

MIDANPIRG/7
Report on Agenda Item 6

**REPORT ON AGENDA ITEM 6: MIDDLE EAST CNS/ATM IMPLEMENTATION PLAN AND
RELATED ACTIVITIES**

6.1 CNS/ATM/IC

6.1.1 The meeting was presented with the historical background relating to the establishment of the Communications, Navigation and Surveillance/Air Traffic Management/Implementation Coordination/Sub-Group (CNS/ATM/IC/SG), to which the sixth meeting of Middle East Air Navigation and Implementation Regional Group (MIDANPIRG/6) had agreed and in accordance with Decision 6/27 (*New Title And Revised Term Of Reference For The CNS/ATM Sub-Group*). Consequently, the first meeting of the CNS/ATM/IC Sub-Group was held in Cairo from 5-9 November 2001.

Review Status of Conclusions and Decisions from MIDANPIRG/6 which are Relevant to CNS/ATM

6.1.2 The meeting was informed that the CNS/ATM/IC/SG/1 meeting had been presented with the list of conclusions/decisions of relevant subsidiary bodies of the MIDANPIRG related to CNS/ATM matters which consist among the list indicated at Appendices and to the report on Agenda Item 4. The CNS/ATM/IC/SG/1 meeting while reviewing the list related to MIDANPIRG/6 Conclusion 6/1 (*Uniform Format for the Reporting of WGS-84 implementation*) noted that only nine States had presented the uniform format reporting as required by ICAO. Refer to the report on Agenda Item 5.2.31

Review of the AFS/ATN TF7 Report

6.1.3 The CNS/ATM/IC/SG/1 meeting while reviewing the report of the AFS/ATN TF7 meeting, noted that the CNS tables to the report on Agenda Item 3 of the MIDANPIRG/6 meeting Conclusion 6/13 (*Initial Plan for the Ground Portion of the ATN in the MID Region*) were appropriate as reference documents to be used for technical and operational purposes within the framework of the planning and implementation sub-groups. Consequently, the Sub-Group was informed that these tables which are now incorporated in the MID FASID, is to be harmonized with those of other Regions. The MIDANPIRG/7, agreed that the new table as indicated at **Appendix 6A** to the report on Agenda Item 6, would be more suitable for incorporation in the MID FASID and agreed to the CNS/ATM/IC/SG/1 as follows:

**DECISION 7/36: INITIAL PLAN FOR THE GROUND PORTION OF THE ATN IN THE MID
REGION**

That, the current tables CNS1B and the explanatory note be deleted from the MID ANP/FASID document and replaced by the new tables and explanatory notes as indicated at **Appendix 6A** to the report on Agenda Item 6.

6.1.4 The meeting reviewed the CNS/ATM/IC/SG/1 outcome concerning the Ground-to-Ground ATN Study Group; noted the interest of a number of States to introduce OLDI (On Line Data Interchange) as intermediate system until the availability of AIDC (ATS Interchange Data Communications). It was however recalled that although OLDI is not an ICAO system, it is already operational in Europe. The Sub-Group agreed that since the implementation of AIDC is only planned for a relatively undetermined date, the need arises to find a mechanism capable of covering the transition period and to consider other alternatives.

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Matters Related to Traffic Forecasting Activities

6.1.5 The meeting noted that, the CNS/ATM/IC/SG/1 was presented with a report on the activities undertaken by the Middle East Regional Traffic Forecasting Group (MER TFG) since CNS/ATM SG/4 meeting 6-10 March 2000, which also included preliminary aircraft movement forecasts for the MID region up to the year 2015. The Sub-Group reviewed MIDANPIRG/6 meeting Conclusion 6/22 (*Traffic Forecasting Requirements For CNS/ATM Planning*) and agreed to request the MER TFG to provide the required data since that the Group has been re-constituted to include both ATC and Air Transport experts. Refer to the report on Agenda Item 6.3.

Implementation of RNP/RNAV in the MID Region

6.1.6 The CNS/ATM/IC/SG/1 was informed that MIDANPIRG/6 meeting Conclusion 6/17 ((Priority Routes for the Introduction of RNP 5) under a) States concerned should implement RNP 5 on the routes listed in Appendix 4.3A to the report on Agenda Item 4.3, on 22 March 2001) that the Phase1 Implementation Strategy, which consisted of the implementation of RNP 5 on selected priority routes, has been successfully implemented with effect from 14 June 2001. The Fifth Meeting of the RNP/RNAV Task Force (RNP/RNAV TF/5), which was held in Cairo from 10 to 13 June 2001, established the second implementation phase which is based on the establishment of RNP/RNAV areas instead of RNP/RNAV routes. The Sub-Group also noted with appreciation that although the tentative date for the implementation of RNP/RNAV areas is 28 November 2002, many States in the Region have already adopted this new approach. The meeting also noted the need for ensuring interregional co-ordination with a view to harmonize the implementation process with adjacent ICAO Regions. Refer to the report on Agenda Item 5.2.

6.1.7 The meeting noted that the CNS/ATM/IC/SG/1 raised concerns on the rationale for the use of GNSS as a supplemental means for navigation as proposed by the RNP/RNAV TF/5 meeting. It was pointed out that taking into account the experiences gained with the implementation of GNSS in other parts of the world, the MID Region should instead plan for the use of GNSS as a primary means of navigation. This issue was extensively discussed at the GNSS TF/3 meeting (9-11 January 2002); which resulted in formulating a conclusion on this subject. Refer to the report on Agenda Item 6.2.

Implementation of RVSM in the MID Region

6.1.8 The Sub-Group noted that the MIDANPIRG/6 meeting under Conclusion 6/8 (*Planning for Congestion Reduction Measures in the MID Region*) recognized that the implementation of RVSM would contribute towards the reduction of congestion problems in the region. The MIDANPIRG/6 under Conclusion 6/9 (*Establishment of a MID RVSM Task Force*) had planned for the evolutionary implementation of RVSM in the MID Region in year 2003.

6.1.9 The Sub-Group was accordingly apprised of the outcome of the three RVSM Task Force meetings. It was pointed out that the conclusions deriving from the Task Force meetings were reviewed by the ATM/SAR/AIS SG/5 meeting, which was held in Cairo from 30 October to 2 November 2001. Refer to the report on Agenda Item 5.2.

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Review of Recent Developments, Research, Trials and Demonstrations in Relation with the Implementation of the CNS/ATM Systems and Global/Regional Plans

6.1.10 The CNS/ATM/IC/SG/1 was presented with an overview of the technical and operational developments related to CNS/ATM systems in year 2000 and up to April 2001. Refer to the report on Agenda Item 3.

6.1.11 States i.e. Bahrain, Egypt, Iran, Jordan, Kuwait and Yemen presented brief summaries of their recent CNS/ATM implementation activities to the CNS/ATM/IC/SG/1, as indicated at **Appendix 6B** to the report on Agenda Item 6.

6.1.12

15 June 2001. Refer to the report on Agenda Item 3 (Latest developments in the Air Navigation field).

6.1.13 The CNS/ATM/IC/SG/1 was apprised of the detailed review of the IATA/AACO CNS/ATM user-driven transition implementation plan and the CNS/ATM Implementation Plan for Middle East Region with a view to identify areas in the MID regional implementation plan where improvements are needed.

6.1.14 The CNS/ATM/IC/SG/1 was further informed that the IATA/AACO transition plan comprises of 6 to 8 phases which gradually migrates from the current systems to the final ATN based configurations based on the requirements of the ATS providers and availability of compliant aircraft population.

CNS/ATM Training Requirements

6.1.15 The meeting reviewed Decision 1/2 of the CNS/ATM/IC/SG/1 (*Establishment of the CNS/ATM Human Resource Development and Training Task Force for the MID Region*) and its Terms of Reference and Work Programme as a Follow-up to MIDANPIRG/6 Decision 6/25 (*Development of Regional CNS/ATM Training Requirements*). After several interventions, stressing the high priority task foreseen in the MID Region, the meeting agreed to the following Decision:

DECISION 7/37: ESTABLISHMENT OF THE CNS/ATM HUMAN RESOURCE PLANNING AND TRAINING TASK FORCE

That, the CNS/ATM Human Resources Planning and Training Task Force be established as a matter of priority for the MID Region with the Terms of Reference and Work Programme as presented at **Appendix 6C** to the report on Agenda Item 6. The composition will be decided at the first meeting of the task force which will report to the MIDANPIRG.

Review and Further Update the CNS/ATM Implementation Plan for the Middle East Region

6.1.16 The meeting was informed that the CNS/ATM/IC/SG1 had been presented with a list of accomplished tasks by the CNS/ATM Sub-Group in association with the eleven step-by-step approach for planning ATM requirements and CNS infrastructure, and that some of the tasks of the step-by-step approach would require to be accomplished by States, either individually or in-group of States, particularly for States which have not yet done so. The meeting agreed to the following Conclusion:

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CONCLUSION 7/38: THE STEP-BY-STEP APPROACH FOR PLANNING ATM REQUIREMENTS AND CNS INFRASTRUCTURE IN THE MID REGION

That, MID Region States that have not yet done so, either individually or in-group of States use the methodology indicated in the Global Air Navigation Plan for CNS/ATM Systems (Doc 9750), in carrying out tasks associated with the step-by-step approach for planning ATM requirements and CNS infrastructure.

Timelines Updates

6.1.17 The meeting was also presented with the tables of timelines of the First Edition of the CNS/ATM Implementation Plan for the Middle East Region updated by the CNS/ATM/IC/SG/1 meeting.

6.1.18 These tables take into consideration the updates received from some States and the remarks made by the ICAO Headquarters. Accordingly, the meeting agreed to amend the concerned tables, notably the table 8-2 (ATM requirements for communications) where AMHS and AIDC should be considered as ATN applications; thus, AMHS will be inserted into the table 8-2.

6.1.19 The numbering of chapters and related tables were also aligned with those of the CNS Implementation Plan of other Regions.

6.1.20 In order to facilitate the completion of the tables of timelines in terms of definition of system components and ATM objectives, the meeting was advised that States should refer to ICAO Guidance Material of National Plan for CNS/ATM systems (Circular: 278-AN/164).

6.1.21 The meeting accordingly, approved the tables of updated timelines as indicated at **Appendix 6D** to the report on Agenda Item 6, and agreed to incorporate them in the Second Edition of the CNS/ATM Implementation Plan for the Middle East Region.

6.1.22 Recognizing that the tables of timelines is a living document, the meeting stressed again the necessity for States to provide the Middle Regional Office as soon as possible with the latest information on their timelines to be incorporated in the Second Edition of the CNS/ATM Implementation Plan for the Middle East Region.

6.1.23 Taking into account the above, the meeting agreed to the following Conclusion:

CONCLUSION 7/39: CNS/ATM NATIONAL PLANS AND UPDATES TO TIMELINES

That, MID Region States that have not yet submitted their National CNS/ATM Plan and those that have updates to their National CNS/ATM Plan, are urged to submit as soon as possible to the ICAO MID Regional Office prior to 1st June 2002, in order to be incorporated in the Second Edition of the CNS/ATM Implementation Plan for the Middle East Region.

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6.2 GNSS

Multi-mission satellite based system

6.2.1 The meeting considered the project presented by Egyptian Civil Aviation Holding Company for a multi-mission satellite based system dedicated to CNS/ATM services. The proposed system will support the GNSS Augmentation Systems and their extension to the Middle East and AFI Regions while providing safe aeronautical communications and surveillance services.

6.2.2 The meeting was of the view that the terms of reference of the GNSS Action Group includes already the task required for further study of the NAVISAT project. However, in order to alleviate the burden of the present GNSS Action Group, the meeting agreed on the creation of a separate GNSS Working Group, which will take into account this new element.

6.2.3 The meeting recorded the participation of ACAC (Arab Civil Aviation Commission) as observer in the composition of the Action Group whose members were limited in order to make the work more efficient.

6.2.4 Accordingly, the meeting reached the following Decision:

DECISION 7/40: CREATION OF THE NAVISAT WORKING GROUP

That,

- i) a GNSS Working Group be established in order to continue the study on the multi-mission satellite based system, called NAVISAT.
- ii) the GNSS Working Group be composed of the following States and Organizations:
 - Egypt: Coordinator
 - Bahrain, Iran, Kuwait, Oman and Saudi Arabia
 - ACAC, IATA and ICAO
- iii) the results of the study of the GNSS Working Group will be presented to the next GNSS TF meeting (first quarter of 2003).

GNSS as supplemental means for en-route navigation

6.2.5 An international engineering and consulting firm specializing in satellite-based navigation (ISI) made a presentation on the different augmentation systems being developed, notably on WAAS and on different ground based augmentation systems (GBAS, LAAS etc). ISI could also provide turnkey CNS/ATM architecture systems, software, services and training, ensuring thus Air navigation service providers to achieve the full benefits of satellite technology.

6.2.6 The meeting noted that GNSS procedures in 26 international airports in the SADC region are being developed within the framework of a joint ISI/IATA project. In this regard, the Trade Department Agency from United States usually provides the financial support.

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6.2.7 Since GNSS can be used as a supplemental means for en-route navigation, and implementation of procedures for airworthiness and operational approval of GNSS is a State responsibility. Consequently, the MID States are encouraged to amend their legislation and regulations or to adopt the regulations of leading authorities (A.C. 20-138 of FAA, TGL# 6 of JAA, etc.) regarding the approval of GNSS as supplemental means for en-route navigation in their airspace.

6.2.8 The meeting agreed on the date of 18 April 2002 as the AIRAC date for the approval of GNSS as a supplemental means for navigation system for en-route and noted the request by IATA for, the immediate use of GNSS for carrying out Non Precision Approaches without Augmentation System in the Middle East Region.

6.2.9 In consequence, the meeting decided to reformulate the MIDANPIRG/6 Decision 6/14 into the following Conclusion:

CONCLUSION 7/41: TARGET DATE FOR THE APPROVAL OF GNSS AS A SUPPLEMENTAL MEANS FOR EN-ROUTE AND NON-PRECISION APPROACHES IN THE MID REGION.

That,

- a) the AIRAC date for the implementation of GNSS in the MID Region as a supplemental means for en-route is 18 April 2002.
- b) States may wish to implement GNSS for Non Precision Approaches with effect from 18 April 2002.
- c) States that have not yet amended their legislation and regulations are urged to do so in order to meet the above AIRAC date

6.2.10 Moreover, the meeting was of the view that the MID Region should also take advantage of the possibilities offered by the use of GNSS for non-precision approaches and agreed that a survey be carried out with a view to identify those airports (international/domestic) where it is feasible to introduce these procedures.

Delay in the implementation of ISTB trials

6.2.11 The meeting noted that the ISTB trials were postponed due to administrative and technical constraints between ENAV Italy and Hosting States (Bahrain, Egypt and Saudi Arabia). The meeting expressed its concern on this postponement and urged the concerned parties to start the trials as soon as possible in order to make available its results to the Middle East Region, before the next GNSS TF meeting date of which will be decided in accordance with the progress made in the implementation of ISTB trials.

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Revised Strategy of the GNSS Implementation in the Region

6.2.12 The meeting reviewed the revised Strategy of the GNSS Implementation in the Region and amended it accordingly. The amended Strategy is shown as **Appendix 6E** to the report on Agenda Item 6.

6.2.13 Concluding this matter, the meeting developed the following Conclusion:

CONCLUSION 7/42: REVISED STRATEGY OF THE GNSS IMPLEMENTATION IN THE MID REGION

That, a revised Strategy for the implementation of GNSS in the Middle East Region be adopted, as indicated in **Appendix 6E** to the report on Agenda Item 6.

6.2.14 The meeting noted the items concerning the cooperation between States, the coordination on Researches and Developments and the training. The meeting was of the view that the training issue could be taken into account by the CNS/ATM Human Resources Planning and Training Task Force created by this meeting under **Decision 7/37**.

Action Group Work Program

6.2.15 The meeting agreed with the GNSS TF/3 meeting to concentrate efforts on the review of existing navigation and telecommunications infrastructure, planning of new infrastructure, operational use of GPS as supplemental means, and training of personnel.

6.2.16 Accordingly, the meeting agreed on the assignment of tasks into the following packages with the relevant responsibility:

Package 1: Evaluation and Planning of facilities (ICAO)

- review the existing ground infrastructures in terms of navigation aids and telecommunications
- identify the requirements
- harmonize infrastructure plans for near, mid and long terms

Package 2: Implementation of Requirements (Action Group)

- GNSS operation (supplemental and primary means)
- release of airworthiness certificate for the use of GPS
- training of personnel
- GNSS system architecture

6.2.17 The meeting noted the work programme of the Action Group created by MIDANPIRG/5, Conclusion 5/18 and was of the view that the tasks enumerated in Package 2, is part of the terms of reference of the Action Group.

6.2.18 The meeting also agreed to the participation of Iran as member in the composition of the Action Group, which increased the number of experts to nine.

6.2.19 According to the progress achieved by the Action Group in the implementation of requirements, the coordinator of the group could see assistance from any consultancy group in order to find adequate expertise and to finalize the contents of Package 2.

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6.2.20 The meeting confirmed the member status of IATA and ICAO in the Action Group that will compose hereafter as follows:

1- Egypt	coordinator
2- Bahrain	member
3- Iran	member
4- Kuwait	member
5- Oman	member
6- Saudi Arabia	member
7- UAE	member
8- IATA	member
9- ICAO	member

6.3 MER TFG

Traffic Forecasting Activities in the MID Region

6.3.1 The meeting was presented with a review of the state of air transport and the broader ramifications of the current downturn in the industry resulting from the events of 11 September 2001. The presentation highlighted the critical role of air transport in economic development. In addition, the presentation offered a global and regional outlook of air transport; including the outlook of air transport in the Middle East region. The presentation was followed by an overview of traffic forecasting activities in the MID region and outlined the outcome of the 4th and 5th meetings of the Middle East Regional Traffic Forecasting Group - MER TFG. A set of traffic forecasts for major route groups from, to and within the MID region up to the year 2015, was also provided. The meeting was further informed that the relevant parts of the FASID document had been amended to reflect the new set of traffic forecasts.

6.3.2 With regard to the requirements of MIDANPIRG as described in MIDANPIRG/6 Conclusions 6/6, 6/22 and 6/24, the MER TFG informed the meeting that: (a) the group was restructured to include ATC and Air expanded to include cost/benefit analysis and development of business cases for CNS/ATM implementation and (c) two advanced Traffic Forecasting and Economic Planning seminars were conducted by the Secretariat.

6.3.3 The need for forecasting the traffic overflying the MID region, particularly between Asia/PAC and Europe regions, and for peak-period analysis were identified as urgent requirements for CNS/ATM implementation. It was agreed that the analytical work done by MER TFG in this regard should be reviewed in-depth by the concerned subsidiary bodies of MIDANPIRG, specially the CNS/ATM/IC Sub-Group, and that specific requirements would be identified by these bodies for presentation to MER TFG. This would form the basis for the future work programme of the MER TFG.

6.3.4 In this connection, the meeting was presented with a paper on developments with regard to financial and organizational aspects of airports and air navigation services. The on was invited to the Council decision to obtain information, from States, on the current policies and practices applied in their charges for airports and air navigation services as they relate to ICAO policy and guidance material. The information was requested in State Letter reference EC 2/89-01/32 dated 6 April 2001.

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6.3.5 The meeting reviewed the forecasts prepared by MER TFG on traffic to, from and within the MID region, noted the need for forecasting traffic overflying the region and for peak-period an forecasting and economic planning;

6.3.6 The meeting agreed to the following Conclusion:

CONCLUSION 7/43: TRAFFIC FORECASTING REQUIREMENTS

That,

- a) the CNS/ATM/IC/SG review and analyze in detail the work done by MER TFG and identify additional requirements for the implementation of CNS/ATM in the MID Region, including forecasts of traffic overflying the region and peak-period analysis;
- b) the secretariat continues organizing seminars, workshops and other training sessions in conjunction with regular meetings of the MER TFG; and
- c) States/IATA to supply the MER TFG with relevant FIR data to enable the group to produce the desired forecasts
