

政府帳目委員會  
審議審計署署長第六十三號報告書  
第4章－航空交通管制及相關服務的管理

- (a) whether the Civil Aviation Department (“CAD”) had solicited comments from users of Autotrac III regarding its performance prior to the award of the Air Traffic Management System (“ATMS”) contract? If yes, please provide the relevant record;*

民航處在航空管理系統(航管系統)標書評審過程中有向由投標商提供參考地點的用戶查詢對系統的意見。相關的記錄載於附錄一。

- (b) a list of current users of Autotrac III;*

Autotrac III 系統現於迪拜機場，印度的德里、孟買和清奈等機場使用。此外，承辦商設計和生產並與 Autotrac III 採用相同關鍵子系統的空管系統亦在德國，美國和加拿大被廣泛使用。

- (c) according to the Conditions of Tender for replacement of the ATMS, the Government reserves the right to conduct visits to the factory(ies) and reference site(s) of all the tenderers who have passed Stage 2 evaluation to verify compliance with the essential requirements. In this regard, please provide the following-*

- (i) a list of the reference sites provided by each of the tenderers who have passed Stage 2 evaluation;*

每個投標商提供的參考地點名單載於附錄二。

- (ii) the reasons for not conducting visits to those reference sites in (i); and*

在技術評審新空管系統標書期間，標書評審委員會對所有 5 家符合標書裏必要規定的投標商進行了廠房實地考察。此外，標書評審委員會亦設計和發出一套問卷邀請投標商提供的參考地點用戶提供書面資料。我們認為這個安排更具效率和合乎經濟效益，因為：

**\* 委員會秘書附註：只在此隨附民航處的函件及問卷樣本各一份。**

- 考慮到新航管系統的複雜性和高度技術性，進行廠房實地考察可以對系統進行更具體和廣泛的測試或檢查，以便評核投標商的技術能力，並可即場向投標商提出問題，方便和投標商直接溝通和澄清有關問題。
- 各投標商設在廠房裡的裝置可提供更合適的環境，有助他們展示最新科技和新空管系統的重要功能，尤其是那些關鍵性的安全功能。

***(iii) records of the request made by CAD to the air traffic control service providers or other parties of the reference sites for information on the relevant air traffic systems provided by the tenderers, and their replies;***

如以上(a)段陳述，相關的查詢記錄已載於附錄一。

***(d) with reference to Clause 8.1(h) of the Conditions of Tender, the tenderers are required to provide serviceability/availability figures showing that the system was put in service for no less than 6 consecutive months any time within the last 10 years preceding the Tender Closing Date. The 6 consecutive-month period is also used in other paragraphs of Clause 8.1. In this regard, please provide;***

***(i) the reason for using “no less than 6 consecutive months” as the minimum track record requirement and in other paragraphs of Clause 8.1; and***

民航處訂立必要規定，投標商須提供系統可服務性/可用性資料，顯示在截標日前的 10 年內，系統有不少於 6 個月的連續運作時間。基於運作經驗和民航處從赤鱸角機場項目得到的經驗，6 個月時間應足以反映系統可能會出現的重要異常情況。

***(ii) the minimum track record requirement for procuring the existing ATMS Autotrac I in 1993. If there was a change in the requirement, the justification for such change in view of the fact that 6 months might not fully reflect the performance of the system;***

現有的航管系統 (即 Autotrac I) 的標書無特別規定建議系統在參考地點必須有最少的運作時間。儘管如此，投標商如有相關資料，亦須盡量提供過往 12 個月系統的可服務性/可用性資料。經過多年積聚經驗，民航處在新航管系統標書中採用不少於 6 個月的具體要求，此要求亦在其他主要空管系統的標書採用。



- 在系統詳細設計檢討階段，承辦商設立了一隊系統和軟件專家，他們都是對現有航管系統具有充分知識和經驗的人員，去參與詳細系統設計的檢討工作。承辦商在系統設計表現專業，並盡力把已經討論的要求納入向民航處提交的系統詳細設計文件內。
- 新航管系統的承辦商同時是現有航管系統的承辦商，也是負責現有航管系統軟件保養與支援的服務供應商。現有航管系統的表現穩定可靠，而民航處亦滿意承辦商的表現。

***(i) the source of funding to cover the two contract variations in the procurement of the ATMS;***

兩次更改合約的款項來自 2007 年 5 月立法會財務委員會所批出的撥款。

***(j) relevant extracts of the ATMS contract provisions relating to claims against delay in the implementation of the contract and termination of contract;***

合約規定第 17 條和 45 條內有關算定損害賠償和終止合約的條款載於附錄四。

***(k) with reference to the additional requirements in the ATMS by way of contract variation referred to in paragraphs 2.6 and 2.9 of Chapter 4, please provide:***

***(i) a breakdown of the cost by items listed out in paragraph 2.6 (a), (b) and (c) for Contract Variation No. 1;***

第一次更改合約費用為港幣 4,240 萬。  
[有關費用詳情，請參閱附錄五。]

***(ii) a breakdown of the cost by items listed out in paragraph 2.9 for Contract Variation No. 2; and***

第二次更改合約費用為港幣 4,680 萬。  
[有關費用詳情，請參閱附錄五。]

***(iii) the reasons for having 50 positions for ATMS, but only requiring the contractor to provide 32 simulator training and input operator positions in the contract;***

**\* 委員會秘書附註：有關附錄五，請參閱此報告書的附錄 31。**

新航管系統設立約 50 個空管工作席位及 32 個模擬訓練和資料輸入席位是要確保香港飛行情報區內空管服務能高效運作，並為空管人員提供專業培訓。

為數約 50 個空管工作席位供航空交通管制員為香港飛行情報區內的航班提供無間斷的空管服務。工作席位數目取決於運作經驗和香港飛行情報區的頻繁交通量。模擬器系統訓練席位是為分批培訓民航處航空交通管制員和評估空管程序而設。原先 32 個模擬訓練和資料輸入席位的建議數目是為航空交通管制員提供足夠的培訓機會，以確保有充足數量及受過專業訓練的航空交通管制員來提供安全有效率的空管服務，建議席位數目是以航空交通穩定增長作為考慮。

***(l) criteria on whether and when an enhancement to ATMS should be made, in particular for enhancements arising from new requirements from International Civil Aviation Organization;***

有關新航管系統的優化，民航處主要是根據國際規定、航空安全、運作需要和成本效益而作出考慮。

每當國際民航組織公佈新措施優化飛行安全和運作效率（例如全球航空導航計劃和區域性航空交通管理應變計劃），所有成員都須要按運作效率、航空安全和成本效益方面的考慮來規劃實施這些新措施的路線圖。

由於國際民航組織新的要求在新系統項目進行期間出現，在系統運作前加入這些措施會更具成本效益和能夠減低安全風險。同時，這安排對於軟件開發工作和測試能產生協同作用，對運作影響也能減到最低。

***(m) the countries in the Asia-Pacific Region and other regions of the world which have adopted the Air traffic Management contingency arrangements referred to in paragraph 2.7 (a) of Chapter 4;***

我們正向國際民航組織查詢有關資料，收到有關資料後會即時提交。

***(n) The total cost of 23 enhancements to the existing ATMS;***

由 1994 年系統設計開始至今，對現有航管系統共作出了 23 次軟件改動。所有軟件優化改動的總支出為港幣六千一百萬元。

***(o) relevant extracts of the ATMS contract provisions relating to the capacity of air traffic control;***

有關係統處理能力的要求載於附錄六。

***(p) whether consideration had been given to engaging external experts to assist in the procurement of ATMS in view of the complexity involved;***

在系統採購初期，民航處曾探討聘請外來專家的需要和合適性。但基於時間緊迫和項目的高度技術性，民航處經考慮後認為處方人員跟承辦商直接商討用家要求和需要更具成本效益和效率。此外，民航處也認為聘用外來顧問需要額外的協調和監管，會導致成本上升。

***(q) with reference to the overdue en-route navigation charges referred to in Table 6 of Chapter 4, please provide:***

***(i) the latest figure on the total overdue amount;***

截至 2015 年 1 月 7 日，逾期的過境導航收費總金額為二千一百三十萬元。

***(ii) details of the overdue amount with the longest overdue period; and***

逾期繳款最長的債務人的欠款為八十萬元。該債務人最早的繳款通知書的到期日為 2008 年 6 月。

***(iii) details of the cases which involved an overdue amount of \$250,000 or more, including the amount involved, length of the overdue period and follow-up actions taken, including whether any unrecoverable amount will be written off;***

逾期付款個案和跟進工作的細節詳載於附錄七。

***(r) whether CAD has reported to LegCo about the two contract variations and delays in implementing the ATMS contract. If yes, please provide the relevant papers and correspondences; and***

有關工程進度和合約更改在提交給立法會議員、立法會經濟發展事務委員會及立法會財務委員會的回覆內已有述及，相關回覆詳載於附錄八。

***\* 委員會秘書附註：有關附錄七，請參閱此報告書的附錄 44。附錄八並無在此隨附。***

**(s) number of suppliers invited to submit proposals for the ATMS Autotrac I Tender in the early 1990s.**

現有航管系統共邀請了 30 間潛在供應商投標，名單詳載於附錄九。

**(t) Extra Item (Request item in 2nd letter from PAC also dated 7 January 2015)**

***Provide details of the complaint lodged by an unsuccessful tenderer of the ATMS contract concerning the requirement of possession of “proven performance record” by the contractor as specified in Clause 8.4 of the Conditions of Tender, and the decision of the Review Body on Bid Challenges on this case.***

有關落選投標商所作的投訴及投標投訴審裁組織的裁決詳載於附錄十。

夾附文件

1. 附錄一至十 (部份附錄只提供英文版本)
2. 附錄中英文版本列表

\*\*\* 完 \*\*\*

**\* 委員會秘書附註：有關附錄十，請參閱此報告書的附錄 24。**

民航處的函件及問卷樣本



香港特別行政區政府  
 民航處  
 Civil Aviation Department  
 The Government of the Hong Kong Special Administrative Region

香港國際機場東輝路 11 號港龍大廈三樓  
 3/F, Dragonair House, 11 Tung Fai Road, Hong Kong International Airport, Hong Kong

檔案編號 OUR REF.	來函編號 YOUR REF.	電話 TEL.	圖文傳真 FAX.
(6) in T/FAC/3040/1/3 C 等		(852) 2591 5051	(852) 2845 7160

By Fax (5 pages)  
 7 May 2010



← Address of Recipient

Dear [Redacted] ← Recipient's Name

**Site Reference for Tendering of Air Traffic Management System  
 for Hong Kong International Airport**

The Civil Aviation Department of Hong Kong SAR Government is now tendering for a new Air Traffic Management System (ATMS) for the Hong Kong International Airport. One of the tenderers, [Redacted] indicated your ACC Centre as a reference site of their ATMS system installed and in operation.

We would like to seek your kind assistance in providing your input by completing and returning the attached questionnaire by fax and email. The information provided will be of invaluable reference in our assessment of the tender and treated as confidential information.

Should you have any queries, please contact the undersigned at Tel: (852) 2591 5002, Fax: (852) 2845 7160 or email: [pcchan@cad.gov.hk](mailto:pcchan@cad.gov.hk).

Your early reply by 14 May 2010 is much appreciated.

Yours faithfully,

( P C Chan )  
 for Director-General of Civil Aviation

c.c. Director of Government Logistics (Attn.: Mr. Joe Wong) Fax: 2807 2764

**\* 委員會秘書附註：本文件只備英文本。**



**Questionnaire on Air Traffic Management System (ATMS)**

**1. ATMS Description**

- a) Location of installed ATMS
- b) Manufacturer :
- c) Model of ATMS :
- d) Software version :

**2. ATMS Implementation**

- a) Planned ATMS acceptance date :
- b) Actual ATMS acceptance date :
- c) Date of ATMS put into operation :
- d) Is the ATMS currently in operation ? If not,
  - (i) the reason is
  - (ii) date of ceasing operation

e) ATMS installed includes :

- |  |          |
|--|----------|
| 1. Air Traffic Control Centre (ATCC) Operational partition | Yes / No |
| 2. Tower Control Operational partition                     | Yes / No |
| 3. Fallback partition                                      | Yes / No |
| 4. Development partition                                   | Yes / No |
| 5. Air Traffic Control Centre Simulator partition          | Yes / No |

f) For this ATMS, during the period of operation as stated above, state the maximum number of working positions installed and in operation at this location, with the following position-type breakdown:

- 1. Number of ATCC air traffic controller working positions
- 2. Number of Tower air traffic controller working positions
- 3. Number of Flight Plan/Data Coordination positions
- 4. Number of ATCC and Tower Supervisor positions

**3. ATMS Performance**

- a) Major ATMS failures after operational use

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<b>ATMS failures</b>	<b>Number and brief descriptions of the failures</b>	<b>Duration (hrs)</b>
(1) Total ATMS outages* (complete service loss)		
(2) Other major failures*		

*\*please provide detail information on separate sheet of paper, if considered necessary*

b) Overall ATMS performance ratings (please tick one or more boxes below)

- ATMS unsatisfactory for operation
- ATMS unreliable
- generally not meeting specification requirements
- generally satisfactory
- very satisfactory and fully meet specification requirements
- totally satisfactory for operation

c) Operational and Technical performance ratings (please tick one box for each item)

- 1 - unsatisfactory*
- 2 - generally good but with many limitations*
- 3 - good but with some or minor limitations*
- 4 - good, flexible and effective*
- 5 - very good, very flexible and very effective*

<b>Operational Performance Ratings</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>(a) User Friendliness</b>					
Controller tools including Safety Net features e.g. range & bearing line, predicated line, STCA					
ATMS response to controller input					
Setting up of ATC display e.g. maps, colours, ranges, sector consolidation					
<b>(b) Design Ergonomics</b>					
HMI colour scheme e.g. background, maps, labels					
HMI control device e.g. softkeys, hotkeys					
<b>(c) Adaptation to different External System Interfaces</b> e.g. FPL, ATS messages, weather data, wind data					
<b>(d) Online On/Off Capability of ATMS Functions</b> e.g. Safety net tools, CPDLC, audio/visual alarm					

<b>Technical Performance Ratings</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>(a) Procedure of uploading new/revised DMS</b>					
<b>(b) Flexibility in HMI customization</b> e.g. change colour, line width, fonts					
<b>(c) Flexibility in System Configuration</b> e.g. online VSP, making up of sectors and airspace					

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(d) Ease of System Set-up e.g. whether the VSPs provided are useful					
(e) Trajectory Computation Accuracy					
(f) Safety Net Prediction Accuracy e.g. STCA, MTCD					
(g) ATMS Reliability					
(h) ATMS Availability					
(i) ATMS Maintainability					

<b>Overall ATMS Performance</b>					
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**4. Contractor/Supplier Performance**

Specific contractor/supplier performance ratings (please tick one box for each performance item)

- 1 - unsatisfactory*
- 2 - below expectation or cannot fully comply with contractual obligations*
- 3 - good*
- 4 - very good*
- 5 - exceptionally good*

<b>Contractor/Supplier performance ratings</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
(a) Technical competence of project staff					
(b) Technical competence of post acceptance support staff					
(c) Responsiveness					
(d) Co-operation					
(e) Quality of work					
(f) Sense of responsibility					
(g) Quality of documentation					
(h) Quality of training					
(i) After-sales hardware support					
(j) After-sales software support					
(k) Overall performance					

**5. Additional information**

a) Average training required in terms of training hours and/or man-days for the following ATC positions in order to achieve the required competency of your organisation:-

- i) ATC Area Radar / Enroute Sector .....
- ii) ATC Approach Radar .....
- iii) Tower Control Air Movements (Runway / Circuit) ...
- iv) Tower Control Ground Movements (Non-Runway) ...
- v) Flight Data Operator .....

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- vi) ATC Supervisor ..... \_\_\_\_\_
  - vii) Database Management Supervisor ..... \_\_\_\_\_
  - viii) Hardware Maintenance ..... \_\_\_\_\_
  - ix) Software Maintenance ..... \_\_\_\_\_
  - x) Database Management (Technical) ..... \_\_\_\_\_
- c) Convenience, effectiveness and limitations of the HMI for ATC / Flight data input e.g. clearance update; flight plan amendments.
- d) The skills required and the composition and size of your ATMS database management team.
- e) Whether all the required data in the ATMS database, such as maps are set up by the contractor, upon receiving of such data provided by your organisation at various stages of the project? Please advise any problems encountered with the contractor/ supplier in the process of setting up ATMS database.
- f) Any difficulties/problems encountered during the acceptance tests subsequent to FAT.
- g) Level of flexibility / adaptability of the ATMS HMI to meet new user requirements since ATMS operation e.g. implementation of new ICAO FPL requirements.
- h) Comment the performance of the following, if installed:
  - (i) Availability of Multi-sensor tracking
  - (ii) Integration of AMAN and/or DMAN
- i) Any issues on ATMS changeover i.e. from Main to Fallback or from Primary server to Secondary server, particularly on changover time and data synchronization?.

**Thank you for completing this questionnaire! Grateful if you would advise a contact for further reference.**

\* \* \* Thank you \* \* \*



Reference Sites provided by Tenderers (based on Tenderers' Proposals - Schedule 3A)

Name of Tenderer	Name of Reference Site(s) / Location
Tenderer A	<ul style="list-style-type: none"> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> </ul>
Tenderer B (Successful Tenderer)	<ul style="list-style-type: none"> <li>• Moncton, Gander, Winnipeg, Montreal, Toronto, Vancouver, and Edmonton ACC/Canada</li> <li>• P1 controls 4 ACCs: Frankfurt-Langen, Dusseldorf, Bremen and Munich/Germany</li> <li>• United States National Airspace System (NAS)/USA</li> </ul>
Tenderer C	<ul style="list-style-type: none"> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> <li>• [Redacted]</li> </ul>

\* 委員會秘書附註：本文件只備英文本。

Reference Sites provided by Tenderers (based on Tenderers' Proposals-Schedule 3A)

Name of Tenderer	Name of Reference Site(s) / Location
Tenderer D	<ul style="list-style-type: none"><li>• [Redacted]</li></ul>
Tenderer E	<ul style="list-style-type: none"><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li><li>• [Redacted]</li></ul>

Tender Ref : PT/0230/2009

File Ref : A1310422009

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- 16.2 The System Acceptance Tests for a Sub-System shall not be deemed to have been passed until all tests in each of the FAT, SAT, FCAT and RAT have been satisfactorily completed with results accepted by the Government in writing.
- 16.3 The Contractor shall agree that the Government may use the CBT System and Simulator System at no cost for the purpose of training prior to the issuance of the Acceptance Certificate for Phase 1 ATMS. Without prejudice to other obligations of the Contractor, the Contractor shall provide free of charge such maintenance services as may be necessary to maintain the CBT System and Simulator System in full working order until Phase 1 ATMS is accepted by the Government.

## 17. Delays

- 17.1 The Contractor shall provide each of the Sub-Systems Ready for Service on or before the Completion Date, viz Phase 1 ATMS Ready for Service by the applicable Completion Date specified in the Implementation Plan, and Phase 2 ATMS Ready for Service by the applicable Completion Date specified in the Implementation Plan.
- 17.2 If the Contractor fails to provide a Sub-System Ready for Service by the Completion Date, the Contractor shall pay to the Government within 7 days upon demand by the Government as and by way of liquidated damages and not as a penalty for any loss or damage sustained by the Government resulting from delay during the period from the Completion Date to the date on which the Contractor actually provides the Sub-System Ready for Service the sum of HK\$52,190 for each day or part of the day of such delay up to a total maximum of HK\$5,219,000 in the case of Phase 1 ATMS, and HK\$34,314 for each day or part of the day of such delay up to a maximum of HK\$3,431,400 in the case of Phase 2 ATMS. Subject to the provisions of Clause 17.3 below the payment of such sums shall be in full satisfaction of the Contractor's liability for such delay only. The payment of liquidated damages shall not relieve the Contractor of its obligation to provide the Sub-System Ready for Service or of any other liability or obligation under this Contract.
- 17.3 If the Contractor fails to provide any Sub-System Ready for Service within 60 days after the Completion Date then notwithstanding anything else contained in this Contract, unless the Contractor has been given an extension of time under Clause 6 which extends the time to provide the Sub-System Ready for Service, the Government shall be entitled to terminate this Contract pursuant to Clause 44.1.8 (in the case the Sub-System which fails to become Ready for Service is Phase 1 ATMS) or pursuant to Clause 44.2 (in the case the Sub-System which fails to become Ready for Service is Phase 2 ATMS). Upon such termination the Contractor shall, without prejudice to the Government's other rights and claims, forthwith refund to the Government (i) all moneys previously paid to the Contractor under this Contract (in the case the delay relates to Phase 1 ATMS) or (ii) the Total System Price attributable to Phase 2 ATMS (in the case the delay relates to Phase 2 ATMS).

- Contractor or all or any part of its business or assets; or
- 44.1.6 the Contractor abandons the Contract in part or in whole; or
- 44.1.7 the Contractor assigns or transfers or purports to assign or transfer all or any part of the Contract or all or any of its rights or obligations thereunder without the prior written consent of the Government; or
- 44.1.8 without prejudice to the generality of the foregoing grounds for termination, if any event or circumstance occurs which enables the Government to terminate the Contract under any one of the following provisions:
- Clause 12.3(d) (FAT);
  - Clause 13.3(d)(i) (SAT);
  - Clause 14.3(d) (FCAT)
  - Clause 15.2(c)(i) (RAT);
  - Clause 17.3 (Delays);
  - Clause 30.3.4 (Intellectual Property Rights Indemnities);
  - Clause 40.4 (Prevention of Bribery);
  - Clause 46.3 (Force Majeure);
  - Clause 48.4 (Software Asset Management);
  - Clause 51.1 (Illegal Workers); and
  - Clause 52.6 (Admission to Government's Premises).
- 44.2 The Government may terminate the Contract to the extent it relates to Phase 2 ATMS ("Partial Termination") if any event or circumstance occurs which enables the Government to do so under any one of the following provisions:
- Clause 13.3(d)(ii) (SAT);
  - Clause 15.2(c)(ii) (RAT); or
  - Clause 17.3 (Delays).
- 45. Consequences of Early Termination**
- 45.1 Upon early termination (howsoever occasioned) or expiry of the Contract ("Termination"):
- 45.1.1 the Contract shall be of no further force and effect, but without prejudice to:



- (a) the Government's rights and claims under the Contract or otherwise at law against the Contractor arising from antecedent breaches of the Contract by the Contractor (including any breach(es) which entitle the Government to terminate the Contract);
  - (b) the rights and claims which have accrued to a party prior to the Termination; and
  - (c) the continued existence and validity of those provisions which are expressed to or which in their context appropriately survive Termination and any provisions of the Contract necessary for the interpretation or enforcement of the Contract including without limitation Clauses 1 (Definitions), 22 (Title and Risks to the System), 23 (Vesting of Intellectual Property Rights in the Government), 24 (Exclusion from Vesting), 25 (Licences), 26 (Warranties and Undertaking), 27 (No Warranty on the Part of the Government), 29 (Indemnities), 30 (Intellectual Property Rights Indemnities), 35.5 to 35.6, 35.9 to 35.13 (apart from Clause 35.11) (Payment), and all remaining Clauses thereafter except for Clause 49 (Policy of Insurance and Compensation), 52 (Admission to Government's Premises); the obligations of the parties under these provisions shall continue to subsist notwithstanding the Termination regardless of whether or not it is so expressly stated in these individual provisions;
- 45.1.2 the Government shall not be responsible for any claim, legal proceeding, liability, loss (including any direct or indirect loss, any loss of revenue, profit, business, contract or anticipated saving), damage (including any direct, special, indirect or consequential damage of whatsoever nature) or any cost or expense, suffered or incurred by the Contractor due to the Termination;
- 45.1.3 the Government may, without prejudice to any accrued rights and claims of the Government for breach of the whole or any part of Contract, itself take up the uncompleted Services (or any part thereof) or contract out the uncompleted Services (or any part thereof) to another contractor(s) or procure the Contractor Supplied Components and/or other items offered by the Contractor in the Contract from other contractor(s) whereupon in the event of termination pursuant to Clause 44.1, the Contractor shall be liable for all losses, damage, costs and expenses thereby incurred by the Government arising from the Termination including without limitation the amounts payable to any subsequent contractor or supplier and/or the cost of maintaining an in-house team for procuring all or any of the Services and/or Contractor Supplied Components and/or other items which are in excess of the amounts which would have been payable to the Contractor for the same had the Contract not been terminated;
- 45.1.4 the Contractor shall refund to the Government forthwith any sums previously paid under the Contract for the SS&M Services in respect of the unexpired Hardware and Software Maintenance Periods and for Contractor Supplied Components which were ordered but have not been delivered and accepted prior to the Termination; and in the case the Termination occurs before Phase 1 ATMS becomes Ready for Service, the Contractor shall refund to the Government forthwith all sums paid in discharge of the Total System Price;

- 45.1.5 for the avoidance of doubt, the Government may exercise its right under Clause 55 in relation to any sum payable to the Contractor;
- 45.1.6 not used;
- 45.1.7 the Contractor shall forthwith deliver to the Government all parts of the System, all Acquired Property (including Licensed Property), all Government Data and all Records in whatever format, and stored in whatever media, which are in the possession or under the control of the Contractor. In the event that any of the aforesaid materials or items are located within the premises of the Contractor, the Government Representative and any person(s) authorized by it are hereby granted an irrevocable licence to, anytime and from time to time within one year after termination of the Contract, enter such premises for the purpose of taking possession of such materials or items. In the event that any of the aforesaid materials or items is lost or damaged whilst in the possession or control of the Contractor or its employees, sub-contractors or agents, the Contractor shall pay to the Government for such loss or damage being an amount equal to the original cost plus 10% as and for liquidated damages and not as a penalty. A count of the articles or materials in the possession or control of the Contractor may be made at any time by the Government and the Contractor shall render such assistance as is necessary for this purpose;
- 45.1.8 the Contractor shall certify to the Government that no hardcopies or softcopies or duplicates of any of the items referred to in sub-clause 45.1.7 have been retained;
- 45.1.9 the Contractor shall compile and submit to the Government a report of the Services performed, including without limitation a report on all Implementation Services and the SS&M Services which have thus far been completed and discharged up to the date of the Termination;
- 45.1.10 notwithstanding anything herein to the contrary, and regardless of the cause (the absence thereof) or basis for the Termination, the Government shall have no obligation to pay to the Contractor any money whatsoever arising from the Termination;
- 45.1.11 the Contractor shall make good, to the satisfaction of the Government, any damage to the System or any part thereof or the Acquired Property (including Licensed Property) or Government Data or Records;
- 45.1.12 at the request of the Government, the Contractor shall enter into and perform all deeds of assignment, transfer or novation in favour of the Government or in favour of any person whom the Government may designate, for the assignment, transfer or novation of any contract, arrangement or other subject matter whatsoever (including insurance policy, equipment lease, software licence) on such terms and conditions as the Government may stipulate; and procure any other third party whom the Government considers necessary for effecting or perfecting such assignment, transfer or novation to enter into and perform any such deeds of assignment, transfer or novation;
- 45.1.13 the Contractor will, or will procure its associates or associated persons to, do all

such acts, and sign all such deeds and documents, which are required to be done or signed, under the Contract, or otherwise as directed by the Government Representative, to ensure the complete handover of the System and the Services to the Government or a succeeding contractor, or otherwise as may be necessary or desirable to implement or to give legal effect to the provisions of the Contract, and the transactions provided for or contemplated by the Contract including this Clause 45; and

- 45.1.14 all Contractor Personnel shall immediately vacate the Government premises which they were allowed to be stationed or were given access to for performing the Services and surrender all access cards/keys.
- 45.2 Upon a termination of the Contract to the extent it relates to Phase 2 ATMS (“Terminated Services”) (ie Partial Termination) pursuant to Clause 44.2:
- 45.2.1 the provisions in the Contract which concern or relate to the Phase 2 ATMS shall be of no further force and effect, but without prejudice to:
- (a) the Government’s rights and claims under the Contract or otherwise at law against the Contractor arising from antecedent breaches of the Contract by the Contractor;
  - (b) the rights and claims which have accrued to a party prior to the Partial Termination;
  - (c) the continued existence and validity of all remaining provisions of the Contract;
- 45.2.2 the same consequences specified in Clause 45.1 (apart from Clause 45.1.1 and 45.1.4) shall apply save that references to “Termination” shall mean “Partial Termination; references to “Services” shall mean “the Services as they apply to Phase 2 ATMS”, “Contractor Supplied Components” shall mean those for Phase 2 ATMS; and reference to “Clause 44.1” in Clause 45.1.3 shall read Clause 44.2; and
- 45.2.3 references in the Contract to “ATMS” or “System” shall from then on mean Phase 1 ATMS only.

**46. Force Majeure**

- 46.1 For the purpose of this Clause, “Force Majeure” means:
- (a) an outbreak of war (whether war be declared or not) affecting Hong Kong ; or
  - (b) invasion of Hong Kong ; or
  - (c) civil war, rebellion, revolution or military or usurped power in Hong Kong ; or
  - (d) riot, commotion or disorder in Hong Kong ; or
  - (e) Act of God ; or

### System Capacity Requirements

Clause 3.1, Final Specifications:

3.1 The ATMS shall have the following system capacity:

- (a) Accommodate the concurrent operations of 120 controller working positions and supervisor working positions;
- (b) Manage 8,000 flight plans with at least 2,000 of which being active at any one time (active in this context meaning having SSR code assigned and the ATMS will start target-flight plan association once the code is detected by the SDP); and
- (c) Process and display 1,500 targets (surveillance data for aircraft/flight) simultaneously and on a continuous basis.

\* 委員會秘書附註：本文件只備英文本。

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