

**Public Accounts Committee**  
**Consideration of Chapter 4 of the Director of Audit's Report No. 63**  
**Administration of the air traffic control and related services**

- (a) with reference to the milestones applicable to the new Air Traffic Management System ("ATMS") covering both Phase 1 and Phase 2 in the Implementation Plan of the ATMS contract (Attachment to Schedule 4 of Part V of the Tender Documents), please provide the system(s) to be involved in each milestone starting from the completion of Phase 1 to the completion of Phase 2 (i.e. Reference 1.15a to 1.22) by filling in the table below:

As explained at the last Public Accounts Committee meeting on 11 March, Phase 1 contract work refers to the installation and commissioning of the new ATMS at the new Air Traffic Control (ATC) Centre in the CAD Headquarters building, while Phase 2 contract work refers to conversion of the existing airside ATC Centre into a back-up ATC Centre with the installation of a new ATMS. At every stage, back-up ATMS is set up to ensure that the air traffic control operations can be maintained effectively.

For details of the requested information, please refer to *Appendix I*.

- (b) with reference to the provision of reference sites during Stage 2 and Stage 3 of tender evaluation of the ATMS tender as mentioned in Clause 8.1 and 8.2 of the Tender document, please provide the following information
- (i) whether the reference sites could be different;
  - (ii) if yes, whether the proposed Systems in the tender proposals submitted by the relevant tenders ("the proposed Systems") had to be operated as a main system/main component of the air traffic management system(s) at the reference sites;
  - (iii) if not, the relevancy of sending questionnaires to reference sites provided by the tenderers to solicit users' feedback on stability performance, technical and operational performance of the tenderers' systems (if that system is not the proposed System); and
  - (iv) the reference sites provided by the ATMS Contractor in these two stages, if they were different;

Reply to (i) – (iv) :

Stage 2 and Stage 3 of tender assessment process served different objectives. Under Clause 8.1, tenderers were required to provide

**\*Note by Clerk, PAC: Please see Appendix 29 of this Report for Appendix I.**

information for Stage 2 assessment to demonstrate their experiences in supplying, installing and assisting in the commissioning of air traffic management systems, whereas under Clause 8.2, at Stage 3, tenderers were required to demonstrate the compliance of their proposed systems with the requirements of the ATMS, including the systems' operational, functional, capacity requirements, as well as hardware and software requirements, etc. Accordingly, tenderers had to submit reference sites at Stage 2 and at Stage 3 to provide information on the respective aspects to facilitate the conduct of tender assessment by the Tender Assessment Panel (TAP). In view of the different objectives of the two stages, the reference sites provided for Stage 2 assessment could be different from those of Stage 3 assessment.

While there was no such stipulation in the tender document, the reference sites provided by all the tenderers at Stage 3 did contain the same main system / main component as the ATMSs proposed in their tenders.

The list and details of the reference sites provided by the ATMS Contractor for these two stages are at *Appendix II*.

- (c) besides the ATMS Contractor, whether all of the other tenderers who passed Stage 2 evaluation had provided reference sites using the full version of their proposed systems? If no, please specify the number of tenderers who had not provided reference sites using the full version of their proposed systems (i.e. provided reference sites which installed core components of their proposed system only);

The tender document had not specified that tenderers who had passed Stage 2 evaluation had to provide reference sites using the full version of their proposed systems. Two out of the five tenderers who had passed Stage 2 assessment had provided reference sites which had installed core components of their proposed systems only.

- (d) the job duties of “the concerned officer”, one of the members of the Tender Assessment Panel for evaluating the ATMS tender, in particular his involvement in the preparation of the tender documents and the evaluation of the tender;

A team comprised about 20 professionals from the Air Traffic Engineering and Standards Division (AESD) and the Air Traffic Management Division (ATMS) of CAD was responsible for preparing the tender document for the ATMS. The concerned officer was one of the team members who took part in the formulation of the operational requirements of the system, including human machine interface, ergonomic design of workstations in ATC centre and tower, console and system display, etc. Before commencing his pre-retirement in August 2006, the concerned officer was responsible for overseeing the management and operations of the ATC

**\*Note by Clerk, PAC: Appendix II not attached.**

Centre and Control Tower, and the delivery of air traffic services. He had over 30 years of working experience in ATC operations, and had assumed duties relating to trial, evaluation, training and implementation of the ATMS during the transition from Kai Tak to the Hong Kong International Airport (HKIA) in 1990s. Given his valuable experience, he was engaged as a non-civil service contract (NCSC) staff from September 2006 to August 2012 to serve as advisor to the team<sup>1</sup>.

In accordance with the Stores and Procurement Regulations (SPR), the tender evaluation of the ATMS tender was undertaken by the TAP consisting of 11 engineering and air traffic control professionals from various divisions of CAD. With his experience in handling the transition of the ATC Centre from Kai Tak to Chek Lap Kok, the concerned officer performed an advisory role at the TAP, providing views to TAP members from operational perspective, including human machine interface, system functions, training plan, test plan, degraded mode of operations, contingency fallback arrangements, etc . Within the TAP, the concerned officer acted as an advisor, and was not involved in tender assessment or scoring.

- (e) whether the Civil Aviation Department (“CAD”) has implemented any measures in respect of the new ATMS tender to regulate post-service employment of its staff (including those on non-civil service contract) to ensure that they will not take up any post-service work which may constitute real or potential conflict of interest with their previous duties in CAD;

Under the prevailing control regime stipulated by the Civil Service Bureau, directorate civil servants leaving government service (e.g. on retirement, resignation, completion of agreement) are required to obtain prior permission before they can take up any outside work during the prescribed restriction periods, so as to ensure that civil servants leaving the Civil Service do not take up work which may constitute actual, potential or perceived conflict of interest with their former government duties or which could undermine the image of the Civil Service or embarrass the Government.

Staff employed under NCSC terms are also subject to the control under the Prevention of Bribery Ordinance (Chapter 201), which criminalises bribery and corrupt transactions in both the public and private sectors, and

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<sup>1</sup> As a directorate officer at D1 level before his retirement, the concerned officer was subject to two-year control period counting from the date of the end of his pre-retirement leave, i.e. from 2007-2009.

the Official Secrets Ordinance (Chapter 521), which controls the unauthorized disclosure of official information.

In respect of the new ATMS tender, the CAD had followed strictly the rules and procedures in the SPR. All TAP members had signed declaration and undertaking to confirm no conflict of interest prior to the conduct of the tender assessment exercise. The composition of the TAP was also approved by the Central Tender Board<sup>2</sup>.

- (f) total expenditure incurred for the upgrading and maintenance works for existing ATMS (AutoTrac I) beyond 2012, the original target date for commissioning the new ATMS;

The annual expenditure on system maintenance of the existing ATMS is about \$5.9M. One-off enhancement measures for the existing ATMS were conducted in 2014 to strengthen the system's capability to ensure its safe and reliable operations. The cost of the one-off enhancement measures have been absorbed in the annual maintenance expenditure. A team is responsible for maintaining the steady and reliable operations of the ATMS, including the existing ATMS and the upcoming ATMS. The manpower costs amount to \$9.5M.

- (g) payment schedule of the new ATMS contract and payments made to the ATMS contractor; and

Please refer to *Appendix III*.

- (h) factors which have been taken into account in arriving at the daily penalty figures of \$52,190 and \$34,314 for Phase 1 ATMS and Phase 2 ATMS respectively and the rationale for capping the maximum days of penalty for each phase at 100.

The clause providing for the payment of liquidated damages arising from delay (which is not a penalty as it would not be enforceable) were included during the tender preparation and had been reviewed by the Government Logistics Department (GLD) (from the usual procurement angle) and the Department of Justice (DoJ) (from the legal perspective).

In accordance with established legal principles concerning determination of liquidated damages, the amount has to be based on a genuine estimate of the losses which would be suffered by Government arising from the delay of the project. The losses include extra costs for maintenance charges for the existing system (including stocking specialised spare parts

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<sup>2</sup> The Central Tender Board was chaired by the Permanent Secretary for Financial Services and the Treasury (Treasury) and comprised the representatives from the Financial Services and Treasury Bureau (FSTB) and the Government Logistics Department, etc.

for the existing system and software maintenance for the existing system), and any extra man-power required for operating the existing system to ensure continued safety and efficiency and so on. CAD had made reference to these items of losses in arriving at the daily rate chargeable as liquidated damages for each of Phases 1 and 2 ATMS. This is in line with the established approach adopted by Government in tender documents to avoid any argument that the amount is extortionate and is a penalty and is therefore not legally enforceable.

Encl.

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**Settled and Scheduled Payments to New ATMS Contractor**

**A. ATMS (Original Contract)**

| <b>I. Payments Made:</b>  |                     |  |
|---|---------------------|--|
| <b>Payment Terms</b>  | <b>ATMS (HK\$M)</b> | <b>Payment Date</b>  |
| Upon signing of the Articles of Agreement of ATMS<br>(20% Total System Price of ATMS)   | 88.8                | 25-Mar-11  |
| Upon completion of the relevant Milestones specified in items<br>1.9a (i.e. Delivery of Equipment and installation materials for Phase 1 ATMS <sup>1</sup> to Site),<br>1.9c (Delivery, Installation and putting into commission of ATMS consoles in the New CAD Buildings and North Aerodrome Tower) and<br>1.9e (Site Acceptance Tests for Part II Computer Based Training in the New CAD Buildings) in accordance with the Implementation Plan<br>(10% Total System Price of ATMS) | 44.4                | 18-Jul-13  |
| <b>Total<sup>2</sup>:</b>   | <b>133.2</b>        |  |
| <b>II. Scheduled Payments</b>   |                     |  |
| <b>Payment Terms</b>  | <b>ATMS (HK\$M)</b> | <b>Scheduled Payment Date</b>  |
| Upon issuance of Acceptance Certificate for Phase 1 ATMS<br>(50% of the Total System Price of ATMS)   | 222.0               | 20-Dec-13<br>(The payment had yet been made as the acceptance of the Phase 1 ATMS had been rescheduled to the second half of 2015) |
| Upon completion of Software Warranty Period for Phase 1 ATMS<br>(5% of the Total System Price of ATMS)  | 22.2                | 20-Dec-18  |

<sup>1</sup> Phase 1 ATMS refers to the new ATMS installed and commissioned at the new ATC Centre in the CAD Headquarters building.

<sup>2</sup> Rounding error to HK\$0.1M may introduce minor discrepancy in the Total value.

|  |                          |  |
|--|--------------------------|--|
| Upon issuance of Acceptance Certificate for Phase 2 ATMS <sup>3</sup><br>(10% of the Total System Price of ATMS) | 44.4                     | 39 weeks from Phase 2 Buildings Access Date <sup>4</sup> |
| Upon completion of Software Warranty Period for Phase 2 ATMS<br>(5% of the Total System Price of ATMS)           | 22.2                     | 60 months from Acceptance of Phase 2 ATMS                |
| <b>Total<sup>2</sup>:</b>  | <b>310.9<sup>5</sup></b> |  |

**Contract Variation #1 (CV#1)**

| <b>I. Payments Made:</b>  |                     |                     |
|---|---------------------|---------------------|
| <b>Payment Terms</b>  | <b>CV#1 (HK\$M)</b> | <b>Payment Date</b> |
| Upon confirmation of contract variation CV#1<br>(20% Total System Price of CV#1)  | 8.0                 | 25-Sep-12           |
| Upon completion of the relevant Milestones specified in items<br>1.9a (i.e. Delivery of Equipment and installation materials for Phase 1 ATMS <sup>1</sup> to Site),<br>1.9c (Delivery, Installation and putting into commission of ATMS consoles in the New CAD Buildings and North Aerodrome Tower) and<br>1.9e (Site Acceptance Tests for Part II Computer Based Training in the New CAD Buildings) in accordance with the Implementation Plan<br>(10% Total System Price of CV#1) | 4.0                 | 18-Jul-13           |
| <b>Total<sup>2</sup>:</b>   | <b>12.0</b>         |                     |

<sup>3</sup> Phase 2 ATMS refers to the new ATMS to be installed and commissioned at the new back-up ATC centre, which is the existing airside ATC Centre after undergoing retrofitting work.

<sup>4</sup> Phase 2 ATMS Buildings refer to the existing airside ATC Centre. Upon completion for transition of operation from existing system to the new ATMS in the new ATC Centre, the existing ATMS at the existing ATC Centre will be de-commissioned, and the existing ATC Centre will undergo retrofitting work. After completion, the existing ATC Centre will be available for access by the ATMS Contractor to commence the Phase 2 contract work, i.e. conversion of the existing airside ATC Centre into a back-up ATC centre by replacing the existing ATMS with the new ATMS.

<sup>5</sup> Under the original contract, a contingency fund of HK\$41.9M has been reserved but not yet been committed by CAD to the contractor. CAD will review whether there is a need to use the fund for further maintenance service after the system is accepted to ensure its effective and reliable operations.

| <b>II. Scheduled Payments</b>  |                         |  |
|--|-------------------------|--|
| <b>Payment Terms</b>   | <b>CV#1 (HK\$M)</b>     | <b>Scheduled Payment Date</b>  |
| Upon issuance of Acceptance Certificate for Phase 1 ATMS<br>(50% of the Total System Price of CV#1)              | 20.0                    | 20-Dec-13(The payment had yet been made as the acceptance of the Phase 1 ATMS had been rescheduled to the second half of 2015) |
| Upon completion of Software Warranty Period for Phase 1 ATMS<br>(5% of the Total System Price of CV#1)           | 2.0                     | 20-Dec-18  |
| Upon issuance of Acceptance Certificate for Phase 2 ATMS <sup>3</sup><br>(10% of the Total System Price of CV#1) | 4.0                     | 39 weeks from Phase 2 Buildings Access Date  |
| Upon completion of Software Warranty Period for Phase 2 ATMS<br>(5% of the Total System Price of CV#1)           | 2.0                     | 60 months from Acceptance of Phase 2 ATMS  |
| <b>Total<sup>2</sup>:</b>  | <b>28.0<sup>6</sup></b> |  |

**B. Contract Variation #2 (CV#2)**

| <b>I. Payments Made:</b>   |                     |  |
|--|---------------------|--|
| <b>Payment Terms</b>   | <b>CV#2 (HK\$M)</b> | <b>Payment Date</b>  |
| Upon signing of contract variation CV#2<br>(20% of Total System Price of CV#2)                               | 8.9                 | 02-Dec-13  |
| <b>Total<sup>2</sup>:</b>  | <b>8.9</b>          |  |
| <b>II. Scheduled Payments</b>  |                     |  |
| <b>Payment Terms</b>   | <b>CV#2 (HK\$M)</b> | <b>Scheduled Payment Date</b>  |
| Upon issuance of Acceptance Certificate for Phase 1 ATMS <sup>1</sup><br>(60% of Total System Price of CV#2) | 26.8                | 20-Dec-13(The payment had yet been made as the acceptance of the Phase 1 ATMS had been rescheduled to the second half of 2015) |

<sup>6</sup> Under the CV#1, a contingency fund of HK\$2.4M has been reserved by CAD but not yet been committed by CAD to the contractor. CAD will review whether there is a need to use the fund for further maintenance service after the system is accepted to ensure its effective and reliable operations.



### Appendix III

|  |                         |   |
|--|-------------------------|---|
| Upon completion of Software Warranty Period for Phase 1 ATMS<br>(5% of the Total System Price of CV#2)           | 2.2                     | 20-Dec-18                                   |
| Upon issuance of Acceptance Certificate for Phase 2 ATMS <sup>3</sup><br>(10% of the Total System Price of CV#2) | 4.5                     | 39 weeks from Phase 2 Buildings Access Date |
| Upon completion of Software Warranty Period for Phase 2 ATMS<br>(5% of the Total System Price of CV#2)           | 2.2                     | 60 months from Acceptance of Phase 2 ATMS   |
| <b>Total<sup>2</sup>:</b>  | <b>35.8<sup>7</sup></b> |   |

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<sup>7</sup> Under the CV#2, a contingency fund of HK\$2.1M has been reserved by CAD but not yet been committed by CAD to the contractor. CAD will review whether there is such need to use the fund for further maintenance service after the system is accepted to ensure its effective and reliable operations.