

ITEM FOR FINANCE COMMITTEE

**CAPITAL WORKS RESERVE FUND
HEAD 710 – COMPUTERISATION
Customs and Excise Department
New Subhead “Road Cargo System”**

Members are invited to approve a new commitment of \$177,839,000 for implementing an electronic advance cargo information system for customs clearance of road cargoes.

PROBLEM

At present, Hong Kong has the necessary electronic infrastructure for customs clearance of cargoes carried by different modes of transport, except the road mode. If we are to keep abreast with global, regional and national developments in moving towards electronic customs clearance, we need to fill this gap by constructing the Road Cargo System (ROCARS) to enable the industry stakeholders concerned to submit electronic advance cargo information (e-ACI) to the Customs and Excise Department (C&ED) for adequate risk profiling of road cargoes.

PROPOSAL

2. The Commissioner of Customs and Excise, with the support of the Secretary for Commerce and Economic Development, proposes to create a new commitment of \$177,839,000 to implement the ROCARS.

/JUSTIFICATION

JUSTIFICATION

Need to Implement the ROCARS

3. Under the present customs clearance arrangement at land boundary control points (LBCPs), a truck driver has to stop first at an Immigration kiosk and then a Customs kiosk. He delivers a paper manifest which contains relevant cargo information at the latter to a Customs officer who will determine on the spot whether physical inspection is necessary. This is at variance with the arrangement for other modes of transport (including air, sea, river and rail) under which cargo data are submitted electronically.

4. Moreover, there have been developments in moving towards electronic customs clearance on various fronts. The World Customs Organization (WCO) adopted in June 2005 a framework of standards to secure and facilitate global trade, with the provision of e-ACI for customs clearance as one of the core requirements. The majority of WCO members, including all advanced economies and Hong Kong's important trading partners, have already subscribed to the framework. Hong Kong has also declared its intention to implement such a framework. Regional initiatives among our major trading partners which ride on e-ACI and other key customs standards of WCO are emerging. These initiatives seek to provide more secure and speedy clearance of cargoes at their control points. Moreover, the Mainland has announced the vision that Asia-Pacific Economic Cooperation (APEC) should strive to achieve electronic customs clearance at the checkpoints of all APEC economies by 2010.

5. In terms of value, road cargoes to and from the Mainland accounted for about one third of Hong Kong's external merchandise trade in 2006. We need to put in place the ROCARS, in order to keep abreast with these global, regional and national developments. Should Hong Kong fail to do so in a timely manner, overseas customs authorities may impose more stringent clearance requirements on goods coming from or passing through Hong Kong. There may also be diversion of transshipment cargoes away from Hong Kong.

The Proposed ROCARS

6. The major functions of the proposed ROCARS are to –
- (a) enable shippers to submit cargo information in advance via a web-based platform or other electronic means;

/(b)

- (b) allow Customs officers to conduct computer-assisted risk assessment on a pre-shipment basis;
- (c) enable shippers and truck drivers to register for use of ROCARS and provide hotline services to assist users in using the system; and
- (d) facilitate the provision of one-stop Customs clearance arrangement for inter-modal transshipment cargoes through providing interface with other customs clearance systems.

7. To allow Customs officers to perform risk profiling before a truck arrives at a LBCP, a shipper (or his agent) needs to provide cargo data in eight fields¹ to C&ED electronically before the cargo enters or exits Hong Kong by truck. In return, he receives a customs reference number for his consignment. The driver of a laden truck (or his agent) needs to report to C&ED, at least 30 minutes before his truck arrives at a LBCP, with the customs reference number(s) of the consignment(s) concerned received from the shipper(s) and his vehicle registration number.

8. In designing the proposed ROCARS, we shall adopt the following key parameters –

- (a) secure, efficient, stable and reliable for customs clearance of road cargoes, having regard to the importance of ensuring a smooth flow of land boundary traffic;
- (b) capable of enabling traders to re-use the cargo data submitted to the system for the preparation of other commonly used trade documents², so as to minimise their data input efforts; and
- (c) scalable for future enhancement to cater for the electronic submission of all data fields in a road cargo manifest, when the conditions are ripe.

/Benefits

¹ The eight fields of cargo data are – (i) package description / gross weight or volume of cargo; (ii) number of package / quantity of cargo; (iii) description of articles in each package / cargo; (iv) name of consignor; (v) address of consignor; (vi) name of consignee; (vii) address of consignee; and (viii) expected departure / arrival date.

² Priority will be given to enable the re-use of ROCARS data (to be submitted before import / export) for the preparation of import and export declaration (to be submitted within 14 days after import / export).

Benefits

9. Road cargoes are at present processed manually with limited automation provided by C&ED's Land Boundary System (LBS)³. With the proposed ROCARS, Customs officers can conduct risk profiling on every cargo consignment in advance for determining whether a truck needs to be inspected. All cross-boundary trucks, except those selected for inspection, will enjoy seamless customs clearance at the land boundary.

10. Moreover, C&ED will be able to introduce one-stop customs clearance arrangement to further facilitate the passage of transshipment cargoes which involve inter-modal transfer. For example, instead of having to go through Customs inspection twice at both the LBCP and the airport under the existing procedure, air-land transshipment cargoes may only be subject to inspection at either one of the Customs control points.

11. The proposed ROCARS will also facilitate C&ED's further cooperation with the Mainland Customs and participation in regional cooperation in enhancing speedy and secure movement of cargoes.

Cost Savings/Avoidance

12. We anticipate that the implementation of the ROCARS will bring about annual savings of \$49,241,000 in 2011-12, rising to \$94,685,000 in 2015-16 (being the fifth year of full implementation), comprising –

- (a) ***Realisable savings of \$35,456,000 in 2011-12, rising to \$60,782,000 per annum from 2012-13 onwards***

These are the staff costs of 134 Senior Customs Officers (SCOs) (for seven months in 2011-12 and in a full year from 2012-13 onwards) who are being deployed to station at the customs kiosks at LBCPs under the existing arrangement. Upon the full implementation of the ROCARS in 2011-12, C&ED can deploy staff to patrol LBCPs on a need basis, without having to station officers at customs kiosks. The savings will be used to cover part of the recurrent costs of the proposed system.

/(b)

³ LBS only contains intelligence for customs officers' reference in targeting vehicles for examination. It does not perform automatic screening of cargo information for enforcement purposes.

- (b) *Notional savings of \$1,087,000 in 2011-12, rising to \$1,863,000 per annum from 2012-13 onwards*

Upon the full implementation of the ROCARS in 2011-12, notional savings in accommodation cost for 134 SCOs mentioned in paragraph 12(a) above will be achieved as it is not necessary for C&ED to station the SCOs at customs kiosks.

- (c) *Cost avoidance of \$12,698,000 in 2011-12, rising to \$32,040,000 in 2015-16*

These are the staff costs of 47 additional SCO posts in 2011-12, rising to 70 additional SCO posts in 2015-16, which will otherwise be required to man the customs kiosks at LBCPs if the proposed ROCARS is not implemented.

Cost and Benefit Analysis

- Encl. 13. A cost and benefit analysis for implementing the proposed ROCARS is set out at the Enclosure.

FINANCIAL IMPLICATIONS

Non-recurrent Expenditure

14. We estimate that implementation of the proposed ROCARS will require a total non-recurrent expenditure of \$177,839,000 over a period of four years from 2007-08 to 2010-11, with breakdown as follows –

	2007-08	2008-09	2009-10	2010-11	Total
	\$'000	\$'000	\$'000	\$'000	\$'000
(a) Hardware and software	-	33,889	79,075	-	112,964
(b) System design and implementation services	90	7,457	22,724	10,502	40,773
(c) Site preparation	-	3,260	1,397	-	4,657
(d) Communication lines	-	1,602	1,602	-	3,204
(e) Facility management and start-up consumables	-	777	6,995	-	7,772
(f) Contingency	5	2,349	5,590	525	8,469
Total	95	49,334	117,383	11,027	177,839

/15.

15. On paragraph 14(a), the estimate of \$112,964,000 is for the acquisition of hardware and software to support the development of the ROCARS. The hardware includes database servers, application servers, web portal servers, interactive voice response systems, storage area network equipment, intrusion detection systems, system backup equipment, firewalls, routers, workstations and associated computer peripherals. The software includes the system operating software, database management system, application server software and risk assessment tools.

16. On paragraph 14(b), the estimate of \$40,773,000 is for the acquisition of IT expert services and engagement of contract staff for project implementation including system analysis and design, application development and testing, web portal and interactive voice response system implementation, system integration and the installation of kiosk equipment at LBCPs.

17. On paragraph 14(c), the estimate of \$4,657,000 is for the site preparation works at the C&ED offices and LBCPs including the installation of network nodes and power points for computer equipment, as well as the associated trunking and cabling works.

18. On paragraph 14(d), the estimate of \$3,204,000 is for the installation of communication lines including those for the interactive voice response system and Internet access.

19. On paragraph 14(e), the estimate of \$7,772,000 is for the acquisition of services and accommodation for the setting up of the production data centre and disaster recovery data centre, and start-up computer consumables.

20. On paragraph 14(f), the estimate of \$8,469,000 represents a 5% contingency on the cost items set out in paragraphs 14(a) to (e) above.

Other Non-recurrent Expenditure

21. The implementation of the proposed ROCARS will entail additional non-recurrent staff and accommodation costs of \$18,727,000, with breakdown as follows –

/(a)

	2007-08 \$'000	2008-09 \$'000	2009-10 \$'000	2010-11 \$'000	Total \$'000
(a) Staff cost	2,651	8,848	6,543	236	18,278
(b) Accommodation cost	62	216	163	8	449
Total	2,713	9,064	6,706	244	18,727

22. These costs represent a total of 267 man-months of Customs and Analyst/Programmer grades staff for managing and monitoring project implementation and for conducting system acceptance. C&ED will absorb the requirement from within its existing resources.

Recurrent Expenditure

23. We estimate that the proposal will entail an annual recurrent expenditure of \$85,088,000 upon the full implementation in 2011-12, rising to \$88,775,000 in 2015-16, with breakdown as follows –

	2009-10 \$'000	2010-11 \$'000	2011-12 \$'000	2012-13 \$'000	2013-14 \$'000	2014-15 \$'000	2015-16 \$'000
(a) Hardware and software maintenance	-	17,301	17,301	17,301	17,301	17,301	17,301
(b) System support and maintenance services	1,024	6,597	6,597	6,597	6,597	6,597	6,597
(c) Communication lines rental	2,001	4,899	4,899	4,899	4,899	4,899	4,899
(d) Facility management and consumables	3,220	5,520	5,520	5,520	5,520	5,520	5,520
(e) Public interface services	4,982	11,886	9,563	9,563	9,563	9,563	9,563
Subtotal	11,227	46,203	43,880	43,880	43,880	43,880	43,880
(f) Staff cost for ongoing project management	2,090	4,389	4,389	4,389	4,389	4,389	4,389
(g) Accommodation cost for ongoing project management	48	98	98	98	98	98	98
(h) Staff cost for operating Cargo Selectivity Centre (CSC)	16,538	34,333	36,147	37,054	37,961	38,869	39,776

/(i)

	2009-10 \$'000	2010-11 \$'000	2011-12 \$'000	2012-13 \$'000	2013-14 \$'000	2014-15 \$'000	2015-16 \$'000
(i) Accommodation cost for operating CSC	262	545	574	588	603	617	632
Subtotal	18,938	39,365	41,208	42,129	43,051	43,973	44,895
Total	30,165	85,568	85,088	86,009	86,931	87,853	88,775

24. On paragraph 23(a), the estimated annual expenditure of \$17,301,000 is for the provision of hardware and software maintenance services, as well as software licence fees to support the system.

25. On paragraph 23(b), the estimated annual expenditure of \$6,597,000 is for the provision of system support and maintenance services by external service providers and contract staff.

26. On paragraph 23(c), the estimated annual expenditure of \$4,899,000 is for the rental of phone lines and data communication services.

27. On paragraph 23(d), the estimated annual expenditure of \$5,520,000 is for the acquisition of services for managing and operating the production data centre and disaster recovery data centre, and the procurement of consumables.

28. On paragraph 23(e), the estimated annual expenditure of \$9,563,000 is for the acquisition of services for the provision of the Registration Centre and Call Centre services for the public, including truck drivers, shippers and their agents.

29. On paragraphs 23(f) and (g), the estimated annual expenditure of \$4,487,000 represents the in-house staff and related accommodation costs required for on-going project management.

30. On paragraphs 23(h) and (i), the estimated annual expenditure of \$16,800,000 in 2009-10, rising to \$40,408,000 in 2015-16, represents the in-house staff and related accommodation costs required for operating the CSC where risk profiling is conducted.

/IMPLEMENTATION

IMPLEMENTATION PLAN

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

	Activity	Target Completion Date
(a)	Tendering for the supply of hardware, software and implementation services	August 2008
(b)	System design and development	February 2009
(c)	User acceptance testing and training	August 2009
(d)	System roll-out	September 2009

Transitional period

32. Taking into account the lead time required for calling tenders and developing the necessary IT infrastructure, we plan to roll out the ROCARS in the third quarter of 2009. After the system is rolled out, we shall commence an 18-month transitional period before mandating the use of electronic services in early 2011.

33. The transitional period seeks to provide a clear and achievable target upfront for all parties concerned to prepare themselves for migration to the electronic mode. C&ED will arrange seminars on the new workflow before system roll-out and hands-on training throughout the transitional period and encourage the stakeholders concerned to try out e-ACI submissions early during the transitional period. C&ED will continue to station staff at customs kiosks during the first six months after mandating the use of the ROCARS.

Contingency arrangements

34. Having regard to the mission-critical nature of the ROCARS, we shall equip the system with primary servers, resilience servers and an off-site Disaster Recovery System to ensure the high serviceability of its operation. To cater for the unlikely event of a total system failure, C&ED has devised a contingency plan under which Customs officers will be deployed within a few minutes to man the customs kiosks at LBCPs to process the customs clearance for cross-boundary vehicles in a manual mode. C&ED will ensure that the time required for customs clearance of road cargoes during system failure will not be worse off than the existing arrangement.

PUBLIC CONSULTATION

35. We have consulted industry stakeholders involved in the handling of cross-boundary road cargoes on the proposed system. The majority of the stakeholders consulted, including representatives of shippers, freight forwarders, express couriers and truck drivers, have pledged support for early implementation of the ROCARS.

36. We consulted the Legislative Council (LegCo) Panel on Commerce and Industry on 16 January 2007 on the Administration's proposal to implement the electronic customs clearance system for road cargoes and the legislative framework underpinning the system. The Panel pledged support for early implementation of the system. On 16 October 2007, we consulted the Panel again on the funding proposal for the proposed ROCARS. The Panel reiterated its support for the proposal. Noting the time and mission critical nature of the proposed ROCARS, Members asked about the resilience and reliability of the system and the contingency arrangements, if any, in case of a total system failure. Members also considered that the introduction of the ROCARS should avoid increasing the burden of the industry concerning input of trade data. The Administration advised the Panel of the key design parameters of the system and the contingency arrangements as those set out in paragraphs 8 and 34 above respectively.

BACKGROUND

37. At present, Hong Kong does not have the necessary electronic infrastructure for customs clearance of road cargoes. With a view to developing trade, the Financial Secretary announced in the 2007-08 Budget the construction of an e-ACI system to provide a seamless system for the movement and customs clearance of road cargoes.

38. With the support of the LegCo Panel on Commerce and Industry, we introduced on 18 April 2007 the Import and Export (Amendment) Bill 2007 which seeks to provide the necessary regulation making powers for implementing e-ACI. The Bill was passed on 23 May 2007.

Enclosure to FCR(2007-08)35

Cost and Benefit Analysis for Implementation of the ROCARS

	Cash flow (\$'000)									
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Total
Cost										
Non-Recurrent										
Expenditure	95	49,334	117,383	11,027	-	-	-	-	-	177,839
Staff Cost	2,651	8,848	6,543	236	-	-	-	-	-	18,278
Accommodation Cost	62	216	163	8	-	-	-	-	-	449
Total non-recurrent	2,808	58,398	124,089	11,271	-	-	-	-	-	196,566
Recurrent										
Expenditure	-	-	11,227	46,203	43,880	43,880	43,880	43,880	43,880	
Staff Cost	-	-	18,628	38,722	40,536	41,443	42,350	43,258	44,165	
Accommodation Cost	-	-	310	643	672	686	701	715	730	
Total recurrent	-	-	30,165	85,568	85,088	86,009	86,931	87,853	88,775	
Total Cost	2,808	58,398	154,254	96,839	85,088	86,009	86,931	87,853	88,775	
Savings										
Realisable Savings	-	-	-	-	35,456	60,782	60,782	60,782	60,782	
Notional Savings	-	-	-	-	1,087	1,863	1,863	1,863	1,863	
Cost Avoidance	-	-	-	-	12,698	24,225	26,756	29,359	32,040	
Total Savings	-	-	-	-	49,241	86,870	89,401	92,004	94,685	
Net Savings	-2,808	-58,398	-154,254	-96,839	-35,847	861	2,470	4,151	5,910	
Net Cumulative Savings	-2,808	-61,206	-215,460	-312,299	-348,146	-347,285	-344,815	-340,664	-334,754	
