



International Civil Aviation Organization

Agenda Item 3 b): Review/Updates on the adopted Guidance Material of the AFI/CAD Concept (AFI/CAD Doc. 007).

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- **AFI-CAD GUIDANCE MATERIAL**
- The Guidance Material for the establishment of AFI-CAD emanated from the Recommendations of the AFI-CAD/Study Group/1 meeting, subsequently endorsed by ICAO under Conclusion 16/41 of the APIRG/16 Meeting, and further developed by AFI-CAD/Study Group/3 and 4. Consequently, the Guidance Materials are listed herewith in the form of Recommendations as lastly published by Appendix A to the ATS/AIS/SAR SG/11 .
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- 26-30 April 2010

Recommendation 1:

Basic Criteria

The AFI AIS/MAP TF/4 meeting then concluded that :

- a) whether the service provision is subcontracted or not:
 - i. the service shall at all times be AFI States owned service. The service provider shall ensure the service is at all times perceived and recognized as being an AFI States provided service.
 - i. the service provision shall be an activity of cost-recovery nature and shall not generate profit on its own behalf (bearing in mind that the AFI CAD facilitates the safety, regularity and efficiency of international air navigation);
 - i. the service provision shall be subjected to a “ trial phase” of operation at the end of which the service may be reviewed if there has been insufficient take-up by clients and/or if the service levels have not been met;
 - i. all clients’ service level agreements shall be between the client and the Agency entrusted by the AFI States.
 - i. the Agency shall not be allowed to sell, trade or commercialize the data and/or services of the AFI CAD on its own behalf and/or profit.

Recommendation 2:

AFI CAD services

That AFI CAD should provide the following major services:

- a) the International NOTAM Operation (INO) providing facilities for world-wide NOTAM, SNOWTAM, ASHTAM and AFTN or equivalent message handling and for pre-flight Information Bulletins (PIB) generation.
- a) the Static Data Operation (SDO) providing facilities for AFI Static Aeronautical Data/information handling and reporting. moreover, a minimum set of data is also maintained to allow the correct functioning of the INO system.

Recommendation 3:

AFI CAD Clients

That the recommended AFI CAD clients are the following:

- a) the Data Providers which are AIS Organizations providing aeronautical information to the Centralized AFI Database;
- a) the Data Users which are Air Transport Community and beyond.

Recommendation 4:

Proposed AFI CAD System Design

That the proposed AFI CAD System should be designed to provide the following:

- a) a single repository for aeronautical information and IAIP elements of participating States;
- b) data questioning enhancement through multilevel consistent data checking processes, including cross border data verification;
- c) a secure channel/vehicle for timely and efficient electronic distribution of aeronautical information and IAIP elements;
- d) harmonization and interoperability will be ensured by common and standardized:
 - System interface and data exchange model (AIXM),
 - Static data model (AICM).

Recommendation 5:

AFI CAD System Data Operations Services

That the proposed System Data Operations Services will then provide the Centralized AFI Database clients with the following system services:

- a) support to edit and provide (to the system) aeronautical information;
- b) electronic access to and delivery of aeronautical information;
- c) browsing and downloading of participating State's aeronautical information; and
- d) generation of reports.

Recommendation 6:	Access to AFI CAD That the Data Operations System Services will be accessed by clients via direct electronic interface in one or more of the following three ways: <ul style="list-style-type: none">i. The Client Interface terminal (CIT). A terminal located at the client site, connected to the AFI CAD, and allowing download, modification (only by data providers) and reporting of aeronautical information as determined by the clients Service Level Agreement (SLA); ii. The Client Interface (CI). A technical toolkit allowing clients' own systems to access and interact with the AFI CAD to upload, download, modify (only Data Providers can modify) and report aeronautical information as determined by the clients' SLA; iii. INTERNET: Access to the Centralized AFI AIS Data Base will also be allowed via the Internet.
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Recommendation 7:

Development of AFI CAD user requirements specifications

That States and/or Organizations in a position to do so, provide the required technical expertise to assist the Study Group to develop user requirements specifications (URS) for AFI CAD.

Recommendation 8:

Scope of Services Provided

That :

- a) Regarding the data operations service domains, the services provided shall ensure:**
 - i. Co-ordination of the resolution of data conflicts detected by the system data checking processes ;**
 - ii. for non-participating States (world wide) :**
 - NOTAM processing (verification, validation, etc...)
 - entry of the statistic data required by the system NOTAM function.
- b) As currently defined, the service does not include the provision of AIS services on behalf of participating States, i.e. the service shall not comprise the following activities :**
 - i. creation of NOTAMs**
 - ii. origination and publication of AIP, AIP supplements, AIP amendments, AIC and charts.**
- c) As part of the provision of the service, the service provider will deliver to the centralized AFI Region AIS Data Base client the following services :**
 - i. 24 hour operational and technical help desk**
 - ii. Client training**
 - iii. Management and monitoring of the delivery of aeronautical information and AIP elements.**

Recommendation 9:

Institutional Arrangements

That AFI States shall:

- a) Identify or set up an agency to develop, establish and operate the centralized AFI CAD;
- b) Determine the most effective and appropriate ways of funding, implementing and delivering the service.
- c) Commit to the timely provision of the required information to the AFI CAD;
Note: This shall not preclude them from providing the same data to other agents and/or entities.
- d) Continue to be responsible for providing an AIS singularly or jointly with one or more other States or by delegating the authority for the provision of the service to a non-governmental agency in accordance with Annex 15 of the Chicago Convention;
- d) Maintain the intellectual property rights for the data provided to the AFI CAD;
- e) Provide advice and other appropriate support to any administration outside the AFI Region to consider the introduction of an aeronautical information database system compatible with the AFI CAD;
- f) Promote the use of the AFI CAD by taking active steps to provide appropriate information to the public on the services available from the AFI CAD and encourage the use of the service;
- g) Define a legal and financial framework to be applied to States participating in the AFI CAD, and non members of the AFI Region States, covering contribution to the funding of the data operations service provision;
- h) Define a charging policy that:
 - complies with the principle of free exchange of aeronautical information amongst States AIS, in accordance with Annex 15 of the Chicago Convention;
 - Continues to allow recovery by States of the costs incurred for the provision of AIS services;
 - Avoids double charging of the Data Users.

**Recommendation
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Suggestions for Financial Model

a) Business Plan

- i. Setup Capital: The business plan to be adopted must define the total set-up costs and where this capital will be obtained (eg Loans, Donations/Aid, State Contributions). Each states responsibility in this regard must be defined and be enforceable in any AFI CAD membership agreement
- ii. Financial Sustainability: The business plan to be adopted must also define how financial sustainability will be ensured (eg by State Contributions, fees to be charged for access by users, en-route charges, etc). This must also show how continuous improvement and safety monitoring systems will be maintained and funded.
- iii. Service Provider: The resources that the Service Provider will bring to the project must be defined and enforced in the Service Providers contract. It should not be the sole responsibility of the member states or the Agency to fund this project as it should be based on the User/ Beneficiary Pays principle.

b) Financial Plans: The financial model for AFI CAD as discussed above also needs to address the following operational considerations

- i. Continuous Operational Cost Recovery: Continuous Operational Cost Recovery must be ensured as a minimum requirement. If this does not occur AFI CAD will not be a viable concern.
- ii. Cost Benefit Analysis: A Cost Benefit Analysis reflecting the advantages and disadvantages of all business models discussed above needs to be performed before a particular model can be recommended and accepted by AFI CAD member states.
- iii. Future Cost Benefits: To AFI CAD (eg via provision of services additional to what is presently being provided) will need to assessed to ensure organizational structuring to take advantage of these future benefits.

<p>Recommendation 11:</p>	<p>Evaluation criteria for the identification of the AFI-CAD Operating Centers:</p> <ol style="list-style-type: none"> 1. Geographical Location 2. Communication Infrastructure 3. Sustainability of Economy 4. Political Stability 5. Information Technology – currently available and sustainable 6. Provision of training – Training ability / infrastructure 7. Power supply : <ul style="list-style-type: none"> – availability – reliability – sustainability 1. Human Resource availability – <ol style="list-style-type: none"> i. AIM ii. Management iii. Project Management iv. Information Technology v. Training 2. Financial availability / sustainability 3. Previous experience – Track record 4. Common consensus 5. Infrastructure – Buildings 6. Evaluation to be conducted by an International Organization with a proven track record of successfully completing similar evaluations (e.g. ICAO/ United Nations/ EUROCONTROL, etc.)
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Recommendation 12:**Introduction of QMS by AFI-CAD States**

That each contracting AFI – CAD Member State shall take all necessary measures to introduce a properly organized QMS containing procedures, processes and resources necessary to implement the quality management at each function stage. The execution of such quality management shall be in accordance with Annex 15, Chapter 3 paragraph 3.2.1.

Recommendation 13:	<p>Measurement tool for evaluation of AIS Services</p> <p>That Appendix K to APIRG/15 report as per Attachment A to DP/7 be adopted by AFI States as a measurement tool for evaluation of services in order to provide room for improvement and the prevention of non-conformity.</p>
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Recommendation 14:	Framework for development of the QMS
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	<p>That AFI – CAD member States adopt the template for a project proposal in Appendix XX to Attachment A of DP/7(AFI-CAD/2) as a framework for development of the QMS in terms of defining scope, assessing the potential benefits, continuing the program, determining the roles and responsibilities of those involved in the development and implementation of the QMS, and specifying deliverables, target dates and the resources needed.</p>
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Recommendation 15:

Timelines for the development and implementation of the AFI – CAD

That ICAO would synchronize the most suitable timelines for the development and implementation of the AFI – CAD based on the evolution of events.

Recommendation 16:	Development of the required training modules That AFI – CAD through the cooperation with GroupEAD develops the required training modules for AFI-CAD member States.
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<p>Recommendation 17:</p>	<p>Development of the required format of a service level agreement</p> <p>That AFI – CAD through the cooperation with GroupEAD develops the required format of a service level agreement for the AFI – CAD member States.</p>
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Recommendation 18:

Compilation of the URS Document :

That it is therefore necessary to compile the user and other requirements in one document based on the input from:

- the Framework and Guidance Material of the AFI-CAD, as per Appendix H of the APIRG/16 Report,
- the EUROCONTROL URS Documents (General, Common Services, Static Data, NOTAM, AIP, Charting),
- the AFI States based on a filled Questionnaires (cf. DP/04) to include further AFI Requirements.

Recommendation 19:

Institutional Framework:

- a. Establishment of a supervisory management board composed of Technical Representatives appointed by the Civil Aviation Directors. They should also be empowered to make decisions.
- b. Appoint a Technical team competitively, to participate in the project processes from its initiation stage to completion, so that all members gain an understanding of the project tasks and objectives
- c. Appoint Service Provider competitively to develop, implement and manage the AFI-CAD. The Service Provider may also take responsibility for Hardware and Software maintenance

Recommendation 20:

Procurement Process:

- That the Business plan includes the development of procurement procedures acceptable to participating member states.
- That the Business Plan includes the development of a logical acquisition system, which would include an efficient and transparent procurement process for implementation of the AFI-CAD
- That participating states should ensure that the procurement is done in a transparent manner acceptable to the participating states.

Recommendation 21:

Location of AFI-CAD

That the Technical Board should determine the centre and sub-centers location subject to the agreed set criteria listed in Recommendation 11 . There is need to take into account the geographical locations and requisite infrastructure currently available.

Recommendation 22:	Realization of the AFI-CAD
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That in order to realize the maximum benefits of the AFI Region centralized AIS Database all AFI Region States need to fully participate in its development, implementation and operations.

AFI-CAD GUIDANCE MATERIAL

- **Action by the meeting**
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- **The meeting is invited to :**
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- **Review/Updates on the adopted Guidance Material of the AFI/CAD Concept (AFI/CAD Doc. 007).**