Report No. 54 of the Director of Audit — Chapter 7

IMPLEMENTATION OF THE VEHICLES AND DRIVERS LICENSING INTEGRATED DATA IV SYSTEM

Summary

1. In June 2001, the Finance Committee (FC) of the Legislative Council approved funding for the Transport Department (TD) to implement a Vehicles and Drivers Licensing Integrated Data (VALID) IV System to replace the old VALID III System. In May 2003, the Government Logistics Department (GLD), as the Authorised Contractual Authority, awarded a contract (the Contract) for developing and maintaining the VALID IV System. The Office of the Government Chief Information Officer's (OGCIO's) standard of project management methodology, known as the Projects in Controlled Environments (PRINCE), was adopted by the TD for managing the project. A Project Steering Committee (PSC) was established to provide overall guidance and direction for the project. The entire system was rolled out in September 2007. The Audit Commission (Audit) has recently conducted a review of the TD's planning, monitoring and implementation of the VALID IV project.

Project planning and monitoring

2. ***Need to allow sufficient time for tender negotiation.*** The TD's tender evaluation plan allowed 24 days for the GLD to conduct negotiation with the recommended tenderer and prepare the submission to the Central Tender Board. According to the GLD, it was impossible for the GLD to complete the required work within the given time for such a high-value and complex tender. In response, the TD revised the plan to allow 31 days for the GLD's work. In the event, the time allowed proved to be seriously inadequate, and the GLD took 6 months to complete its work. *Audit has recommended that, in planning for a large-scale computer project in future, the Commissioner for Transport should, in consultation with the Director of Government Logistics, ensure that sufficient time is allowed in the tender evaluation plan for conducting tender evaluation and negotiation with the recommended tenderer.*

3. ***Need to assess knock-on effect on system implementation date.*** According to the project funding submission to the FC, the expected tendering completion date was mid-2002, and the expected system implementation date was end 2004. In the event, the tendering process was not completed until May 2003 (i.e. a slippage of 10 months). The

TD set the contract completion date at December 2004, without assessing the knock-on effect of the tendering delay. As a result, only 19 months was allowed for implementing the system and completing the Contract, compared with 29 months in the original plan. *Audit has recommended that, in planning for a large-scale computer project in future, the Commissioner for Transport should ensure that the contract completion date is realistic, taking into account the knock-on effect of any slippage in completing the tendering process.*

4. ***Extension of contract completion date.*** The contract completion date was extended five times, from December 2004 to September 2007, for a total of 33 months. Audit found that, of the five extensions of the contract completion date, only the first extension had the GLD's prior approval. For the remaining four extensions, the GLD's approvals were given, on average, 3.75 months after the expiry of the last extended contract completion dates. *Audit has recommended that, in administering computer projects in future, the Commissioner for Transport should ensure that the GLD's prior approvals are obtained for extensions of contract completion date in accordance with the terms of the contract.*

5. ***Approval of reports and frequency of PSC meetings.*** A major task of the PSC was to review and approve project exception reports. During the implementation of the VALID IV project, six exception reports were produced. However, only four were discussed and approved at PSC meetings. The remaining two were circulated by e-mails to members for review and approval. In addition to exception reports, the PSC was required to review and approve end stage assessment reports. Of the six end stage assessment reports of the project, only four were approved in a timely manner. The remaining two were approved by the PSC 7 months and 3.5 months respectively after the completion of the stages. *Audit has recommended that, in administering a large-scale computer project in future, the Commissioner for Transport should: (a) ensure that sufficient meetings are held by the PSC to discharge its responsibilities; (b) make arrangement for all exception reports to be approved at PSC meetings; and (c) ensure that all end stage assessment reports are approved by the PSC in a timely manner.*

6. ***Additional management meetings.*** To strengthen the monitoring of the VALID IV project, the TD regularly held three groups of additional management meetings outside the formal management structure specified by PRINCE. Terms of reference for these meetings were not laid down. *Audit has recommended that, in administering a large-scale computer project in future, the Commissioner for Transport should seek timely expert advice from the OGCIO on whether it is advisable to hold different groups of regular management meetings outside the formal management structure specified by PRINCE, and clearly define how the roles and responsibilities of the meetings should interact with those of the PSC.*

System implementation

7. The VALID IV System was implemented in seven stages, namely the system analysis and design (SA&D) stage, the system development stage, the user acceptance test (UAT) stage, the data conversion stage, the implementation Phase I stage, the implementation Phase II stage, and the system nursing and warranty stage.

8. ***Some VALID III business rules not identified.*** In the SA&D stage, some of the VALID III business rules were not covered in the SA&D report. As a result, the project team needed to conduct a thorough study of the programs of the VALID III System to identify the missing business rules. This contributed to a 6-month delay in completing the SA&D stage. *Audit has recommended that, in administering a computer project in future, the Commissioner for Transport should take appropriate measures to help prevent the failure to identify all relevant business rules of a developed computer system.*

9. ***Program errors identified during UAT stage.*** During the UAT stage, program errors and test data problems were recorded as logs. According to TD records, a long time was taken to rectify some 6,300 logs reported during this stage. The TD recognised that this was one of the factors contributing to the project slippage. *Audit has recommended that, in administering a computer project in future, the Commissioner for Transport should take appropriate measures to minimise the number of program errors to be rectified in the UAT stage.*

10. ***Replacement of key project staff.*** According to the Contract, key project staff comprised core and non-core members of the project team. The core members were required to work full time for the project and their replacements required the TD's prior approval. During the implementation period, there were 12 replacements of the core members. Audit found that the TD's approvals were only given, on average, 8 months after the replacements took place. In three cases, the replacement staff had taken up the duties of the departing core members, in addition to their own duties as non-core members, for periods ranging from 7 to 16 months. *Audit has recommended that, in administering a computer project in future, the Commissioner for Transport should: (a) ensure that the TD's prior approval is obtained for the replacement of key project staff, in accordance with the relevant contractual requirement; and (b) ensure compliance with the contractual requirement that core members should work full time for the project.*

Post-implementation evaluation

11. To monitor the costs and benefits of administrative computer systems, the user department is required to submit a post-implementation departmental return (PIDR) to the OGCIO within six months after the rollout of a computer system. The PIDR shows the anticipated and actual benefits/costs of the project, the planned and actual implementation schedule, and the causes of deviation. Based on the PIDR, the OGCIO will decide whether there is a need to conduct a post-implementation review (PIR).

12. ***Unrealised savings and in-house development staff cost.*** Audit found that there was a delay of 26 months in achieving certain anticipated savings due to the delay in system implementation. However, the unrealised savings for this 26-month period were not quantified and reported in the PIDR. Audit also found that the TD reported, in the PIDR, an actual in-house development staff effort of 1,079 man-months, which exceeded the estimated 285 man-months due to the longer implementation period. However, it did not report the actual staff cost against the estimated cost in the PIDR. The unrealised savings and the actual staff cost are significant information that should warrant reporting in the PIDR. *Audit has recommended that, in administering a computer project in future, the Commissioner for Transport should ensure that all significant information, concerning unrealised benefits and increased in-house development staff cost caused by project delays, is reported in the PIDR.*

13. ***Decision not to conduct PIR.*** According to the OGCIO guidelines, in deciding whether to initiate a PIR, the OGCIO should pay particular attention to the extent to which the PIDR has indicated a substantial implementation delay and deviation from the agreed cost-benefit figures. Although the VALID IV project experienced significant delays, and substantial additional manpower resources were invested into the project, the OGCIO decided not to initiate a PIR. *Audit has recommended that the Government Chief Information Officer should consider revisiting the decision for not conducting a PIR of the VALID IV project, taking into account the serious delays and the consequential financial implications.*

Response from the Administration

14. The Administration accepts the audit recommendations.

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