardware and software maintenance and system support service for the existing STD and CEIS. The savings will be redeployed to offset part of the recurrent expenditure for the CEIRMS;

(b) **Notional staff cost savings** of $1.746 million per annum, as a result of reduction of manual efforts due to the re-engineered workflows and automation introduced in the processing of investigation findings and trader profiling. The savings will be redeployed to support other tasks of C&ED; and

(c) **Cost avoidance of staff effort** of $2.727 million per annum representing the saved manual effort arising from the new automated functions of CEIRMS, the cost of which has to be incurred under the existing systems.

ESTIMATED IMPLEMENTATION PLAN

15. The estimated schedule for implementing the proposed CEIRMS is as follows –

Activity	**Estimated Schedule**
Seeking funding approval from the LegCo Finance Committee	Second/Third Quarter of 2016
System analysis and design	September 2016
Procurement of hardware and software	May 2017
System development	September 2017
User acceptance test	November 2017

Activity	**Estimated Schedule**
Training	January 2018
System live run	March 2018

ADVICE SOUGHT

16. Members are invited to comment on the proposal.

Security Bureau
January 2016

Annex A

Non-recurrent Expenditure Required for the Proposed Implementation of Customs and Excise Information and Risk Management System (CEIRMS)

Expenditure Item	$'000			
	2016-17	2017-18	2018-19	Total
(a) Contract staff (for system analysis and design and implementation)	7,013	10,692	3,457	21,162
(b) Hardware	1,568	3,120	-	4,688
(c) Software	1,451	862	-	2,313
(d) Communication network	-	100	-	100
(e) Implementation services	206	4,756		4,962
(f) Site preparation	25	75		100
(g) Training	-	860	-	860
(h) Consumables and miscellaneous	11	308	-	319
(i) 10% contingency	1,027	2,077	346	3,450
Total	**11,301**	**22,850**	**3,803**	**37,954**

Annex B

Recurrent Expenditure Required for the Proposed Implementation of Customs and Excise Information and Risk Management System (CEIRMS)

Expenditure Item	$'000		
	2018 – 19	2019 – 20	2020 – 21 and onward
(a) Hardware and software	907	941	1,029
(b) Communication network	100	100	100
(c) Contract staff for on-going support service	4,169	4,169	4,169
(d) Consumables and miscellaneous	119	119	119
Total	5,295	5,329	**5,417**