

ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND

HEAD 710 – COMPUTERISATION

Immigration Department

New Subhead “Computer Systems for the Immigration Department at the New Control Point for the Hong Kong-Shenzhen Western Corridor”

Members are invited to approve a new commitment of \$176,616,000 for installing computer systems for the Immigration Department at the new control point for the Hong Kong-Shenzhen Western Corridor.

PROBLEM

There is a need to install computer systems to support the operation of the Immigration Department (ImmD) at the new control point for the Hong Kong-Shenzhen Western Corridor (HK-SWC) scheduled for completion by end 2005.

PROPOSAL

2. The Director of Immigration, with the support of the Secretary for Security and the Secretary for Commerce, Industry and Technology, proposes to create a new commitment of \$176,616,000 to install computer systems for ImmD at the new control point for the HK-SWC.

/JUSTIFICATION

JUSTIFICATION

Construction of a New Control Point for the HK-SWC

3. On 18 July 2003, the Finance Committee (FC) approved a capital commitment of \$2,173.5 million in money-of-the-day prices for the design and construction of a new control point at Shekou in Shenzhen. The scope of the project, *inter alia*, includes the design and construction of up to 91 passenger counters, 64 goods vehicle kiosks, 50 private car kiosks and four coach kiosks for both inbound and outbound directions. We completed the initial design of the new control point in February 2004 and aim to complete the construction works by end 2005 to tie in with the commissioning of the HK-SWC.

4. As mentioned in the funding application for the design and construction of the new control point, we need to seek separate funds for the administrative computer systems for the new control point^{Note} and the land development cost of the project site.

Computer Systems for Operation of ImmD at the New Control Point

5. A total of eight computer systems are required to support ImmD's operation at the new control point, including three systems supporting the operation of counters and kiosks, and five systems supporting the operation of back offices, as detailed below.

Systems Supporting the Operation of Counters and Kiosks

6. Three computer systems are required to support the operation of immigration counters and kiosks at the new control point, viz. the Enhanced Immigration Control Automation System (ICAS-2), the Automated Passenger Clearance (APC) and the Automated Vehicle Clearance (AVC) systems.

7. ICAS is an existing computer system which supports the process of immigration clearance at all counters and kiosks, including the implementation of the Easy Travel Scheme under which Hong Kong permanent residents can travel in and out of Hong Kong producing only their Hong Kong identity cards. The optical

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^{Note} We will seek funds for the computer systems to support the operation of the Customs and Excise Department and the Hong Kong Police Force at the new control point from the block allocation under Subhead A007GX of Head 710 – Computerisation.

character recognition (OCR) readers of the system do away with the need to manually input personal data of holders of Hong Kong identity cards or other machine-readable travel documents by an immigration control officer (ICO) during immigration clearance. As planned under Phase I of ImmD's updated Information Systems Strategy (ISS-2), the system will be enhanced by June 2004 to ICAS-2 to cope with the growth in passenger and vehicular traffic and to support and interface with the APC and AVC systems.

8. The APC and AVC systems, to be rolled out by end 2004 in phases under Phase II of ImmD's ISS-2, will support self-service immigration clearance by employing smart card and fingerprint recognition technologies. A passenger using an APC channel will insert his smart identity card into a card reader and place his thumb onto a fingerprint scanner at the APC channel. The APC system will validate the card and verify the fingerprint template captured by the scanner against the fingerprint template stored in the smart identity card. If the two templates are matched and there is no irregularity, the passenger will be allowed to pass through the channel. Similarly, the AVC system will allow drivers to use their smart identity card and fingerprint for self-service immigration clearance. Upon implementation of APC and AVC systems, we estimate that one ICO will be able to supervise up to five unmanned APC channels or six unmanned AVC kiosks.

Systems Supporting the Operation of Back Offices at the New Control Point

9. We also need to extend five existing computer systems to ImmD's back offices at the new control point. Of these, four are required to facilitate the verification of the authenticity of various types of travel documents, viz. the Electronic Documentation of Information System on Network (EDISON) for verifying foreign travel documents, iPermit System (IPS) for verifying iPermits issued to Taiwan visitors, Smart Identity Card System (SMARTICS) for verifying Hong Kong identity cards, and Travel Document Information System (TDIS) for verifying HKSAR passports, Documents of Identity for Visa Purposes, Re-entry Permits and Seaman's Identity Books. The fifth is the Government Office Automation (GOA) System which provides an effective and efficient means for file and mail exchanges in electronic form between the new immigration control point and ImmD Headquarters.

10. The functions and key components of each of the eight computer systems are at the Enclosure.

Encl.

/FINANCIAL

FINANCIAL IMPLICATIONS**Non-recurrent expenditure**

11. We estimate that the installation of computer systems required by ImmD for the new control point, viz. ICAS-2, APC, AVC, EDISON, IPS, SMARTICS, TDIS and GOA systems will require a total non-recurrent expenditure of \$176,616,000 over a four-year period from 2004-05 to 2007-08, broken down as follows –

	2004-05	2005-06	2006-07	2007-08	Total
	\$'000	\$'000	\$'000	\$'000	\$'000
(a) Hardware and software	-	108,035	13,553	-	121,588
(b) Implementation and contract staff services	1,438	19,865	3,654	1,715	26,672
(c) Communication network	-	558	-	-	558
(d) Site preparation	-	8,958	2,364	-	11,322
(e) Consumables and miscellaneous	-	420	-	-	420
(f) Contingency	144	13,784	1,957	171	16,056
Total	1,582	151,620	21,528	1,886	176,616

12. As regards paragraph 11(a), the expenditure of \$121,588,000 is for acquisition of hardware and software for the implementation of the required computer systems including mid-range servers, workstations, load balancers, security related components, OCR readers, APC auto-gates and AVC kiosk equipment.

13. As regards paragraph 11(b), the expenditure of \$26,672,000 is for acquisition of services from external service providers and contract staff to implement the project. Main activities include system configuration, system delivery, system testing and provision of technical support.

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14. As regards paragraph 11(c), the expenditure of \$558,000 is mainly for installation of communication network.

15. As regards paragraph 11(d), the expenditure of \$11,322,000 is for site preparation including installation of APC channels, AVC equipment, data ports and power points as well as trunking and cabling works.

16. As regards paragraph 11(e), the expenditure of \$420,000 is mainly for acquisition of start-up consumables such as backup tapes and toner cartridges.

17. As regards paragraph 11(f), the expenditure of \$16,056,000 represents a 10% contingency on the cost items set out in paragraphs 11(a) to (e).

Other non-recurrent expenditure

18. The implementation of ICAS-2, APC and AVC systems will entail an additional non-recurrent expenditure of \$7,355,000 for both system development and implementation. The cost breakdown is as follows –

	2004-05	2005-06	Total
	\$'000	\$'000	\$'000
Staff cost	4,140	3,215	7,355
Total	4,140	3,215	7,355

19. As regards paragraph 18, the expenditure of \$7,355,000 represents the in-house staff cost of 96 man-months of IT professional grade staff (involving 5 non-directorate posts) for setting up a project team. The team will be responsible for development and implementation of the ICAS-2, APC and AVC systems including monitoring the performance of the external service providers and project activities like system analysis and design, development, site preparation, installation support as well as performing system acceptance/load tests, etc.. ImmD will absorb the non-recurrent staffing requirement within its own resources.

/Recurrent

Recurrent expenditure

20. We estimate that additional recurrent expenditure arising from the computer systems required by ImmD for the new control point is \$20,502,000 per annum, as set out below –

	2006-07	2007-08	2008-09 and onwards
	\$'000	\$'000	\$'000
(a) Hardware and software maintenance	14,106	14,106	16,111
(b) System support and maintenance services	3,136	3,136	3,289
(c) Communication network rental	701	701	701
(d) Consumables	401	401	401
Total	18,344	18,344	20,502

21. As regards paragraph 20(a), the annual expenditure of \$16,111,000 is for hardware and software maintenance as well as software license fees to support the computer systems required.

22. As regards paragraph 20(b), the annual expenditure of \$3,289,000 is for system support and maintenance services provided by external service providers for the computer systems including ICAS-2, APC and AVC systems.

23. As regards paragraph 20(c), the annual expenditure of \$701,000 is for rental of communication and data lines.

24. As regards paragraph 20(d), the annual expenditure of \$401,000 is for acquisition of consumables such as backup tapes and toner cartridges.

25. There is no additional recurrent staffing requirement for the project.

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26. Apart from the current funding proposal for computer systems, the financial implications of the new control point for the HK-SWC include the \$2,173.5 million approved by FC for the design and construction of the control point, and the costs for the land used by the control point. During discussions on the funding proposal for the new control point at the meeting of the Legislative Council Panels on Security and Transport on 6 May 2003 and the Public Works Subcommittee meeting on 11 June 2003, Members noted that the reclamation works for the land on which the boundary crossing facilities of the two sides would be constructed were expected to be completed by mid-2004. We also reported that the two sides had already agreed on the principle that each side would bear the development and usage costs for the land used by that side, and that the Administration would in due course submit an application for funding to meet these costs to FC after they had been ascertained with the relevant Mainland authorities.

27. In view of the tight work schedule, both sides have agreed to proceed *in tandem* with the finalisation of the land development and usage costs to be borne by each side and the construction works on site once the site formation works have been completed. We would work closely with the relevant Mainland authorities to finalise the land costs and make a submission to FC as soon as possible.

IMPLEMENTATION PLAN

28. We plan to adopt a phased implementation programme as follows –

Activity	Timing
Procurement	May 2004 to June 2005
System design and development	January 2005 to July 2005
System acceptance test	May 2005 to November 2005
Cabling, installation and commissioning	August 2005 to November 2005
Roll-out (Stage 1)	November 2005 to December 2005
Roll-out (Stage 2)	Late 2007

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29. Under Stage 1 of the implementation plan, ImmD will install ICAS-2, APC and AVC systems at 91 passenger counters and 78 vehicle kiosks (including 40 for goods vehicles, 34 for private cars and 4 for coaches) as well as EDISON, IPS, SMARTICS, TDIS and GOA systems at the back offices at the new control point. Stage 1 implementation will be capable of handling the anticipated peak hour traffic upon commissioning of the HK-SWC, i.e. an hourly traffic flow of 150 coaches, 830 private cars and 2 220 goods vehicles per direction.

30. Taking into account the actual traffic flow upon commissioning of the HK-SWC by end 2005 and traffic projection to be refined nearer the time (e.g. the impact arising from the operation of the Sheung Shui to Lok Ma Chau Spur Line by mid-2007), ImmD will proceed to Stage 2 implementation by late 2007 by installing ICAS-2 and AVC systems at the remaining vehicle kiosks (up to 24 for goods vehicles and 16 for private cars) at the new control point. With Stage 2 implementation, the new control point will be capable of handling the anticipated peak hour traffic up to year 2016, i.e. an hourly traffic flow of 150 coaches, 1 640 private cars and 2 600 goods vehicles per direction.

BACKGROUND INFORMATION

31. We circulated a paper to the Legislative Council Panel on Security on 5 February 2004 to brief Members on the funding proposal for installing computer systems to support the operation of ImmD at the new control point for the HK-SWC. Members noted the paper and had not raised any comments on the funding proposal.

Security Bureau
April 2004

**Brief Description of Computer Systems for
the Immigration Department at the New Control Point for
the Hong Kong-Shenzhen Western Corridor**

Systems supporting the operation of counters and kiosks

Enhanced Immigration Control Automation System (ICAS-2)

- ICAS-2 will support the process of immigration clearance at counters and kiosks (including the implementation of the Easy Travel Scheme under which Hong Kong permanent residents can travel in and out of Hong Kong producing only their Hong Kong identity cards).
- At the new control point, apart from supervisor terminals, ICAS-2 workstations with optical character recognition readers will be installed at counters and kiosks to support the traditional type of immigration clearance.

Automated Passenger Clearance (APC) and Automated Vehicle Clearance (AVC) Systems

- APC and AVC systems will support self-service immigration clearance by employing smart card and fingerprint recognition technologies.
- At the new control point, APC autogate and AVC kiosk equipment (including barriers, sensors, industrial personal computers, smart card readers, fingerprint scanners, Liquid Crystal Display monitors, etc.) and control room equipment (including CCTV system, Digital Video Recording System, etc.) will be installed at APC channels and AVC kiosks so as to enable self-service immigration clearance.

Systems supporting the operation of back offices at the new control point

Electronic Documentation of Information System on Network (EDISON)

- EDISON is a data storage and retrieval system that keeps an archive of high quality colour images featuring the security characteristics of various types of travel documents.
- At the new control point, EDISON workstations will be installed to facilitate immigration officers to detect forged foreign travel documents by providing high-resolution colour digitised images of genuine travel document specimens stored in the system.

iPermit System (IPS)

- IPS supports the processing of applications for visit permits submitted by residents of Taiwan and issuing of visit permits to them through electronic means and the related record management.
- At the new control point, IPS workstations will be installed to enable on-line record checks so as to help verifying iPermits issued to Taiwan visitors.

Smart Identity Card System (SMARTICS)

- SMARTICS supports the processing, personalisation and issuing of Hong Kong smart identity cards and the related record management.
- At the new control point, SMARTICS workstations will be installed to enable on-line record checks so as to help verifying the authenticity of Hong Kong identity cards held by passengers.

Travel Document Information System (TDIS)

- TDIS supports the processing, printing and issuing of HKSAR passports, Documents of Identity for Visa Purposes, Re-entry Permits and Seaman's Identity Books and the related record management.
- At the new control point, TDIS workstations will be installed to enable on-line record checks so as to help verifying the authenticity of HKSAR passports, Documents of Identity for Visa Purposes, Re-entry Permits and Seaman's Identity Books held by passengers.

Government Office Automation (GOA) System

- GOA system provides an effective and efficient means for file and mail exchanges in electronic form between GOA users.
- At the new control point, GOA workstations and administrative network will be installed to provide an effective and efficient means for file and mail exchanges in electronic form between the new control point and ImmD Headquarters.