INTERNATIONAL CIVIL AVIATION ORGANIZATION

THE MIDDLE EAST AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (MIDANPIRG)

REPORT OF THE SEVENTH MEETING OF THE MIDANPIRG CNS/MET SUB-GROUP (MIDANPIRG CNS/MET SG/7)

(**Cairo, 31 October – 02 November 2006)**

The views expressed in this Report should be taken as those of the MIDANPIRG CNS/MET Sub-Group and not of the Organization. This Report will, however, be submitted to the MIDANPIRG and any formal action taken will be published in due course as a Supplement to the Report.

Approved by the Meeting
and published by authority of the Secretary General

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MIDANPIRG CNS/MET SG/7
History of the Meeting

PART I – HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The seventh meeting of the MIDANPIRG CNS/MET Sub Group was held at the ICAO Middle East Regional Office, Cairo from 31 October to 02 November 2006.

2. OPENING

2.1 On behalf of the Regional Director, Capt. N. Antypas, Regional Officer Safety Oversight from ICAO Middle East Office, opened the meeting and warmly welcomed all the delegates to Cairo. He explained that ICAO is now a performance based rather than system base organization and mentioned the six ICAO Strategic Objectives. He draw attention that MID States has to progress and implement the ATN based on the latest IP Suites of protocols, he also high lighted that the WRC-07 will be convened during October 2007 for which preparations are undergoing and requested from the MID States to Support the ICAO position during WRC-07 conference indicating that this will be for the benefit of whole civil aviation. Capt. Antypas also stressed on the increasing importance of the Meteorology matters in the current aviation sector and hence latest development has to be well known and implemented.

2.2 Mr. Ali A. Mohamed from Bahrain, Chairman of the Sub-Group conducted the deliberations of the CNS sessions and the whole meeting.

2.3 Mr. Ahmed H. Al-Harthy from Oman, Vice-Chairman of the Sub-Group conducted the deliberations of the MET sessions.

3. ATTENDANCE

3.1 The meeting was attended by a total of thirty four participants consisting generally, of specialists in CNS and MET from eight States and one Organization. The list of participants is at **Attachment A** to the report**.**

4. OFFICERS AND SECRETARIAT

4.1 Mr. R. A. Gulam, Regional Officer CNS, was the secretary of the meeting for CNS matters and Mr. G. Vega, Regional Officer Meteorology from ICAO Paris Office, was the secretary of the meeting for MET matters.

5. LANGUAGE

5.1 The discussions were conducted in English. Documentation was issued in English.

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1: Adoption of Provisional Agenda

Agenda Item 2: Follow-up of the MIDANPIRG/9 and AFS/ATN TF/10 Decisions and Conclusions in respect of CNS and MET issues

Agenda Item 3: Discuss matters related to Aeronautical Telecommunications:

- 3.1 Aeronautical Fixed Services
- 3.2 Aeronautical Mobile Services
- 3.3 Aeronautical Radio Navigation Service
- 3.4 MID VSAT Project

3.5 Latest developments in the ATN Field

Agenda Item 4: Discuss matters related to Meteorology

4.1 Implementation of the World Area Forecast System (WAFS)
4.2 SADIS Implementation
4.3 International Airways Volcano Watch (IAVW)
4.4 MID OPMET data procedures
4.5 Implementation of SIGMET requirements
4.6 Review of the MET part of the MID ANP/FASID

Agenda Item 5: Review of deficiencies in CNS and MET fields

Agenda Item 6: Future Work Programme of the CNS/MET SG

Agenda Item 7: Any other business

7. CONCLUSIONS AND DECISIONS – DEFINITION

7.1 All MIDANPIRG Sub-Groups and Task Forces record their actions in the form of Conclusions and Decisions with the following significance:

a) **Conclusions** deal with the matters which, in accordance with the Group's terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and

b) **Decisions** deal with matters of concern only to the MIDANPIRG and its contributory bodies

8. LIST OF DRAFT CONCLUSIONS AND DRAFT DECISIONS

DRAFT CONCLUSION 7/1: SUPPORT ICAO POSITION FOR WRC 07

DRAFT CONCLUSION 7/2: FUTURE SUPPORT FOR ICAO POSITION WITH REGARD TO WRC

DRAFT CONCLUSION 7/3: MID VSAT PROJECT FINALIZATION

DRAFT CONCLUSION 7/4: IMPLEMENTATION OF IPS BASED ATN

DRAFT CONCLUSION 7/5: ORGANIZATION OF COMMUNICATION INFRASTRUCTURE SEMINAR

DRAFT CONCLUSION 7/6: INTERNATIONAL SADIS SEMINAR

DRAFT CONCLUSION 7/7: SADIS STRATEGIC ASSESSMENT TABLES

DRAFT CONCLUSION 7/8: MID REGION VOLCANIC ASH TEST

DRAFT CONCLUSION 7/9: FUTURE OF THE FASID MET 2A AND MET 2B

DRAFT CONCLUSION 7/10: UPDATE AND MAINTENANCE OF THE FASID TABLE MET 1A

DRAFT CONCLUSION 7/11: COLLECTING AND MAINTAINING MET DEFICIENCIES DATABASES

DRAFT DECISION 7 /12: SPLIT CNS/MET SG INTO TWO SUB-GROUPS

DRAFT DECISION 7/13: DISSOLUTION AFS/ATN TASK FORCE

MIDANPIRG CNS/MET SG/7
History of the Meeting

DRAFT DECISION 7 /14:	UPDATED TERMS OF REFERENCE AND WORK PROGRAMME OF THE CNS SUB-GROUP
DRAFT DECISION 7/15:	UPDATED TERMS OF REFERENCE AND WORK PROGRAMME OF THE MET SUB-GROUP

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA

1.1 **Adoption of the Provisional Agenda**

1.1.1 The meeting reviewed and adopted the Provisional Agenda as shown in paragraph 6 of the History of the Meeting.

MIDANPIRG CNS/MET SG/7
Report on Agenda Item 2

REPORT ON AGENDA ITEM 2: FOLLOW-UP OF MIDANPIRG/9 CONCLUSIONS AND DECISIONS IN RESPECT OF CNS AND MET ISSUES

Communications Navigation and Surveillance (CNS)

2.1 The meeting noted that the Ninth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/9), (Cairo, 11- 15 April 2005), had adopted 5 Decisions and 27 Conclusions as in **Appendix 2A** to the report on Agenda Item 2.

2.2 Bahrain updated the meeting about Conclusion 9/18 related to Integrated Initial Flight Plan Processing System (IFPS) and advised that information will be needed from States, this will be elaborated in Agenda Item 6.

2.3 Oman updated the meeting about Conclusion 9/34 WAAS Demonstration Test Bed and informed that the tender issued and decision by State is expected in the next two months.

2.4 Egypt updated the meeting that D-ATIS was implemented for Cairo Airport since 2003, and there are plans for Pre-Departure Clearance via data link (PDC).

2.5 The meeting noted that actions had been initiated for most of the Decisions and Conclusions mentioned above. The follow up on the other Decisions and Conclusions will be reviewed under the following Agenda items 3, 4, 5 and 6.

Meteorology (MET)

2.6 The group recalled that the ninth MID Air Navigation Planning and Implementation Regional Group (MIDANPIRG/9) meeting had adopted 4 conclusions and 1 decision.

2.7 With regard to the detailed follow-up of the draft conclusions, the group noted that action had been completed on all conclusions. However, the group was concerned by the lack of response from the MID States concerning the survey of MET deficiencies.

MIDANPIRG CNS/MET SG/7
Appendix 2A to the Report on Agenda Item 2

FOLLOW-UP ACTION ON MIDANPIRG/9 CONCLUSIONS/DECISIONS

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/16: REGION-WIDE TRAFFIC SAMPLE AS BASIS FOR FOLLOW-UP AGAINST INCORRECT FLIGHT PLAN FILING That, considering the need to identify operators who are filing flight plans incorrectly indicating RVSM approval status, traffic samples from all MID RVSM States will be required as the basis for a survey and regulatory action against fraudulent filing of flight plans.	Ongoing	Ref.: RVSM TF/12 Draft Conclusion 12/3
CONCLUSION 9/17: METHODOLOGY TO ERADICATE MULTIPLE REPETITIONS AND NON-RECEIPT OF ATS MESSAGES That, the MID Region adopts the working methodology as described in **Appendix 5G** to the report on Agenda Item 5 in order to identify and remedy the inconsistencies related to the multiple repetitions and non-receipt of ATS messages.	Actioned	To be superseded by RVSM TF/12 Draft Conclusion 12/3
CONCLUSION 9/18: ESTABLISHMENT OF AN INTEGRATED INITIAL FPL PROCESSING SYSTEM (IFPS) IN THE MID REGION That, a) the concept of establishment of an Integrated Initial Flight Plan Processing System (IFPS) in the MID Region is supported by MID States; and b) a feasibility study for the Implementation of an IFPS in the MID Region be carried out. Note: this study will be led by Bahrain with the cooperation of all concerned parties, in coordination with ICAO.	Ongoing	Bahrain will present to MIDANPIRG/10

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/26: ENHANCED PRE-FLIGHT INFORMATION SERVICE That, with a view to avoid overloading pilots with aeronautical information, which are either not important or not relevant to their flight, States are encouraged to: a) refrain from retaining NOTAMs in force for indefinite periods; b) implement in their automated pre-flight information systems: i) a selection functionality based on the ICAO NOTAM Selection Criteria, in order to enable the selection of particular information in the Pre-flight Information Bulletins (PIBs), and ii) an update briefing functionality in order to enable the notification of updates following an initial briefing.	Ongoing	Action by States
CONCLUSION 9/27: APPROACH TO AIS AUTOMATION That, with a view to ensure progressive implementation of automated AIS systems in accordance with the AIS Manual (Doc 8126) and the MID Basic Air Navigation Plan provisions, States, which have not yet introduced automation within their Aeronautical Information Services, are urged to: a) plan to initially automate their NOTAM and pre-flight information services; or b) arrange for the provision of automated services on their behalf on the basis of bilateral or multilateral agreements with States or other non-governmental organizations. Note: In case a State has an AIS automation plan for, it should be ensured that the automated NOTAM and pre-flight information system to be implemented is modular, expandable and based on data exchange concept to support further developments and applications.	Ongoing	Action by States
CONCLUSION 9/28: HARMONIZATION OF AIS, MET AND FPL INFORMATION That, in any approach to AIS automation, States should take the necessary measures to enable users to access both AIS and MET information from a common interface based on the flight plan entry, to support combined AIS/MET/FPL pre-flight briefing.	Ongoing	Action by States

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/33: FURTHER TEST ACTIVITIES AND STUDIES OF EGNOS IN THE MID REGION That, a) EGNOS test bed based on the ENAV experience during the MIDAN activities be continued until adequate data representative of the region be available; b) the feasibility of using additional Ranging Integrity Monitoring Systems (RIMS) for achieving APV1 and APV2 requirements and a proposal for time scale be evaluated by Galileo Joint Undertaking; and c) European Space Agency (ESA), defines the EGNOS architecture scenarios on the number/location of RIMS required for achieving APV 1 and APV 2 requirements throughout the MID Region in order to support the regional cost-benefit analysis (CBA).	Ongoing	GJU and ISI would also identify different funding schemes to conduct the study.
CONCLUSION 9/34: WAAS DEMONSTRATION TEST BEDS That, the States of the MID Region willing to participate in the study of the WAAS demonstration test beds provide facilities for the reference stations when required.	Ongoing	To be replaced by the GNSS TF/5 Draft Conclusion 5/1
CONCLUSION 9/35: COST-BENEFIT CONSIDERATION FOR AUGMENTATION SYSTEMS That, a) no commitment is to be made on the augmentation systems until all other options and implementation trends with associated cost benefit analyses are fully considered; and b) implementation strategy to be considered with user requirements, implementation trends/options endorsed in adjacent regions in accordance with the operational concept and planning principles of the global air navigation plan for CNS/ATM systems.	Ongoing	Linked with MIDANPIRG Conclusion 9/34
CONCLUSION 9/36: REVISED STRATEGY OF THE GNSS IMPLEMENTATION IN THE MID REGION That, the revised strategy for the implementation of GNSS in the Middle East Region be adopted as indicated in Appendix 5N to the report on Agenda Item 5.	Ongoing	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
DECISION 9/37: IMPROVEMENT OF THE WORK OF THE ATN PLANNING GROUP That, the ATN Planning Group be invited to establish a working methodology and to appoint a Rapporteur in order to have the work on the development of the MID Regional ATN Planning Document fully coordinated and followed up.	Ongoing	Group continue it work
CONCLUSION 9/38: USE OF DIGITAL HIGH-SPEED CIRCUITS BETWEEN MAIN CENTRES That, the main Centres of the MID AFTN be requested to use digital high-speed links in their circuits with other main Centres in order to eliminate deficiencies related to the low speed circuits and to facilitate the migration to the ATN in the MID Region.	Ongoing	Some improvements are being done.
CONCLUSION 9/39: HARMONIZATION BETWEEN VSAT NETWORKS That, the interconnectivity of the MID VSAT be done on the basis of hub-less network using a sole satellite in order to constitute an integrated and seamless network, taking into account the harmonization in the Region and between MID Region and other Regions.	Ongoing	Start of the project in 2007
CONCLUSION 9/40: ORGANIZATION OF THE ATN SEMINAR IN THE MID REGION That, a) ICAO MID Regional Office makes the required arrangements to organize an ATN Seminar/Workshop in year 2006 to assist States for the initial implementation of AMHS in the Region; b) MID States cooperate in assisting ICAO MID Regional Office in hosting this important event;and c) MID States take this opportunity to send sufficient participants to this seminar/workshop in order to constitute the nucleus of the core team charged of the ATN implementation in the Region.	Ongoing	To be superseded by CNS/MET SG/7 Draft Conclusion 7/5
DECISION 9/41: MID REGIONAL CONTINGENCY PLAN FOR ATM/CNS That, a) the relevant subsidiary bodies of MIDANPIRG revise their Terms of Reference (TOR) to include the development of regional guidance material leading to a MID Regional Contingency Plan for ATM including supporting CNS elements; and b) the MID Regional Contingency Plan be updated by the relevant MIDANPIRG subsidiary bodies on a regular basis.	Ongoing	To be addressed by the ATM/SAR/AIS SG/8, the CNS/MET SG/7 and the CNS/ATM/IC SG/3

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/42: IMPLEMENTATION OF D-ATIS AND PDC IN THE MID REGION That, MID States not having done so, and where needs justify, are urged to implement in their international airports the dissemination of the ATIS and Pre-Departure Clearance via data link (D-ATIS and PDC).	Ongoing	
CONCLUSION 9/43: ICAO STRATEGY WITH REGARD TO FUTURE ITU WORLD RADIO COMMUNICATION CONFERENCES That, a) the CNS/MET SG be tasked to follow up the developments of ICAO position regarding future WRC conferences and their preparatory meetings, and highlighting that position to the MID States; b) MID States Civil Aviation Authorities use the ICAO coordinated aeronautical position regarding the future WRC conferences in their national discussions with the radio regulatory authorities when developing proposals for submission by their respective Administrations to ITU conferences; c) MID States Civil Aviation Authorities, request their appropriate Ministries to assign aviation experts to participate in their national delegations to the future ITU conferences in order to brief the delegations at those conferences with ICAO position and to support that position; and d) MID States Civil Aviation Authorities be urged, as a matter of a priority to explain the ICAO concerns to their respective Ministerial Authorities including the League of Arab States and the Arab Civil Aviation Commission, in order to support the ICAO and IATA concerns with regard to protection of aeronautical frequencies at WRC-2007.	Ongoing	To be superseded by CNS/MET SG/7 Draft Conclusions 7/1 & 7/2
CONCLUSION 9/45: UPGRADE OF THE KUWAIT-KARACHI CIRCUIT That, based on the upgrade of the Kuwait-Karachi circuit to 2.4K, MID COM centres are requested to route via Kuwait centre all traffic to Karachi (OP), Kabul (OA) and other destinations in ASIA PAC Region as appropriate.	Actioned	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/46: ADDITION OF THE BAGHDAD-KUWAIT CIRCUIT TO THE MID RATIONALIZED AFTN PLAN That, the MID Rationalized AFTN Plan be amended to include the new circuit between Baghdad and Kuwait as a tributary circuit.	Actioned	
CONCLUSION 9/47: ADDITION OF THE CAIRO-TRIPOLI CIRCUIT TO THE MID RATIONALIZED AFTN PLAN That, the MID Rationalized AFTN Plan be amended to include the existing circuit between Cairo and Tripoli as a tributary circuit.	Action taken	
CONCLUSION 9/48: PARTICIPATION OF THE MID COM CENTRES IN THE CIDIN MANAGEMENT CENTRE (CMC) OF THE EUR REGION That, all MID COM Centres participate as external COM canters in the operation of CIDIN Management Centre (CMC) in the EUR Region and designate a Cooperating CIDIN Centre (CCC) operator for coordination process with EUROCONTROL.	Ongoing	
DECISION 9/49: ESTABLISHMENT OF AN AD-HOC ACTION GROUP FOR THE SUPPORT OF AERONAUTICAL FREQUENCY BANDS That, an Ad-Hoc Group be established and aimed at raising the awareness of the National Telecommunication Regulatory Authorities, Airlines and Civil Aviation Authorities on the aviation spectrum use and requirements to ensure Air navigation Safety in the MID Region.	Ongoing	
DECISION 9/50: REVISED TERMS OF REFERENCE AND WORK PROGRAMME FOR THE AFS/ATN TASK FORCE That, the MIDANPIRG meeting approves the revised Terms of Reference and Work programme of the AFS/ATN Task Force as presented at Appendix 5R to the Report on Agenda Item 5.	Action taken	To be superseded by CNS/MET SG Draft decision 7/13
DECISION 9/51: MID REGIONAL AFTN CONTINGENCY PLAN That, the MID Regional AFTN Contingency Plan be renamed MID Regional AFS Contingency Plan taking into account the need to address the continuity of the services of the ATS Direct Speech circuits to ensure the safety of Air Navigation.	Action taken	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/52: PROJECT FOR MID VSAT IMPLEMENTATION That, in order to implement the MID VSAT Project in the MID Region, concerned States: a) be encouraged to seek assistance through ICAO Technical Cooperation Bureau (TCB); and b) carry out the implementation of the MID VSAT Equipment in an orderly and coordinated manner.	Ongoing	
CONCLUSION 9/53: SADIS INTERNET –BASED FTP SERVICE That, in parallel with the satellite broadcast, the SADIS Provider State be invited, as of 1 July 2005, to make WAFS forecasts and OPMET data available, as a primary component of the SADIS service, in accordance with the SADIS User Guide, through the Internet-based FTP service.	Action taken	
CONCLUSION 9/55: NON-IMPLEMENTATION OF ANNEX 3 PROVISIONS FOR METAR/SPECI AND TAF That, the ICAO MID Regional Office, invite the MID States to review their procedures concerning the format for METAR/SPECI and TAF in view of ensuring that they are in accordance with Annex 3, MID ANP, and the new edition of the ROBEX Handbook.	Action taken	
DECISION 9/56: REGIONAL PLANNING FOR MIGRATION TO BUFR CODED OPMET MESSAGES IN THE MID REGION That, the CNS/MET SG develop a transition plan for migration to Binary Universal Form for the Representation of meteorological data (BUFR) in the MID Region taking due account of the planning in adjacent ICAO Regions.	Ongoing	
CONCLUSION 9/57: INVITATION TO WMO FOR REGULAR PARTICIPATION IN MEETINGS OF THE MIDANPIRG CNS/MET SUB GROUP That, ICAO invites WMO to regularly participate in meetings of the MIDANPIRG CNS/MET Subgroup.	Actioned	Invitation to the next CNS/MET SG/7 meeting will be extended to WMO

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/63: DEVELOPMENT OF A MID REGION'S AIR NAVIGATION DEFICIENCIES DATABASE That, ICAO MID Regional Office: a) develops an air navigation deficiencies database for the MID Region; b) develops a secure process for managing this database on the Internet; c) gives the possibility of controlled on-line introduction of updated information by States for their respective deficiencies; and d) allows other authorized users on-line access to view the information contained in the database.	Ongoing	
CONCLUSION 9/64: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION That, a) States review their respective lists of identified deficiencies and formulate and forward an action plan for rectification of outstanding deficiencies to the ICAO MID Regional Office for review; b) States increase their efforts to overcome the delay in mitigating air navigation deficiencies identified by MIDANPIRG and explore ways and means to eliminate deficiencies by reliable ways of funding; c) States are encouraged to set up an internal group of experts to examine the list of deficiencies and take appropriate actions with a view to recommend to their higher Civil Aviation Authorities solutions for elimination of deficiencies; d) States experiencing difficulties in financing the elimination of safety-related deficiencies may wish to take advantage of the funding opportunity offered by the International Financial Facility for Aviation Safety (IFFAS); e) States be encouraged to foster the creation of regional and sub-regional cooperation and, wherever feasible, partnership initiatives with other States, users, air navigation service providers, industry and financial institutions to improve the safety of international civil aviation; f) Users of air navigation facilities and services in the MID Region report to the ICAO MID Regional Office when the remedial action on a deficiency has been taken; g) ICAO continues to provide assistance to States for the purpose of rectifying deficiencies; and h) when required, States request ICAO assistance through Technical Co-operation Programme and/or Special Implementation Projects (SIP).	Action taken Ongoing	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 9/66: SURVEY OF MET DEFICIENCIES IN THE MID REGION That, the MID Regional Office surveys deficiencies in the MET Field in the MID Region on a regular basis and focus on surveys and information to be obtained from IATA and other user organizations. Note: This Conclusion replaces MIDANPIRG Conclusion 8/53.	Action taken	

MIDANPIRG CNS/MET SG/7
Report on Agenda Item 3

REPORT ON AGENDA ITEM 3: MATTERS RELATED TO AERONAUTICAL TELECOMMUNICATION

3.1 Aeronautical Fixed Service

3.1.1 The meeting reviewed the AFTN/CIDIN Directory and States which had changes in their information Bahrain, Egypt, Iraq, Saudi Arabia and Syria provided updates to be reflected in the directory.

3.1.2 Matters related to AFTN routings and circuits were discussed and the following issues were raised:

3.1.2.1 Saudi Arabia raised concern on their circuits with the AFI region and informed the meeting that these long lasting circuit issues will be solved within the NAFISAT project.

3.1.2.2 IATA raised the issue of Jeddah–Khartoum circuit and Cairo-Khartoum circuits. Saudi Arabia updated the meeting that officials from both Civil Aviation Authorities in Saudi and Sudan met and agreed on the establishment of 64K circuit between both States. Egypt advised that the problem of Cairo-Khartoum circuit will be resolved within the NAFISAT project, which is expected to start implementation during 2007.

3.1.2.3 The meeting noted Egypt concerns on Cairo-Nairobi circuit that is serving 55 States requiring upgrade and alternate.

3.1.3 The meeting noted that Kuwait-Karachi circuit is upgraded to 2400 bps and is reflected in the directory.

3.1.4 The meeting reviewed the addition of Iraq-Jordan and Iraq-Kuwait circuits. Iraq updated the meeting that both circuits are not operational consequently Iraq proposed an alternate AFTN circuit with Bahrain using VSAT.

3.1.5 In view of the fact that using high speed digital links will facilitate the transition to ATN, the meeting agreed that MID States are encouraged to continue using high speed circuits between MID States centers using the state of art digital technology.

3.1.6 The meeting noted that most of the updates to the AFTN/CIDIN directory are done during the CNS/MET SG meetings which seems not very practical and hence agreed that updates to be forwarded to ICAO MID Regional Office whenever any changes occur through a State Letter within one week of the change, this will keep the directory up to date.

3.1.7 The updated AFTN/CIDIN directory along with the latest revised information is at **Appendix 3A** to the report on Agenda Item 3.

3.2 Aeronautical Mobile Service

3.2.1 The meeting noted that the Ad-Hoc Group for the support of the Aeronautical Frequency bands called by MIDANPIRG conclusion 9/49 was not formed and accordingly the meeting agreed on the Terms of Reference and Work Programme for the Group as in **Appendix 3B** to the report on Agenda Item 3.

3.2.2 Bahrain and Egypt nominated their experts, that will be part of the Ad-Hoc Action Group, as per **Appendix 3C** to the report on Agenda Item 3. Some delegates requested a State Letter from ICAO MID Regional Office for the nomination, ICAO MID Office Cairo will take action and send the requested letter. It was agreed that the delegates attending this meeting will follow-up with their administration for the reply from their State within 15 days, as time is running short for the coordination meeting of the League Arab States (LAS) which is planned for January 2007 and for WRC-07 planned for October 2007.

3.2.3 It was decided that the Ad-Hoc Action Group will be formed of only 5 to 6 experts two of which are already defined, so nominations will be considered on first come basis.

3.3 **Aeronautical Radio Navigation Service**

3.3.1 The meeting reviewed the summary of ICAO Seminar on Radio Spectrum that was held at ICAO MID Office Cairo 04-06 June 2006 and noted that the seminar discussed ICAO Position to WRC-07 and issues relating to the use of transmitting equipment that can be carried on board of an aircraft by passengers such as cellular phones, which has the potential of interference with the sensitive aeronautical communication and navigational systems of the aircraft.

3.3.2 The meeting appreciated ICAO MID Office efforts for conducting the Aeronautical Communication Panel (ACP) Working Group F meeting (ACP-WG-F #15) 07-13 June 2006 and was of the view that future seminars and ACP meeting are encouraged to be held in the Region. In this context the meeting requested States to consider support and hosting ACP working group meeting in the region whenever requested by the Panel as it proved to be valuable for the MID Region States.

3.3.3 A presentation was done on ICAO position for ITU WRC-07 which addressed regulatory aspects on aeronautical matters on the agenda for the WRC 07, attention was drawn to the need to maintain the current spectrum allocations to aeronautical services, and introduce additional global allocations for air-ground communication. The presentation concluded that active support was requested from MID States to consider the ICAO position when developing their State's position for WRC-07 and to support the ICAO position during WRC-07.

3.3.4 The meeting was presented with State Letter E3/5-05/85 dated 12 August 2005 explaining ICAO position for WRC-07 that was approved by the ICAO Council on 14 June 2005, the attention of the meeting was drawn on the actions required section of the letter.

3.3.5 The meeting was of the view that the awareness of aviation community as well as telecommunication regulatory authorities in MID States should be raised, consequently the following draft conclusion that will replace MIDANPIRG Conclusion 9/43:

DRAFT CONCLUSION 7/1*: *SUPPORT ICAO POSITION FOR WRC 07

That MID States,

a) Support ICAO position communicated to States, by State Letter E 3/5-05/85 dated 12 August 2005 during the ITU WRC 07 meeting; and

b) Civil Aviation Authorities, aviation experts participate with their national delegations to the WRC 07 ITU conferences.

3.3.6 The meeting was of the view that the MID States continue their support for all future ICAO position in the WRC and formulated the following draft conclusion:

DRAFT CONCLUSION 7/2: FUTURE SUPPORT FOR ICAO POSITION WITH REGARD TO WRC

That,

a) the Ad-Hoc Action Group for the support of Aeronautical Frequency Bands be tasked to follow-up the developments of ICAO position regarding future ITU WORLD RADIO COMMUNICATION CONFERENCE works, and highlighting that position to the MID States; and

b) MID States Civil Aviation Authorities, experts participate with their appropriate ministries delegations in the drafting of the national radio plans in the support of ICAO position.

3.4 **MID VSAT Project**

3.4.1 Egypt (chair person of the NAFISAT supervisory committee) presented the NAFISAT project indicating that the project will start implementation during 2007 and explained the technical and economical benefits to the States when implementing such a regional project. Egypt illustrated that considerable savings will be achieved since State will not be bearing any cost as all NAFISAT charges will be collected by IATA from the users. The cost for Egypt is at **Appendix 3D** to the report on Agenda Item 3. Furthermore the meeting was in favor of having the actual charges that a State will pay and it was clarified that States will not pay any charges to the network provider (IATA and ATNS), as these charges will be collected directly by IATA from the users. In this context IATA shed light on the collection of charges from users and informed the meeting that IATA mechanism could be used wherever there are benefits for airspace users and could be applied to the MID VSAT project.

3.4.2 A presentation that was prepared by ICAO Headquarters expert on the VSAT was made by the secretariat which highlighted terminologies and uses of the VSAT for voice , AFTN and the OPMET data in table driven (binary) codes which will be phased in (through Annex 3 amendments) between 2007 and 2016. The presentation also touched on ALLPIRG/5 Conclusions that were approved by ICAO Council on 13 June 2006, especially Conclusions 5/16-Implementation of VSATs and 5/17 provision of digital communication networks.

3.4.3 The technical issues such as backup, availability, maintenance and voice delays (latency) were discussed extensively to the satisfaction of the meeting, concerns were expressed that the project is needed, and the meeting agreed that MID VSAT project is vital for the MID Region and all States present supported the project. The meeting agreed that discussion should be held with IATA for the charging mechanism has to be in the same method for the NAFISAT. The meeting agreed to fully support MIDANPIRG Member States (MMS/3) meeting recommendation 3/8 and formulated the following draft conclusion:

DRAFT CONCLUSION 7/3: MID VSAT PROJECT FINALIZATION

That, in order to expedite the implementation of the MID VSAT Project, concerned MID States commit themselves to the project, by signing an MOU.

3.5 Latest Developments in ATN Field

3.5.1 The meeting was presented with the latest development of ICAO material and feasibility of using TCP/IP protocols or the Internet Protocol Suite (IPS) and was informed that the use of IPS in Ground-Ground ATN is feasible.

3.5.2 The meeting was presented with the material from WG-N who is drafting SARPs and guidance material (manual on detailed technical specifications) for the ground-ground part of the IPS based ATN.

3.5.3 The meeting agreed to use the currently available guidance material from WG-N which will be included in Annex 10 (Volume III, Part I, Chapter 3) and the detailed technical specification for the development of the MID ATN plan. The MID ATN plan will have phase implementation taking into consideration that current systems or implementations AFTN, IPv4 implementations, ATN/OSI, VDL Mode 2 to continue to operate and/or phased out at a locally required pace with a goal of a global network using TCP/IPv6.

3.5.4 The meeting appreciated the presentation that was done on the use of the Internet Protocol Suite (IPS, TCP/IP) in the ATN which contained valuable information to the MID Region and noticed in particular the reason for migration to IP, ATN standardization by ICAO and ATN implementation also the introduction of Voice over IP (VoIP) for voice communications will enable and facilitate an efficient and low-cost method for adjacent centre voice communications. In particular, when VoIP can be utilized over the ATN, significant saving can be introduced since separate voice and data links may not longer be necessary, while maintaining the features of a closed network.

3.5.5 The meeting noted that work on developing SARPs for the air-ground data links of the ATN is progressing well and it is expected that draft SARPS for a complete IPS based ATN will be discussed during ACP meeting in May 2007. Manuals with detailed material, including implementation guidance, are planned to be complete by the end of 2008.

3.5.6 ICAO Register of AMHS Management Domains and Addressing Information along with State letter SP 54/1-03/39 dated 30 May 2003 were presented to the meeting, drawing the attention of the States who did not reply to the letter to complete the pro formas and send their replies. Accordingly it was also agreed that ICAO MID Regional Office is to send a reminder to States in this regard and provide the necessary support when required.

3.5.7 The meeting had extensive discussions on the performance of the ATN Working Group noticing that no progress has been made since 2004 on the development of the MID ATN Planning document as at **Appendix 3E** to the report on Agenda Item 3, which is of major concern to all MID States. Eventually the meeting agreed that the current working group (Bahrain, Egypt, Iran, Kuwait, Oman and Saudi Arabia) continue the development of the manual however, with different methodology. Furthermore, each member State of the group define by name the individual expert working in the group, consequently the work of the group will be reinitiated and coordinated through the secretary it was also agreed that a State letter will be sent by ICAO MID Regional Office for confirming to States the new methodology agreed for this working group.

3.5.8 The meeting was of the feeling that ATN issues were extensively discussed and concluded with successful understanding. Accordingly the following draft conclusion was formulated:

DRAFT CONCLUSION 7/4: IMPLEMENTATION OF IPS BASED ATN

That, MID States,

a) consider the developments towards an IPS based ATN internet and to take these into account when considering developing plans for upgrading the aeronautical communications infrastructure; and

b) update the ICAO MID Regional Office with their ATN and AMHS Plans.

3.5.9 The meeting indicated that seminars and workshops help the experts in the States to gain knowledge and noted that ICAO business plan which is a performance based organization. The meeting accordingly formulated the following draft conclusion which will replace MIDANPIRG Conclusion 9/40:

DRAFT CONCLUSION 7/5: ORGANIZATION OF COMMUNICATION INFRASTRUCTURE SEMINAR

That, MID States:

a) Should support ICAO MID Regional Office in organizing Communication Infrastructure Seminar/Workshop during year 2007 by hosting this even; and

b) participate in the event by sending sufficient members of their appropriate experts.

INTERNATIONAL CIVIL AVIATION ORGANIZATION
MIDDLE EAST OFFICE

Routing Directory for AFTN and CIDIN Centres in the MID Region

Version 0.2 -October 2006

Table of COM Centres

(listed in alphabetical order by COM Centre location indicator)

Location Indicator	Located	State	Table name
HECA	Cairo	Egypt	HECA
OAKB	Kabul	Afganistan	OAKB
OBBI	Bahrain	Bahrain	OBBI
OEJD	Jeddah	Saudi Arabia	OEJD
OIII	Tehran	Iran	OIII
OJAM	Amman	Jordan	OJAM
OKBK	Kuwait	Kuwait	OKBK
OLBA	Beirut	Lebanon	OLBA
OMAE	Abu Dhabi	U.A.E.	OMAE
OOMS	Muscat	Oman	OOMS
OPKC	Karachi	Pakistan	OPKC
ORBI	Bagdad	Iraq	ORBI
OSDI	Damascus	Syria	OSDI
OTBD	Doha	Qatar	OTBD
OYSN	Sanaa	Yemen	OYSN

(listed in alphabetical order by State name)

State	Location Indicator	Located	Table name
Afganistan	OAKB	Kabul	OAKB
Bahrain	OBBI	Bahrain	OBBI
Egypt	HECA	Cairo	HECA
Iran	OIII	Tehran	OIII
Iraq	ORBI	Bagdad	ORBI
Jordan	OJAM	Amman	OJAM
Kuwait	OKBK	Kuwait	OKBK
Lebanon	OLBA	Beirut	OLBA
Oman	OOMS	Muscat	OOMS
Pakistan	OPKC	Karachi	OPKC
Qatar	OTBD	Doha	OTBD
Saudi Arabia	OEJD	Jeddah	OEJD
Syria	OSDI	Damascus	OSDI
U.A.E.	OMAE	Abu Dhabi	OMAE
Yemen	OYSN	Sanaa	OYSN

1. Explanation of the Tables

(Remark: All tables show examples and do not reflect the real situation)

1.1. Information (COM Centre Characteristic Table)

The COM Centre Characteristic Table gives an overview about operational, technical and administrative information of the COM Centre itself.

1.2. AFTN Routing table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	WS	OO		
B	LCNCA	(OE)		
C	LCNCA	(OE)		
D*	OE	OO		
DT	HE	(LCNCA)	HECAA	LCNCA

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	WS	OO		
OB	N	N		
OE*	OE	OO		
OED	OED	(OE)		
OI	OI	OM		

Desti-nation First letters of an AFTN address (8 letter address) relevant for the Routeing
D* All destination addresses starting with D except those indicated directly below (DT)
DT Destination addresses starting with DT

Actual Main Actual main outgoing AFTN circuit or CIDIN Ax for this Destination address used actual in the AFTN/CIDIN Centre
WS Represents the outgoing AFTN circuit
LCNCA Defined Exit address (Ax) for the Destination address (Ad) starting with these letters
N Represents the national Routing responsibility

Actual Altn. Alternate outgoing AFTN circuit or CIDIN Ax for this Destination address used if the Main is not available.
(OE) Represents the outgoing AFTN circuit as Alternate
(LCNCA) Defined the Exit address (Ax) as alternate for the Destination address (Ad)
N Represents the national Routing responsibility

(Terms in brackets: For the use of the Exit Address or the AFTN circuit as alternate, co-ordination is required).

Planned Main Planned to replace the Actual Main in the future on a defined date
Planned Altn. Planned to replace the Actual Alternate in the future on a defined date

1.3. CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_	OLBA	LCNC	HECA	OLBA
LCNC_	LCNC	OLBA		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Exit Address First four letters of the Exit addresses (Ax) relevant for the selection of connection to be used.

Actual Main VCG Shows the first outgoing direction (main connection path to an adjacent COM Centre) used at first or reaching the Exit centre (Ax). This path is represented by a Virtual Circuit Group (VCG), see 5.4.
Actual Altn. VCG Shows the alternate outgoing direction (main connection path to an other adjacent COM Centre) used in case of unavailability of the main VCG for reaching the Exit centre (Ax). This path is represented by a Virtual Circuit Group (VCG), see 5.4.

(Terms in brackets: For the use of the Actual Alternate VCG, co-ordination is required.)

Planned Main VCG Planned to replace the Actual Main VCG in the future on a defined date.
Planned Altn. VCG Planned to replace the Actual Alternate VCG in the future on a defined date.

1.4. Virtual Circuit Groups (VCG)

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
LCNC	LCNC1			
OLBA	OLBA			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		
HECA	HECA1			
		OLBA		

Actual VCG A Virtual Circuit Group consists of a number of Virtual Circuits (VC) that connect two, and only two CIDIN Centres. A Primary-type VC is always present and a Secondary-type VC is optional. Within this group, the selection of the VC is local matter. VC groups form redundant connections between adjacent CIDIN Centres.

Actual Primary VC Primary Virtual Circuit, established actual either as a PVC (Permanent Virtual Circuit) or SVC (Switched Virtual Circuit). In case of SVC no Secondary Virtual Circuits are recommended.

Actual Secondary VC's Actual Secondary VC's: Secondary Virtual Circuits, established actual either as a set of PVC (Permanent Virtual Circuit) and/or a SVC (Switched Virtual Circuit). There is no maximum limit to the number of PVC's forming a VCG.

Planned Primary VC The planned Primary Virtual Circuit will replace the Actual Primary VC in the future on a planned date.

Planned Secondary VC's The planned Secondary Virtual Circuits will replace the Actual Alternate VC (see below).

1.5. Circuit Characteristics

Situation recorded in Nov 1998		
Link to	Protocol	Capacity (bps)
HECA	AFTN	2 x 2.4k
OLBA	CIDIN	1 x 9.6k
OKBK	AFTN	1 x 300
OOMS	AFTN	1 x 50
VTBB	AFTN	1 x 2.4k

Planned		
Protocol	Capacity(bps)	"O" date
CIDIN	1 x 9.6k	TBD

Link to Connection to the COM Centre represented by the location indicator.

Protocol Protocol used actual on this link (conventional AFTN, AFTN over X.25, CIDIN via PVC or CIDIN via SVC).

Capacity (bps) Actual capacity available (bit per seconds). An asterisk (*) indicates a network connection.

Planned Protocol Protocol planned to be used on the upgraded/new link.

Capacity (bps) Planned capacity of the link (bit per seconds).

"O" date Planned operational date of the upgraded/new link.

OAKB - Kabul - Afghanistan

Information

Operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OAKB - Kabul - Afghanistan

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	VI	OI		
B	OI	VI		
C	OI	VI		
D	OI	VI		
E	OI	VI		
F	OI	VI		
G	OI	VI		
H*	OI	VI		
HA				
HC	OI	VI		
HD	OI	VI		
HE	OI	VI		
HH				
HL	OI	VI		
HS	OI	VI		
K	OI	VI		
L*	OI	VI		
LB	OI	VI		
LL				
LT	OI	VI		
M	OI	VI		
N	VI	OI		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	N	N		
OB	OI	VI		
OE	OI	VI		
OI	OI	VI		
OJ	OI	VI		
OK	OI	VI		
OL	OI	VI		
OM	OI	VI		
OO	OI	VI		
OP	OP	OI		
OR	OI	VI		
OS	OI	VI		
OT	OI	VI		
OY	OI	VI		
P	VI	OI		
R	VI	OI		
S	OI	VI		
T	OI	VI		
U	VT	VI		
V*	VI	OI		
VA	VI	OI		
VE	VI	OI		
VI	VI	OI		
VN	VI	OI		
VO	VI	OI		
W	VI	OI		
Y	VI	OI		
Z	VI	OI		

OAKB - Kabul - Afghanistan

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date

OBBI - Bahrain - Bahrain

Information

Operator:	
Phone:	+973 17321185
- -	+973 17321184
Fax:	+973 17321905
Telex:	+490 9186 AIRCIV BN
Email:	caacomms@bahrain.gov.bh
AFTN:	OBBIYFYX
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	BAHAPYF

Technical operator:	
Phone:	+973 17883620
- -	+973 17883621
Fax:	+973 17883461
Telex:	+490 8000
Email:	ns611t@btc.com.bh
AFTN:	OBBIZZZZ
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	---

Supervisor:	
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AFTN:	OBBIYTYX
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	BAHAPYF

Technical supervisor:	
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Fax:	+973 17883461
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Email:	ns61@btc.com.bh
AFTN:	OBBIZZZZ
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	---

Management:	
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Phone:	+973 17321187
Fax:	+973 17321992
Telex:	9186 AIRCIV BN
Email:	aliahmed@bahrain.gov.bh
AFTN:	OBBIYTYX
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	--
SITA:	BAHAPYF

Postal Address:
CIVIL AVIATION AFFAIRS
AIR NAVIGATION DIRECTORATE
P.O.BOX: 586
MUHARRAQ
BAHRAIN

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OBBIA
AFTN OPM/NM:	OBBIM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA	Yes	

OBBI - Bahrain - Bahrain

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	WS	OO		
B	LCNCA	OE	LCNCA	OLBAA
C	LCNCA	OE	LCNCA	OLBAA
D	OE	OO		
E	LCNCA	OE	LCNCA	OLBAA
F	OE	OO		
G	OE	OO		
H*	OE	OO		
HA	OE	00		
HC	OE	OO		
HD	OE	OO		
HE	OE	OO		
HH	OE	OO		
HL	OE	OO		
HS	OE	OO		
K	LCNCA	OE	LCNCA	OLBAA
L*	LCNCA	OE	LCNCA	OLBAA
LB	LT	LCNCA		
LL				
LT	LT	LCNCA		
M	LCNCA	OE	LCNCA	OLBAA
N	WS	OO		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OKBK	OO		
OB	N	N		
OE*	OE	OO		
OED	OED	OE		
OI	OI	OMAEA		
OJ	OE	OLBAA		
OK	OK	OLBAA		
OL	OLBAA	OK		
OM	OMAEA	OO		
OO	OO	OE		
OP	OK	OE		
OR	OLBAA			
OS	OLBAA	OK		
OT	OT	OK		
OY	OE	OO		
P	LCNCA	OE	LCNCA	OLBAA
R	WS	OO		
S	LCNCA	OLBAA	LCNCA	OLBAA
T	LCNCA	OLBAA	LCNCA	OLBAA
U	LC	OE		
V*	WS	OO		
VA	OO	OE		
VE	OO	OE		
VI	OO	OE		
VN	OO	OE		
VO	OO	OE		
W	WS	OO		
Y	WS	OO		
Z	OO	OE		

OBBI - Bahrain - Bahrain

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA	OLLL	LCNC		
LCNC	LCNC	OLLL		
OBBI	LCNC	OLBA		
OLBA	OLLL	LCNC		
OMAE	OMAE			
OEJN	OEJN	LCNC		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
LCNC	LCNC1			
OLLL	OLLL1			
OMAE	OMAE1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

OBBI - Bahrain - Bahrain

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
LCNC	CIDIN	1 x 9.6K			
LTAA	AFTN	1 x 50			
OEDF	AFTN	1 x 50	AFTN	1 x 9.6K	IV/2005
OEJD	CIDIN	1 x 64K			
OIII	AFTN	1 x 300			
OKBK	AFTN	1 x 9.6K			
OLBA	CIDIN	1 x 9.6K			
OMAE	CIDIN	1 x 9.6K			
OOMS	AFTN	1 x 9.6K	AFTN		
OTBD	AFTN	1 x 200	AFTN	1 X 9.6K	IV/2005
WSSS	AFTN	1 x 9.6K	AFTN		

HECA - Cairo - Egypt

Information

Operator:	
Phone:	202 6375639
- -	202 2654006
Fax:	202 2678546
Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYX
CIDIN/AFTN:	HECAM
CIDIN/OPMET:	
SITA:	CAIXYYF

Technical operator:	
Phone:	202 2657829
- -	202 2657923
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	
Phone:	202 2678999
Fax:	202 2678546
Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYS
CIDIN/AFTN:	HECAM
CIDIN/OPMET:	
SITA:	CAIXYYF

Technical supervisor:	
Name:	Mohamoud Ramadan
Phone:	202 2675649
Fax:	202 2685294
Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Magdy Abdel Messih Wahba
Phone:	202 2678999
Fax:	202 2680629
Telex:	202 92443 UN
Email:	xramadan@hotmail.com
AFTN:	HECAYTYX
CIDIN/AFTN:	HECAM
CIDIN/OPMET:	
SITA:	CAIXYYT

Postal Address:
National Air Navigation Services
Company
Cairo Air Navigation Centre
Cairo Airport Road
Cairo, Egypt

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	HECAA
AFTN OPM/NM:	HECAM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA	Yes	

HECA - Cairo - Egypt

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OEJNA	LGGGA		
B	LGGGA	OLBAA		
C	LGGGA	OLBAA		
D	DT	LGGGA		
EB	LGGGA	OLBAA		
ED	LGGGA	OLBAA		
EE	LGGGA	OLBAA		
EF	LGGGA	OLBAA		
EG	LGGGA	OLBAA		
EH	LGGGA	OLBAA		
EI	LGGGA	OLBAA		
EK	LGGGA	OLBAA		
EL	LGGGA	OLBAA		
EN	LGGGA	OLBAA		
EP	LGGGA	OLBAA		
ES	LGGGA	OLBAA		
ET	LGGGA	OLBAA		
EV	LGGGA	OLBAA		
EY	LGGGA	OLBAA		
F*	HK	OEJNA		
FH	LGGGA	OLBAA		
FJ	LGGGA	OLBAA		
G	DT	LGGGA		
H*	HK	OEJNA		
HA	OEJNA	HK		
HC	HK	OEJNA		
HD	OEJNA	HK		
HE	N	N		
HH	HHAS	HK		
HL	HL	DT		
HS	HS	OEJNA		
K	LGGGA	OLBAA		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
L*	LGGGA	OLBAA		
LA	LGGGA	OLBAA		
LI	LGGGA	OLBAA		
LL	LL	LGGGA		
LM	LGGGA	OLBAA		
M	LGGGA	OLBAA		
N	OEJNA	OLBAA		
OA	OLBAA	LGGGA	OBBIA	
OB	OEJNA	OLBAA	OBBIA	
OE	OEJNA	LGGGA		
OJ	OJ	OE		
OI	OLBAA	LGGGA	OBBIA	
OK	OLBAA	LGGGA		
OL	OLBAA	LGGGA		
OM	OLBAA	LGGGA		
OO	OEJNA	LGGGA		
OP	OLBAA	LGGGA		
OR				
OS	OS	OJ		
OT	OLBAA	LGGGA	OBBIA	
OY	OE	LGGGA		
P	OLBAA	LGGGA		
R	OEJNA	LGGGA	OBBIA	
S	LGGGA	OLBAA		
T	LGGGA	OLBAA		
U	LGGGA	OLBAA		
V	OLBAA	LGGGA	OBBIA	
W	OEJNA	LGGGA	OBBIA	
Y	OEJNA	LGGGA	OBBIA	
Z	OLBAA	LGGGA	OBBIA	

HECA - Cairo - Egypt

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_				
LGGG_	LGGG	OLBA		
OLBA_	OLBA	LGGG		
OEJN	OEJN	LGGG		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
LGGG	LGGG1			
OLBA	OLBA1			
OEJN	OEJN1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

HECA - Cairo - Egypt

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
DTTC	AFTN	1 x 100	AFTN	1 x 1200	2005
HKNA	AFTN	1 x 50	AFTN	9.6K	2006
HLLT	AFTN	1 x 50			
HSSS	AFTN	1 x 50			
LGGG	CIDIN	1 x 9.6 K			
LLBG	AFTN	1 x 50			
OEJD	CIDIN	1 x 9.6 K			
OJAM	AFTN	1 x 9.6 K			
OLBA	CIDIN	1 x 9.6 K			
OSDI	AFTN	1 x 50			
HHAS	AFTN	1 X 2400			

OIII - Tehran - Iran

Information

Operator:	
Phone:	0098 21-91022325
- -	
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	
AFTN:	OIIIYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Technical operator:	
Phone:	0098 21-91022330
- -	
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	
AFTN:	OIIIYTYC
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Supervisor:	
Name:	Abutaleb Mosaie
Phone:	0098 21-9122330
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	alicom64@hotmail.com
AFTN:	OIIIYTYC
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Technical supervisor:	
Name:	Gholamali Barzegari Naeini
Phone:	0098 21-6036645
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	AFTN@IRAFTN.COM
AFTN:	OIIIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Management:	
Name:	Gholamali Barzegari Naeini
Phone:	0098 21-6036645
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	AFTN@ARAFTN.COM
AFTN:	OIIIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Postal Address:
Civil Aviation Organization
P.O. Box 1798, 13445
Mehrabad Intl Airport
Tehran
Islamic Republic of Iran

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET	Yes	
SITA	Yes	

OIII - Tehran - Iran

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	OP	OB	OP
B	LT	OB	LT	OB
C	LT	OB	LT	OB
D	OK	OB	OB	OK
E	LT	OB	LT	OB
F	OK	OB	OB	OK
G	OK	OB	OB	OK
H	OK	OB	OB	OK
K	LT	OB	LT	OB
L	LT	OB	LT	OB
LC	OB	OM	OB	OK
M	LT	OB	LT	OB
N	OB	OP	OB	OP

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OK	OP	OP	OK
OB	OB	OM	OB	OM
OE	OB	OM	OB	OM
OI	N	N	N	N
OJ	OS	OB	OS	OB
OK	OK	OB	OK	OB
OL	OB	OK	OB	OK
OM	OM	OB	OM	OB
OO	OB	OP	OB	OK
OP	OP	OK	OP	OK
OR	OK	OB	OK	OB
OS	OS	OB	OS	OK
OT	OB	OK	OB	OK
OY	OB	OM	OB	OK
P	OK	OB	OK	OB
R	OB	OK	OB	OK
S	LT	OB	LT	OB
T	LT	OB	LT	OB
U	LT	OB	OB	OK
V	OK	OB	OP	OK
VA	OK	OB	OP	OK
VI	OK	OB	OP	OK
VN	OK	OB	OP	OK
VO	OK	OB	OP	OK
W	OB	OP	OB	OP
Y	OB	OP	OB	OP
Z	OK	OB	OP	OK

OIII - Tehran - Iran

Circuit Characteristics

Situation recorded in April 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
LTAA	AFTN	1 x 50	AFTN	9.6K	2004
OBBI	AFTN	1 x 300	AFTN	9.6K	2004
OKBK	AFTN	1 x 100	AFTN	9.6K	2004
OMAE	AFTN	1 x 100			
OPKC	AFTN	1 x 200			
OSDI	AFTN	1 x 50			

ORBI - Bagdad - Iraq

Information

Operator: Ali Hussain Naser	
Phone:	+ 964 7901380661
- -	
Fax:	
Telex:	
Email:	
AFTN:	ORBIYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator: Basema Jaleel	
Phone:	+ 9641 8132480
- -	
Fax:	
Telex:	
Email:	ibiap1@yahoo.com
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Khitam A . Hassen
Phone:	+ 964 7901 511049
Fax:	
Telex:	
Email:	kh_hassen61@yahoo.com
AFTN:	ORBIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Eman Zeedan(Director)
Phone:	+ 964 7901484525
Fax:	
Telex:	
Email:	imzen29@yahoo.com
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	Yes
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

ORBI - Bagdad - Iraq

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OK			OI
B	OK			OI
C	OK			OI
D	OK			OI
E	OK			OI
F	OK			OI
G	OK			OI
H	OK			OI
K	OK			OI
L*	OK			OI
LL				
M	OK			OI
N	OK			OI

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OK			OI
OB	OK			OI
OE	OK			OI
OI	OK			OI
OJ	OK			OI
OK	OK			OI
OL	OK			OI
OM	OK			OI
OO	OK			OI
OP	OK			OI
OR	OK			OI
OS	OK			OI
OT	OK			OI
OY	OK			OI
P	OK			OI
R	OK			OI
S	OK			OI
T	OK			OI
U	OK			OI
V	OK			OI
W	OK			OI
Y	OK			OI
Z	OK			OI

ORBI - Bagdad - Iraq

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OKBK	AFTN	9.6K			

OJAM - Amman - Jordan

Information

Operator:	Mona al - Nadaf
Phone:	+9626 4891401/3261
- -	
Fax:	
Telex:	
Email:	ALNADAF@YAHOO.COM
AFTN:	OJAMYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	AMMXYYA

Technical operato	Targrred Ghazi
Phone:	+962 6 4891401/3263
- -	
Fax:	
Telex:	
Email:	
AFTN:	OJAMYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisc	Marwan A. Qadome
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Fax:	+ 962 6 4891653
Telex:	
Email:	mar-aftn@yahoo.com
AFTN:	OJAMYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	AMMXYYA

Technical supervi	Marwan Badawi
Name:	Marwan Badawi
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Telex:	
Email:	
AFTN:	OJAMYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	Nader A. Kaled
Name:	Nader A.Kaled
Phone:	4891401133260
Fax:	
Telex:	
Email:	aftn_am@yahoo.com
AFTN:	OJAMYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
Civil Aviation Authority
P.O.Box 7547
Amman -Jordan

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	Yes
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OJAM - Amman - Jordan

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OE	HE		
B	OS	HE		
C	OS	HE		
D	HE	OS		
E	OS	HE		
F	HE	OS		
G	HE	OS		
H*	HE	OL		
HE	HE	OS		
HL	HE	OS		
HS	HE	OE		
K	OS	HE		
L*	OS	HE		
LC	OS	HE		
LL	HE	HE		
LT	OS	HE		
M	OS	HE		
N	OE	HE		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OE	HE		
OB	OE	HE		
OE	OE	HE		
OI	OS	OE		
OJ	N	N		
OK	OE	HE		
OL	HE	OS		
OM	OE	HE		
OO	OE	HE		
OP	OE	HE		
OR	OR	OS		
OS	OS	HE		
OT	OE	HE		
OY	OE	HE		
P	OS	HE		
R	OE	HE		
S	OS	HE		
T	OS	HE		
U	OS	HE		
V*	OE	HE		
VA	OE	HE		
VE	OE	HE		
VI	OE	HE		
VN	OE	HE		
VO	OE	HE		
W	OE	HE		
Y	OE	HE		
Z	HE	OS		

OJAM - Amman - Jordan

Circuit Characteristics

Situation recorded in March 2005			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
HECA	AFTN	1 x 9.6 K			
OEJD	AFTN	1 x 19.2 K			
ORBI	AFTN	1 x 50			
OSDI	AFTN	1 x 50			
LLBG	AFTN	1.2 K			

OKBK - Kuwait - Kuwait

Information

Operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Mr. Al-Asqah, Mohammed
Phone:	+ (965) 473 2489
Fax:	+ (965) 472 1286
Telex:	
Email:	
AFTN:	OKBKYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Mr. Al-Jarrah, Dawood
Phone:	+ (965) 476 0421
Fax:	+ (965) 431 9232
Telex:	
Email:	
AFTN:	OKBKYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Mr. Al-Fozan, Fozan
Phone:	+ (965) 476 0421
Fax:	+ (965) 431 9232
Telex:	
Email:	cvnedd@quality.net
AFTN:	OKBKYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OKBK - Kuwait - Kuwait

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OP	OB		
B	LI	OL		
C	LI	OL		
D	OL	OB		
E	LI	OL		
F	OB	OL		
G	OL	OB		
H*	OL	OB		
HE	OL	OB		
HL	OL	OB		
HS	OL	OB		
K	LI	OL		
L*	LI	OL		
LC	OL	LI		
LL				
LT	LI	OL		
M	LI	OL		
N	OP	OB		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OP	OB		
OB	OB	OL		
OE	OB	OL		
OI	OI	OB		
OJ	OL	OB		
OK	N	N		
OL	OL	OB		
OM	OB	OL		
OO	OB	OL		
OP	OP	OB		
OR	OR	TBD		
OS	OS	OL		
OT	OT	OB		
OY	OB	OL		
P	LI	OL		
R	OP	OB		
S	LI	OL		
T	LI	OL		
U	LI	OL		
V*	OP	OB		
VA	OP	OB		
VE	OP	OB		
VI	OP	OB		
VN	OP	OB		
VO	OP	OB		
W	OP	OB		
Y	OP	OB		
Z	OP	OB		

OKBK - Kuwait - Kuwait

Circuit Characteristics

Situation recorded in March 2005			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
LIII	AFTN	1 x 100	X.25	1 X 64k	4th Q-2005
OBBI	AFTN	1 X 9.6 K			
OIII	AFTN	1 x 100	AFTN	1 X 9.6K	4th Q-2005
OLBA	AFTN	1 x 100	AFTN	1 X 9.6K	TBD
OPKC	AFTN	1 x 2.4k	AFTN	1 X 9.6K	TBD
OSDI	AFTN	1 x 50			
OTBD	AFTN	1 x 100	AFTN	1 X 9.6K	TBD
ORBI	AFTN	1 X 9.6K			

OLBA - Beirut - Lebanon

Information

Operator:	
Phone:	+ 961 1 628161
- -	
Fax:	+961 1 629035
Telex:	
Email:	hatemh@beirutairport.gov.lb
AFTN:	OLBAYFYX
CIDIN/AFTN:	OLBAM
CIDIN/OPMET:	OLBAYMYX
SITA:	

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Chawki Hatem
Phone:	+961 1 628161
Fax:	+961 1 629035
Telex:	
Email:	
AFTN:	OLBAYFYX
CIDIN/AFTN:	OLBAM
CIDIN/OPMET:	OLBAYMYX
SITA:	

Technical supervisor:	
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Phone:	+961 3 280299-961 628000/3049
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Telex:	
Email:	msaad@beirutairport.gov.lb
AFTN: OLBAYTYX	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Chawki Hatem
Phone:	+961 1 628150
Fax:	+961 1 629035
Telex:	
Email:	
AFTN:	OLBAYTYX
CIDIN/AFTN:	OLBAM
CIDIN/OPMET:	OLBAYMYX
SITA:	

Postal Address:
Beirut International Airport
Telecom Department
Beirut-Lebanon

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OLBAA
AFTN OPM/NM:	OLBAM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS	Yes	
MOTNE		
OPMET	Yes	
SITA	Yes	

OLBA - Beirut - Lebanon

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OE		
B	LCNCA	HECAA		
C	LCNCA	HECAA		
D	HECAA	LCNCA		
E	LCNCA	HECAA		
F	OE	HECAA		
G	HECAA	OE		
H	HECAA	OE		
K	LCNCA	HECAA		
L*	LCNCA	HECAA		
LL				
LT	LCNCA	HECAA		
M	LCNCA	HECAA		
N	OK	OE		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OK	OE		
OB	OBBIA	OE		
OE	OE	OBBIA		
OI	OBBIA	OK		
OJ	HECAA	OE		
OK	OK	OBBIA		
OL	N	N		
OM	OBBIA	OE		
OO	OBBIA	OE		
OP	OK	OBBIA		
OR	OR	OS		
OS	OS	HECAA		
OT	OBBIA	OK		
OY	OE	OBBIA		
P	LCNCA	HECAA		
R	OBBIA	OE		
S	LCNCA	HECAA		
T	LCNCA	HECAA		
U	LCNCA	HECAA		
V*	OK	OBBIA		
VA	OK	OBBIA		
VE	OK	OBBIA		
VI	OK	OBBIA		
VN	OK	OBBIA		
VO	OK	OBBIA		
W	OBBIA	OK		
Y	OBBIA	OE		
Z	OK	OE		

OLBA - Beirut - Lebanon

Circuit Characteristics

Situation recorded in April 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
HECA	CIDIN	1 x 9.6K			
LCNC	CIDIN	1 x 9.6K			
OBBI	CIDIN	1 x 9.6K			
OEJD	AFTN	1 x 100	AFTN	1 x 9.6K	2005
OKBK	AFTN	1 x 100	AFTN	1 x 9.6K	2005
OSDI	AFTN	2 x 50			
ORBI	AFTN	1 x 50			

OLBA - Beirut - Lebanon

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
OLBA_	OLBA	(LCNC)		
LCNC_	OLBA	(OBBI)		
OBBI_	OLBA	HECA		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
HECA	HECA1			
LCNC	LCNC1			
OBBI	OBBI1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

OOMS - Muscat - Oman

Information

Operator:	Mushal Abdul Aziz
Phone:	968 519209/332
- -	
Fax:	968 510617
Telex:	5418 DGCAOMAN ON
Email:	aircomms@dgcam.gov.om
AFTN:	OOMSYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator: Ahmed Issa	
Phone:	968 519492
- -	
Fax:	968 510617
Telex:	5418 DGCAOMAN ON
Email:	ahmedissa@dgcam.gov.om
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Akhtar Kareem Al-Balu
Phone:	968 519260
Fax:	968 510617
Telex:	5418 DGCAOMAN ON
Email:	aircomms@dgcam.gov.om
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Mohd Hamed Al-Mauly
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Fax:	968 510617
Telex:	5418 DGCAOMAN ON
Email:	mody07@hotmail.com
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Ali Humaid Al-Adawi
Phone:	968 519207/699
Fax:	968 519930
Telex:	5418 DGCAOMAN ON
Email:	alialadawi@dgcam.gov.com
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
P.O. BOX 1
Postal Code 111
Seeb Int. Airport
Sultanate of Oman

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS	Yes	
MOTNE		
OPMET		
SITA		

OOMS - Muscat - Oman

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	VA		
B	OB	OE		
C	OB	OE		
D	OE	OB		
E	OB	OE		
F	OE	VA		
G	OE	OB		
H	OE	VA		
K	OB	OE		
L* EX. LL	OB	OE		
M	OB	OE		
N	OB	VA		
OA	OB	OMA		
OB	OB	OMA		
OE	OE	OB		
0I	OB	OMA		
OJ	OE	OB		
OK	OB	OE		
OL	OB	OE		
OM	OMA	OB		
OO	N	N		
OP	VA	OB		
OR	OB	OE		
OS	OE	OB		
OT	OB	OMA		
OY	OY	OE		
P	OB	VA		
R	OB	VA		
S	OB	OE		
T	OB	OE		
U	VA	OE		
V*	OB	VA		
VA	VA	OB		
VE	VA	OB		
VI	VA	OB		
VN	VA	OB		
VO	VA	OB		
W	OB	VA		
Y	OB	VA		
Z	VA	OB		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.

OOMS - Muscat - Oman

Circuit Characteristics

Situation recorded in April 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
OBBI	AFTN	1 x 300		9.6k	04/05
OEJD	AFTN	1 x 300		9.6k	04/05
OMAE	AFTN	1 x 50	AFTN	9.6k	04/05
OYSN	AFTN	1 x 100		9.6k	04/05
VABB	AFTN	1 x 300	AFTN (X.25)	9.6k	04/05

OPKC - Karachi - Pakistan

Information

Operator:	
Phone:	92-21-45791943
- -	45797232
Fax:	92-21-9218216
Telex:	29336 CAA PK
Email:	
AFTN:	OPKCYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	OPKCYZYX
SITA:	

Technical operator:	
Phone:	92-21-45791944
- -	45797519
Fax:	
Telex:	29336 CAA PK
Email:	
AFTN:	OPKCYFYT
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Mr. Fasihuzzaman
Phone:	92-21-9218242
Fax:	92-21-9218216
Telex:	29336 CAA PK
Email:	
AFTN:	OPKCYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Mr. Nadeem Sharif Pasha
Phone:	92-21-9218174
Fax:	
Telex:	29336 CAA PK
Email:	Ctoqiap@sat.net.pk
AFTN:	OPKCYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Air Cdre Qamaruddin
Phone:	92-21-9218732
Fax:	92-21-9218733
Telex:	29534 DG CAA PK
Email:	q-uddin@yahoo.Com
AFTN:	OPHQZXCM
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
Comm-Ops branch, HQ.CAA
Technical Devision
Terminal-1
QIAP, Karachi-75200
Pakistan

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS	Yes	
MOTNE		
OPMET	Yes	
SITA		

OPKC - Karachi - Pakistan

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	VA	-		
B	OK	-		
C	OK	OI		
D	OK	-		
E	OK	OI		
F	OK	-		
G	OK	-		
H	OK	-		
K	OK	OI		
L*	OK	0I		
LL				
LT	OI	OK		
M	OK	OI		
N	VA	OI		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OA	-		
OB	OK	OI		
OE	OK	-		
OI	OI	-		
OJ	OK	OI		
OK	OK	-		
OL	OK	-		
OM	OK	OI		
OO	OK	OI		
OP	N	N		
OR	OK	-		
OS	OI	-		
OT	OK	OI		
OY	OK	OI		
P	VA	-		
R	VA	-		
S	OK	OI		
T	OK	OI		
U	OI	OK		
V*	VA	-		
VN	ZB	VA		
W	VA	-		
Y	VA	-		
Z	ZB	VA		

OPKC - Karachi - Pakistan

Circuit Characteristics

Situation recorded in October 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
OIII	AFTN	1 x 200	AFTN	2.4K	End 2004
OKBK	AFTN	2.4K			
ZBBB	AFTN	1 x 50	AFTN	2.4K	End 2004
VABB	AFTN	1 x 200			
OAKB	AFTN (VSAT)	1 x 2400			

OTBD - Doha - Qatar

Information

Operator:	
Phone:	00974 4656220/268
- -	00974 4622510
Fax:	00974 4621052
Telex:	
Email:	
AFTN:	OTBDYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	DOHXYYF

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Mr. Ahmed Al-Mannai
Phone:	00974 4622510
Fax:	00974 4622052
Telex:	
Email:	ahmedalmannai@caa.gov.qa
AFTN:	
CIDIN/AFTN:	OTBDYTYX
CIDIN/OPMET:	
SITA:	DOHXYYF

Technical supervisor:	
Name:	Mr.Said Othman Baywazir
Phone:	00974 465500
Fax:	00974 4622620
Telex:	
Email:	saeed@caa.gov.qa
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
Civil Aviation Authority
P.O.Box 3000
Doha Qatar

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OTBD - Doha - Qatar

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	OK		
B	OB	OK		
C	OB	OK		
D	OB	OK		
E	OB	OK		
F	OB	OK		
G	OB	OK		
H	OB	OK		
K	OB	OK		
L*	OB	OK		
LL				
M	OB	OK		
N	OB	OK		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OB	OK		
OB	OB	OK		
OE	OB	OK		
OI	OK	OB		
OJ	OB	OK		
OK	OB	OK		
OL	OB	OK		
OM	OB	OK		
OO	OB	OK		
OP	OK	OB		
OR	OK	OB		
OS	OB	OK		
OT	N	N		
OY	OB	OK		
P	OB	OK		
R	OB	OK		
S	OB	OK		
T	OB	OK		
U	OB	OK		
V	OB	OK		
W	OB	OK		
Y	OB	OK		
Z	OB	OK		

OTBD - Doha - Qatar

Circuit Characteristics

Situation recorded in March 2005			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OBBI	AFTN	1 x 300			
OKBK	AFTN	1 x 100			

OEJD - Jeddah - Saudi Arabia

Information

Operator:	
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- -	+966 2 685 4576
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Telex:	603807 KAIAP
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AFTN:	OEJNYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
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- -	+966 2 685 5039
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Email:	
AFTN:	OEJNYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
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CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Saleh Al-Ghamdi
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Telex:	
Email:	dc97sha@hotmail.com
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
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Phone:	+966 2 640 5000 ext: 5564
Fax:	+966 2 640 1477
Telex:	601093 CIVAIR SJ
Email:	albishi_h@yahoo.com
AFTN:	OEJDYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
Manager
ATS Comm. Ops and Procedures
General Authority of Civil Aviation (GACA)
P.O. Box 929
JEDDAH 21421
SAUDI ARABIA

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OEJNA
AFTN OPM/NM:	OEJNM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET	No	
AIS	No	
MOTNE	No	
OPMET	No	
SITA	No	

OEJD - Jeddah - Saudi Arabia

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OO		
B	LCNCA	OBBIA		
C	LCNCA	OBBIA		
D	HECAA	LCNCA		
E	LCNCA	OBBIA		
F	HA	HECAA		
G	HECAA	LCNCA		
H*	HA	HECAA		
HECAA	HECAA	LCNCA		
HL	HECAA	LCNCA		
HS	HS	HECAA		
K	LCNCA	OBBIA		
L*	HECAA	LCNCA		
LCNCA	LCNCA	OBBIA		
LK	LCNCA	OBBIA		
LL				
LT	OBBIA	OO		
M	HECAA	LCNCA		
N	OBBIA	OO		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OBBIA	OO		
OBBIA	OBBIA	OO		
OE	N	N		
OI	OBBIA	OO		
OJ	OJ	HECAA		
OK	OBBIA	OO		
OL	OL	HECAA		
OM	OBBIA	OO		
OO	OO	OBBIA		
OP	OO	OBBIA		
OR	OL	HECAA		
OS	OL	HECAA		
OT	OBBIA	OO		
OY	OYS	OO		
P	OBBIA	OO		
R	OBBIA	00		
S	HECAA	LCNCA		
T	HECAA	LCNCA		
U	LCNCA	OBBIA		
V*	OBBIA	OO		
VA	OO	OBBIA		
VE	OO	OBBIA		
VI	OO	OBBIA		
VN	OO	OBBIA		
VO	OO	OBBIA		
W	OBBIA	OO		
Y	OBBIA	OO		
Z	OO	OBBIA		

OEJD - Jeddah - Saudi Arabia

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
HAAB	AFTN	1 x 50			
OJAM	AFTN	1 x 19.2 K			
OBBI	CIDIN	1 x 64 K			
OLBA	AFTN	1 x 100	AFTN	1 x 300	2005
HECA	CIDIN	1 x 64 K			
HSSS	AFTN	1 x 50			
OOMS	AFTN	1 x 300			
LCNC	CIDIN	9.6 K			
OYSN	AFTN	1 x 100			

OEJD - Jeddah - Saudi Arabia

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_	HECA			
LCNC_	LCNC	OBBI		
OBBI_	OBBI	LCNC		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
HECA	HECA1			
LCNC	LCNC1			
OBBI	OBBI1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

OSDI - Damascus - Syria

Information

Operator:	
Phone:	011-5400985-9/4165
- -	
Fax:	
Telex:	
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AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
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Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

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AFTN:	OSDIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

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SITA:	

Management:	
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Telex:	
Email:	dgca@net.sy
AFTN:	OSDIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OSDI - Damascus - Syria

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OI	HE		
B	LG	HE		
C	LG	HE		
D	HE	LG		
E	LG	HE		
F	HE	LG		
G	HE	LG		
H	HE	LG		
K	LG	HE		
L*	LG	HE		
LL				
M	LG	HE		
N	HE	LG		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OI	HE	OI	OH
OB	OI	OK		
OE	OJ	OK	OJ	HE
OI	OI	OK	OI	OK
OJ	OJ	HE		
OK	OK	OI		
OL	OL	HE		
OM	OI	OK		
OO	OI	OK		
OP	OI	OK		
OR	OR	OJ	OR	OJ
OS	N	N	N	N
OT	OI	OK	OI	OK
OY	OJ	HE		
P	LG	HE		
R	HE	LG	OK	OL
S	LG	HE		
T	LG	HE		
U	LG	HE		
V	OI	OK		
W	HE	OI	OK	OI
Y	OI	OK		
Z	HE	LG	OK	OI

OSDI - Damascus - Syria

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
HECA	AFTN	1 x 50	AFTN	300	2004
LGGG	AFTN	2 x 50	AFTN	300	2004
OIII	AFTN	1 x 50	AFTN	300	2005
OJAM	AFTN	1 x 50	AFTN	300	2004
OKBK	AFTN	1 x 50	AFTN	300	2005
OLBA	AFTN	2 x 50	AFTN	1.2K	2004
ORBI	AFTN	1 x 50	AFTN	300	2004
SITA	AFTN	1 X 50	AFTN	300	

*) The COM Centre will be able to upgrade links t0 100 - 300 bouds in 2001.

OMAE - Abu Dhabi - U.A.E.

Information

Operator:	
Phone:	00971 2 4054217
- -	
Fax:	00971 2 4054373
Telex:	
Email:	aftncomms@gcaa-uae.gov.ae
AFTN:	OMAEYFYX
CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

Technical operator:	
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- -	
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Telex:	
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CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	V. Koshy
Phone:	00971 2 4054385
Fax:	00971 2 4054373
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Email:	aftnuae@emirates.net.ae
AFTN:	OMAEYFYX
CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
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Phone:	00971 2 4054203
Fax:	00971 2 4054334
Telex:	
Email:	martin.le-roux@gcaa-uae.gov.ae
AFTN:	OMAECENG
CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

Management:	
Name:	P. Comber
Phone:	00971 2 4054246
Fax:	00971 2 4054334
Telex:	
Email:	Peter.comber@gcaa-uae.gov.ae
AFTN:	OMAEYTSC
CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

Postal Address:
GCAA
P.O. Box 6558
Abu Dhabi
United Arab Emirates

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OMAEA
AFTN OPM/NM:	OMAEYPYX
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OMAE - Abu Dhabi - U.A.E.

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OO		
B	OBBIA	OO		
C	OBBIA	OO		
D	OBBIA	OO		
E	OBBIA	OO		
F	OBBIA	OO		
G	OBBIA	OO		
H	OBBIA	OO		
K	OBBIA	OO		
L*	OBBIA	OO		
LL				
LT	OBBIA	OO		
M	OBBIA	OO		
N	OBBIA	OO		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OBBIA	OO		
OB	OBBIA	OO		
OE	OBBIA	OO		
OI	OI	OBBIA		
OJ	OBBIA	OO		
OK	OBBIA	OI		
OL	OBBIA	OO		
OM	N	N		
OO	OO	OBBIA		
OP	OO	OBBIA		
OR	OBBIA	OI		
OS	OBBIA	OI		
OT	OBBIA	OI		
OY	OO	OBBIA		
P	OBBIA	OO		
R	OBBIA	OO		
S	OBBIA	OO		
T	OBBIA	OO		
U	OBBIA	OO		
V*	OBBIA	OO		
VA	OO	OBBIA		
VE	OO	OBBIA		
VI	OO	OBBIA		
VN	OO	OBBIA		
VO	OO	OBBIA		
W	OBBIA	OO		
Y	OBBIA	OO		
Z	OO	OBBIA		

OMAE - Abu Dhabi - U.A.E.

Circuit Characteristics

Situation recorded in September 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
OBBI	CIDIN	1 x 9.6K			
OIII	AFTN	1 x 100			
OOMS	AFTN	1 x 50	AFTN	9.6K	04/05

OYSN - Sanaa - Yemen

Information

Operator:	
Phone:	00967-1-345289-326
- -	
Fax:	00967-1-345527
Telex:	
Email:	ans1san@y.net.ye
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Mr.Ali Dhafer
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Fax:	00957-1-344047
Telex:	
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AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Mr. S. Nizamuddin
Phone:	00967-1-344674/345401
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Telex:	
Email:	say2nizam@yahoo.com
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
AIR TRAFFIC SERVICES
P.O.BOX 3437
SANA'A
REPUBLIC OF YEMEN

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OYSN - Sanaa - Yemen

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OO	OE		
B	OO	OE		
C	OO	OE		
D	OO	OE		
E	OO	OE		
F	OE	OO		
G	OE	OO		
H	OE	OO		
K	OO	OE		
L*	OO	OE		
LL				
M	OO	OE		
N	OO	OE		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OO	OE	same	same
OB	OO	OE		
OE	OE	OO		
OI	OO	OE		
OJ	OO	OE		
OK	OO	OE		
OL	OE	OO		
OM	OO	OE		
OO	OO	OE		
OP	OO	OE		
OR	OO	OE		
OS	OO	OE		
OT	OO	OE		
OY	N	N		
P	OO	OE		
R	OO	OE		
S	OO	OE		
T	OO	OE		
U	OO	OE		
V	OO	OE		
W	OO	OE		
Y	OO	OE		
Z	OO	OE		

OYSN - Sanaa - Yemen

Circuit Characteristics

Situation recorded in July 2003			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OEJD	AFTN	1 x 100	AFTN	300/2400	01-01-2005
OOMS	AFTN	1 x 100	AFTN	300/2400	01-01-2005

End of Table

MIDANPIRG CNS/MET SG/7
Appendix 3B to the Report on Agenda Item 3

TERMS OF REFERENCE

AD-HOC ACTION GROUP FOR THE SUPPORT OF AERONAUTICAL FREQUENCY BANDS

Terms of Reference (TOR)

1. Raise awareness of the National Telecommunication Regulatory Authorities on the aviation spectrum use and importance for protection.
2. Ensure proper support to ICAO Positions in WRC from MID region States.
3. Participate in the WRC preparatory meeting.

Composition

The Group will be composed of experts nominated by MID region provider States.

Working Arrangements

The representatives shall maintain continuity in the work of the Group, by using communication facilities particularly e-mails to keep the Members and the Secretary in permanent touch with each other, the group shall meet during CNS/MET SG meetings.

Work Programme:

No.	Associated Strategic Objective	Task	Action Proposed/In Progress	Action By	Target Date
1	D/E	Support the ICAO position WRC-07	Coordinate the issue of supporting ICAO Position with the respective Administrations and regional telecommunications organizations in the Region and before WRC 07	Ad hoc WG	Sep. 2007
2	D/E	Support for Preparation of Agenda Item of WRC 10	Coordinate the long term support to ICAO on elements of establishing WRC-10 Agenda Item to ensure future spectrum availability for AMS(R)S;	Ad hoc WG CNS SG	Sep. 2009
3	D	Study radio frequency spectrum needs for civil aviation, arising from the introduction of new technologies.	Present and support ICAO position for spectrum needs for civil aviation, arising from the introduction of new technologies in ITU	Ad hoc WG CNS SG	On-going

D: Efficiency , E: Continuity

MIDANPIRG CNS/MET SG/7
Appendix 3C to the Report on Agenda Item 3

No	Name	Full Address	Email Address	Office Number	Mobile Number	Fax Number	Role
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2	Eng. Galal Mohamed Ibrahim	National Air Navigation Services Company (NANSC) Cairo Air Navigation Center (CANC) Cairo Airport Road Cairo - EGYPT	galalibrahim@nansceg.org	(202) 267 8539	(2012) 717 3348	(202) 26685279	
3							
4							
5							
6							
7							
8							
9							
10							

MIDANPIRG CNS/MET SG/7
Appendix 3D to the Report on Agenda Item 3

The Cost running of the AFTN, ATS/DS services in Egypt in the existing situation (telecom authorities) and the proposal NAFISAT

Circuit Name	Existing situation (Telecom Authorities)		NAFISAT	
	Data speed	Cost/Month	Data speed	Cost
Nairobi (HKNA)	50	1150$	9600	Note *
Tunis (DTTC)	100	1380$	9600	Note *
Khartoum (HSSS)	50	1150$	9600	Note *
Amman (OJAM)	50	1150$	9600	Note *
Tripoli (HLLT)	50	1150$	-	Note *
Ben Gorin (LLBG)	50	1150$	9600	Note *
Damascus (OSDI)	50	1150$	-	Note *
Beirut (OLBA)	9600	2400$	9600	Note *
Gaza	-	-	9600	Note *
Jeddah (OEJN)	9600	2400$	9600	Note *
Athena (LGGG)	9600	2400$	9600	Note *
ATS/DS Cairo/Athens	Voice	1800$	-	Note *
Cairo/Nicosia	Voice	1800$	-	Note *
Cairo/Jeddah	Voice	1800$	-	Note *
Cairo/Amman	Voice	1800$	-	Note *
Cairo/Tripoli	Voice	1800$	-	Note *
Cairo/Khartoum	Voice	-	8000	Note *
ATN Amman	-	-	64000	Note *
Beirut	-	-	64000	Note *
Gaza	-	-	19200	Note *
Jeddah	-	-	64000	Note *
Telaviv	-	-	19200	Note *
Athens	-	-	64000	Note *
Khartoum	-	-	64000	Note *
Nairobi	-	-	64000	Note *
Tunis	-	-	64000	Note *

Note *:

- NP recovers the charges according to the traffic volume with a certain tariffs from Airlines after revised and accepted from Supervisor committee of the NAFISAT project

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MIDANPIRG CNS/MET SG/7
Appendix 3E to the Report on Agenda Item 3

MID REGIONAL ATN PLANNING DOCUMENT

Document Reference:	MIDANPIRG AFS/ATN – TF/APG
Author:	ATN Planning Group
Revision Number:	Version 03 / 2004
Date:	April 2004

CHAPTER ONE

ATN Transition Plan

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EXECUTIVE SUMMARY

This transition plan provides technical guidance on the transition from the ground infrastructure support of the Aeronautical Fixed Telecommunication Network (AFTN) and the Common ICAO Data Interchange Network (CIDIN) services to the Aeronautical Telecommunication Network (ATN) for the Middle East Region.

The Middle East ATN Ground Transition Plan outlines the requirements to increase bandwidth and upgrade protocols for those trunks that will support the main data flow of traffic through the Middle East Region. The plan also provides target dates in which these trunks and implementation of BBISs and BISs will need to occur to ensure a smooth transition of the ATN within the region, taking into account proper interface with adjacent regions.

This chapter presents a plan on the ATN ground transition activities applicable to the Middle East Region. It provides also information on the ground infrastructure required to support the ATN and takes into consideration progressively the ATN air-to-ground requirements of the region.

1. INTRODUCTION

This chapter presents a plan on the ATN ground activities applicable to the Middle East Region. It provides also information on the ground infrastructures required to support the ATN and to take into consideration progressively the ATN air-to-ground requirements of the Region.

1.1 Objective

1.2 Scope

The scope of the chapter one includes:

- A brief description of the current ground infrastructure and upgrade plans based on AFTN/CIDIN;
- The types of ATN applications that will be used over the ground infrastructure;
- The types of trunks that will need to be upgraded to cater for ATN traffic; and
- A proposed implementation schedule on how the ATN should be transitioned within the region.

1.3 References

Reference 1 Manual of Technical Provisions for the ATN (Doc 9705-AN/956) Second Edition 1999
Reference 2 Comprehensive Aeronautical Telecommunication Network (ATN) Manual (Doc 9739-AN/961) First Edition 2000
Reference 3 Middle East AFTN/CIDIN Routing Directory
Reference 4 ICAO Location Indicators – Document 7910
Reference 5 Middle East CNS Facilities and Services Implementation Document (FASID) – Doc. 9708
Reference 6 ASIA/PAC Regional Aeronautical Telecommunication Network (ATN) Planning Document (if you wish)

2. CURRENT GROUND INFRASTRUCTURE AND UPGRADE PLANS

2.1 The present ground-ground data communications system in the Middle Region comprises AFTN circuits and centers (tributary and main) that allow the exchange of ATS and other operational messages.

2.2 Five States of the Region already implemented the Common ICAO Data Interchange Network (CIDIN) as an upgrade of the low speed AFTN circuits to improve the efficiency and reliability of message exchange. These CIDIN circuits are operating at 9600Bps and the remaining circuits at 50 Bps to 300 Bps, using asynchronous protocols.

2.3 The detail of international circuits operating within the Region and between neighboring regions. is documented in Table CNS 1A of the ICAO MID CNS Facilities and Services Implementation Document (FASID).

2.4 The current AFTN topology in the Region shows that the majority of circuits will not be suitable to be used for the ATN without some form of upgrade. In later stage, it will be necessary to identify those circuits that need to be upgraded in both bandwidth and protocols.

2.5 With regard to bandwidth requirements, it is assumed that 9600Bps could be used for Intra-regional connections while 19200Bps or higher speed could be preferred for Inter-Regional connections when full ATN is implemented.

2.6 However, lower speeds may be introduced in the initial implementation phases between some centers by bilateral arrangements. Centers will be expected to monitor the performance of these links and increase bandwidth requirements as traffic load increases.

2.7 It is important to note that some States have already started the establishment of a communication infrastructure that would serve the ATN. There have been implementations of high speed point-to-point digital links operating at 64KBPS and carrying voice and data traffic.

2.8 In respect to the upgrade of protocols, it is expected that they will be implemented on a bilateral arrangements between States according to the preferred protocols: X.25~~,~~ **Frame Relay or Asynchronous Transfer Mode (ATM) or any other protocol that will be included in the ICAO Standards in future.**

2.9 It can happen that due to different planning activities, ~~by States, which~~ not all States within the Region will be migrating to the ATN at the same time. Therefore, there will be a need to maintain the existing AFTN circuits to operate in parallel with any new implementation of high-speed links to meet ATN requirements.

3. ATN END SYSTEM APPLICATIONS

3.1 According to the Manual of Technical Provisions for ATN (Doc. 9705- AN/956) and Comprehensive Aeronautical Telecommunication Network (ATN) Manual (Doc 9739-AN/961), there are currently six end system applications. The table below lists these applications and provides a brief summary of their functions:

Applications	Functions
Context Management (CM)	An ATN application that provides a logon service allowing initial aircraft introduction into the ATN and provides also a directory of all other data link applications on the aircraft.
Automatic Dependent Surveillance (ADS)	An ATN application that provides data from the aircraft to the ATS unit(s) for surveillance purpose.
Controller Pilot Data Link Communication (CPDLC)	An ATN application that provides a means of ATC data communication between controlling, receiving or downstream ATS units and the aircraft, using air-ground and ground-ground sub-networks.
Flight Information Service (FIS)	An ATN application that provides to aircraft information and advice those are useful for the safe and efficient conduct of flight.
ATS Message Handling Service (ATSMHS)	**A set of computing and communication resources that are implemented by ATS organizations to provide the ATS message service.**
ATS Inter-facility Data Communication (AIDC)	**An ATN application dedicated to exchanges between ATS units of ATC information in support of flight notification, flight coordination, transfer of control, transfer of communication, transfer of surveillance data and transfer of general data.**

4. ATN TRAFFIC

4.1 Ground-Ground Traffic

4.1.1 ATS Message Handling System (AMHS)

4.1.1.1 With the introduction of AMHS as the replacement for AFTN/CIDIN, a number of AFTN circuit links between centers will need to be upgraded to cater for the increase of traffic load generated by AMHS overheads. Analysis carried out in other Regions showed that there will be significant overheads generated by AMHS for a typical message of about 250 bytes. As the message size increases the amount of overheads generated becomes less significant to the size of the body of the message. In transitioning from AFTN/CIDIN to AMHS, States will have to anticipate this increase in bandwidth to accommodate AMHS traffic so as to maintain current or better performance of traffic delivery.

4.1.2 ATS Interfacility Data Communication (AIDC)

4.1.2.1 It is also important to note that there will also be an increase in other forms of data traffic due to implementation of other ATN applications such as the ATS Inter-facility Data Communication (AIDC) application. AIDC will generally be used by Flight Data Processors (FDP) to communicate between each other, which are normally established in each Fight Information Region (FIR). It can therefore be expected that data generated by this application will increase bandwidth requirements on those links that are required to pass this information between FIRs.

4.1.2.2 States will need to ensure that not only are the links that are established between States are capable of transferring data in a timely manner but also for those links that provide an alternate path for the applications to use in times of disruption to the primary links.

4.2 Air-Ground Traffic

4.2.1 With the implementation of the air-ground applications it is important to ensure that transit response times are kept to a minimum level so as not to affect the overall response time that it takes for traffic such as ADS reports and CPDLC messages to be delivered to their final destination. This again reflects the need to ensure that critical ground links within the Region are capable of handling this information efficiently.

4.2.2 Another important factor with air-ground traffic is the generation of routing information that is caused by aircraft that will move between various ATN routing domains. To maintain this information in a defined area requires a minimum number of backbone routers to be implemented which protects the majority of all other ATN routers from being flooded with routing information.

5. ATN ROUTING ARCHITECTURE

5.1 The ATN infrastructure can be divided into two main areas to support both the air-ground and ground-ground applications that will operate over the ATN.

5.2 For air-ground support the ATN needs to support an ATN Routing Backbone network so that routing information about where an aircraft is can be maintained by this backbone. As aircraft move through various coverage media and FIR boundaries the ATN Routing Backbone will be notified of the changing routing data for each mobile aircraft in the region. The type of ATN Routing Backbone architecture for the Middle East Region is documented in the Middle East ATN Routing Architecture Plan (Reference) and is summarized in Figure 5-1 of this document.

5.3 It is anticipated that the trunks used for the ATN Routing Backbone will also be used to carry ground-ground application data such as the AMHS. This of course depends upon the routing policies set up between each router, which determine which links are to be used for the different classes of traffic that can be expected to transverse the network.

5.4 Figure 5-1 shows the proposed ATN Routing Backbone for the Middle East Region. The ATN Router Backbone tries to use existing trunks that have already been established between the nominated States who will operate the backbone that is currently used for the AFTN. Virtually these trunks will need to be upgraded to cater for the increase in traffic load that will be handled by the ATN. Further details about these trunks are documented in Section 6.

5.5 To improve the resilience and redundancy aspects of the ATN routing backbone, it is proposed that additional trunks be incorporated to ensure minimal disruption to the air-ground applications. This effectively ensures that the Middle East Region can function on its own without support from other regions relaying information on behalf of a failed router or trunk service within the Middle East Region. These additional trunks have been shown as dashed lines in Figure 5-1. Also shown are the inter-regional connections between the Middle Region and its neighboring Regions. Additional inter-regional connections are also proposed and are further documented in Section 6.

5.6 It is important to also note that costs will increase due to implementing higher bandwidth links. Therefore the region should review its requirements in having to use point to point circuits every where when a number of strategically placed links may suffice with alternate dial up on demand capabilities being deployed between key sites. This may help to offset the costs and still provide for an efficient ground-ground network for the ATN.

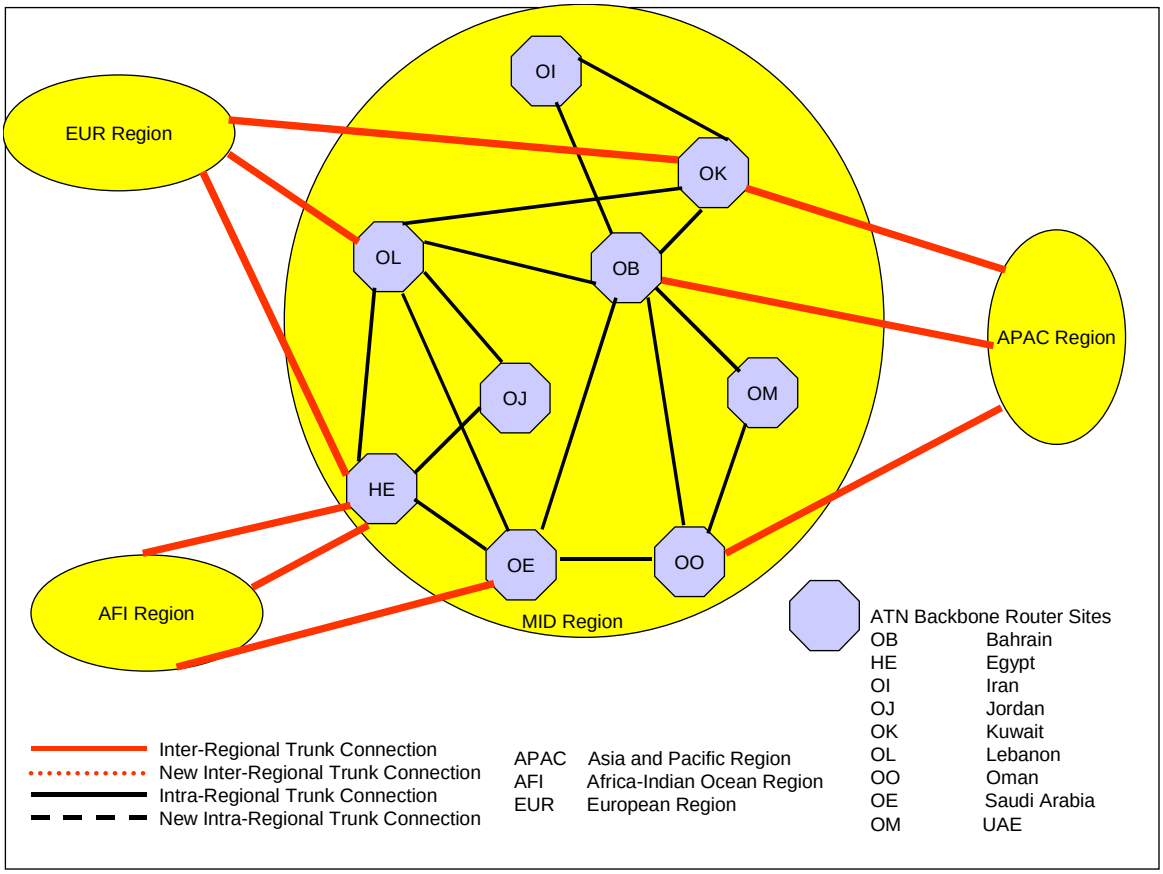

Figure 5-1 MID ATN Backbone Routing Architecture

6. ATN BACKBONE TRUNKS

6.1 Table 6-1 provides a list of existing or proposed upgrading of AFTN/CIDIN circuits that have been selected for the transition to the ATN routing backbone. Also provided in the table are proposed additional new trunks that should be considered to provide the necessary redundancy and backup services for the ATN for the region.

6.2 As part of the transition from AFTN to the ATN, the existing link capacity, especially those using CIDIN Protocol must be able to handle both AFTN and ATN for those States who do not intent to migrate to AMHS straight away. It is assumed that States that have been nominated to provide the ATN backbone routing environment will do so in a timely manner so as to allow those States who are ready to start their implementation programs can do so without too much restriction within the region. Where a nominated State cannot provide the ATN backbone then an alternative arrangement should be put in place for another State, who is willing to provide the service.

AFTN Circuit Upgrade and Backbone BIS Implementation

Nominated State	ATN Backbone Connection		Target Date Of Implementation		Trunk Type	Comments
	Speed	Protocol	Circuit	BBIS		
Bahrain				2007		
Singapore	19200 bps	X.25	2005		Inter-Regional	Upgrade of circuit
Egypt				2007		
Greece	64000bps	TBD	2005		Inter-Regional	Upgrade of circuit
Kenya	19200 bps	TBD	2005		Inter-Regional	Upgrade of circuit
Tunisia	19200 bps	TBD	2005		Inter-Regional	Upgrade of circuit
Kuwait				2007	Inter-Regional	
Italy (check EUR)	19200 bps	TBD	2005			Upgrade of circuit
Pakistan (check ASIA/PAC)	64000bps	TBD	2005		Inter-Regional	Upgrade of circuit
Lebanon				2007	Inter-Regional	
Cyprus	64000bps	TBD	2005			Upgrade of circuit
Oman				2007	Inter-Regional	
Mumbai	64000bps	X.25	2005			Upgrade of circuit
Saudi Arabia				2007	Inter-Regional	
Ethiopia	64000bps	TBD	2005			Upgrade of circuit

7. INTERCONNECTION OF ATN ROUTERS

7.1 This section describes the interconnection requirements for ATN routers for the Middle East Region. Table 7 – 1 shows a pictorial view of the interconnection between various States in the Region.

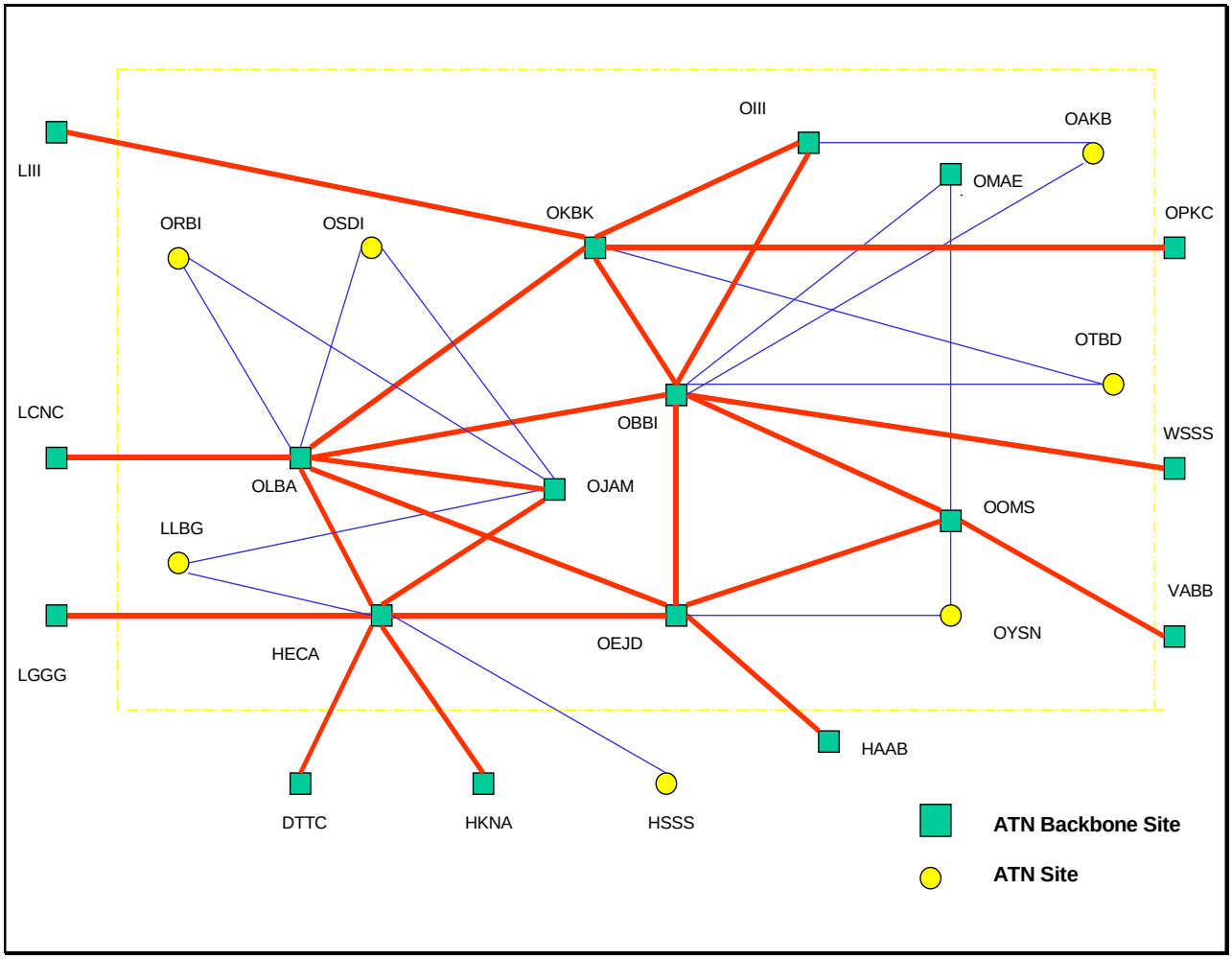

Figure 7 – 1 MID ATN Router Interconnection
(This needs to be updated based on the proposed additional intra-regional trunk)

7.2 It is proposed that all existing AFTN circuits are upgraded as soon as practicable to CIDIN or other modern protocols that are compatible with the ATN Lower Layers. In doing so, these links would be sized to cater for both AFTN and ATN. This would allow the region to set-up a sub-network that could support current operational requirements for AFTN and to allow trials and operation services of the ATN to be implemented at minimal cost to the region.

7.3 Further details have been provided in Table 7-1, which lists all international connections between countries and their proposed bandwidth requirements and implementation dates.

MID Region BIS Routing Interconnections

Backbone State	ATN Interconnection		Target Date Of Implementation		Connection Type	Comments
	Speed	Protocol	Circuit	BIS		
Bahrain				2007		
Abu Dhabi	9600bps	TBD	2003	2007	Intra-Regional	Circuit upgraded
Beirut	9600bps	TBD	2000	2007	Intra-Regional	Circuit upgraded
Doha	9600bps	TBD	2003	2007	Intra-Regional	Circuit upgraded
Jeddah	9600bps	TBD	2004	2007	Intra-Regional	Upgrade of circuit required
Kabul	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Kuwait	9600bps	TBD	2004	2007	Intra-Regional	Upgrade of circuit required
Muscat	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Tehran	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Egypt				2007		
Amman	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Ben Gurion	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Beirut	9600bps	TBD	2000	2007	Intra-Regional	Circuit upgraded
Jeddah	9600bps	TBD	2003	2007	Intra-Regional	Circuit upgraded
Iran				2007		
Bahrain	9600bps	TBD	2004	2007	Intra-Regional	Upgrade of circuit required
Kuwait	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Jordan						
Baghdad	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Ben Gurion	9600bps	TBD	2003	2007	Intra-Regional	Circuit upgraded
Beirut	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Cairo	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Damascus	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Kuwait				2007		
Baghdad	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Bahrain	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Beirut	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Tehran	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Lebanon				2007		
Amman	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Baghdad	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Bahrain	9600bps	TBD	2000	2007	Intra-Regional	Circuit upgraded
Cairo	9600bps	TBD	2000	2007	Intra-Regional	Circuit upgraded

Backbone State	ATN Interconnection		Target Date Of Implementation		Connection Type	Comments
	Speed	Protocol	Circuit	BIS		
Damascus	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Kuwait	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Jeddah	9600bps	TBD	2004	2007	Intra-Regional	Upgrade of circuit required
Oman				2007		
Abu Dhabi	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Bahrain	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Jeddah	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Sana'a	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Saudi Arabia				2007		
Bahrain	9600bps	TBD	2004	2007	Intra-Regional	Upgrade of circuit required
Beirut	9600bps	TBD	2004	2007	Intra-Regional	Upgrade of circuit required
Cairo	9600bps	TBD	2003	2007	Intra-Regional	Circuit upgraded
Muscat	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
Sana'a	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required
UAE				2007		
Bahrain	9600bps	TBD	2003	2007	Intra-Regional	Circuit upgraded
Muscat	9600bps	TBD	2005	2007	Intra-Regional	Upgrade of circuit required

Table 7 - 1 – MID Region BIS Routing Interconnections

Note: Speed requirements are an indication only and may vary between sites to meet different performance requirements for the type of ATN services and applications that are operating over each link.

8. TRANSITION ACTIVITIES

It is recommended that there will be three phases in the implementation of the ATN infrastructure.

- Phase 1, Upgrade of existing sub network infrastructures to support the Backbone BISs (BBISs);
- Phase 2, Implementation of the ATN Regional BBISs; and
- Phase 3, Implementation of supporting ATN BISs.

8.1 Phase 1

8.1.1 This phase consists of upgrading existing AFTN circuits where possible that will support the introduction of the ATN Backbone BISs. Table 6-1 identifies those circuits that will need to be upgraded in both bandwidth and protocols.

8.1.2 In regards to bandwidth requirements, Table 6-1 proposes a preferred speed that will be required when full ATN is implemented. However, lower speeds may be introduced in the initial implementation phases between some locations by bilateral arrangements between States. States will be expected to monitor the performance of these links and increase bandwidth requirements as traffic load increases.

8.1.3 Where new circuits have been identified these will only need to be introduced on a case-by-case basis as BBISs are implemented.

8.1.4 In respect to the upgrade of protocols between States, it is recommend that any efficient Wide Area Network protocols is implemented in ATN routers such as Frame Relay and Asynchronous Transfer Mode (ATM). This implementation of these protocols will be done on a bilateral arrangement between States.

8.2 **Phase 2**

8.2.1 Phase 2 consists of implementing the Backbone BISs (BBISs) that will support the MID Region. The BBISs are important to the success of the ATN implementation program for the region and will need to be reviewed regularly to determine if contingency arrangements should be put in place where nominated States fail to provide the infrastructure in a timely manner.

Note: Implementation of Inter-Regional BBIS connections between MID Region and neighboring regions will also need to be determined and encouraged during this phase.

8.3 **Phase 3**

8.3.1 Phase 3 is the implementation of all other BISs that will connect to the Backbone BISs.

Further information including initial target dates for the upgrade of the sub-network links and protocols and implementation of the BISs for each State can be found in the table CNS 1B – ATN Router Plan of the FASID. Refinement of the target dates will continue to be updated as States start to develop their implementation programs and can provide feedback to the ICAO MID Regional Office.

CHAPTER TWO

Routing Architecture Plan

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EXECUTIVE SUMMARY

This document provides technical guidance on the Planning and Implementation of the transition to the Aeronautical Telecommunication Network (ATN) for the ground data communications of the ICAO MID Region.

The material presented here is technical in nature. The ATN Transition Plan includes information about the implementation of Regional ATN Routing Architecture as presented in this document.

The routing architecture is based upon the need for a ground-ground infrastructure to eventually replace the existing AFTN/CIDIN infrastructure. For this reason, the routing architecture uses the existing AFTN/CIDIN infrastructure as a guideline for the positioning of ATN equipment.

The routing architecture is designed primarily for the ground-ground environment. It is intended that this architecture will also be suitable as the routing architecture for the introduction of the air-ground communication requirements.

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1. INTRODUCTION

This initial plan provides technical guidance on the routing architecture for the Middle East Region.

1.1 Terms used

1.1.1 ***Aeronautical Fixed Telecommunication Network (AFTN)***: a low-speed network providing the majority of ground-ground data communication services within the ICAO realm. This term is defined in ICAO Annex 10.

1.1.2 ***Boundary Intermediate Systems (BIS)***: a router that supports IDRP and routes PDUs to more than one routing domain. This term is defined in ICAO Doc. 9705-AN/956 and 9739-AN/961.

1.1.3 ***Backbone Boundary Intermediate Systems (BBIS)***: a router that primarily routes PDUs between routing domains and does not support End Systems.

Note: This definition is similar to that found in ICAO Doc. 9705 and is meant to be consistent with that definition. This definition is made on the assumption that this version of the routing architecture is limited to the ground-ground infrastructure.

1.1.4 ***Common ICAO Data Interchange Network (CIDIN)***: a part of the aeronautical fixed service which uses bit-oriented procedures and packet switching techniques.

1.1.5 ***End Boundary Intermediate Systems (EBIS)***: a router that primarily routes PDUs between routing domains and connected End Systems.

1.1.6 ***End Systems (ES)***: an ATN system that supports one or more applications and that is a source and/or destination for PDUs.

1.1.7 ***Inter Regional Boundary Intermediate Systems (IRBIS):*** a router that routes PDUs between systems (both End Systems and Boundary Intermediate Systems) within the Region with routers outside of the Region. These routers are the entry points into the Region and exit points from the Region for PDUs.

1.1.8 ***Network Service Access Point (NSAP)*** address: a 20-octet value that uniquely identifies an interface between the Transport Layer and the Network Layer. In the ATN it provides the address of transport entity providing ATN Internet services.

1.2 Acronyms used

AFTN - Aeronautical Fixed Telecommunication Network
BIS - Boundary Intermediate Systems
BBIS - Backbone Boundary Intermediate Systems
CIDIN - Common ICAO Data Interchange Network
CLNP - Connectionless Network Protocol
EBIS - End Boundary Intermediate Systems
ES - End System
IDRP - Inter-Domain Routing Protocol
IS - Intermediate System
PDU - Protocol Data Unit

2. ROUTING DOMAIN FUNDZAMENTALS

The ATN consists of a set of End-Systems (ESs) and a set of Intermediate Systems (ISs). ESs are the source and destination of all data and are where the applications reside. ISs are better known as routers and relay PDUs from one system to another.

The ISs and ESs are organized into *Routing Domains*. Routing Domains are used to define sets of systems (that typically operate together) into clusters. These clusters have two major properties:

- they are controlled by a single organization, and
- a significant amount of the traffic is internal to the cluster.

The single most important characteristic is that they are controlled by a single organization. This characteristic is manifested in technical terms by mutual trust between all routers in a routing domain. Routing protocols are based on the fact that the information exchanged between *intra*-domain routers can be trusted. No special reliability or trust is required to accept information about advertised routes.

The second characteristic, most traffic is internal to a routing domain, is more an artifact of proper network engineering. Routing domains are established through the NSAP addressing conventions established for the ATN in Doc. 9705, Sub-Volume 5. All systems with NSAP addresses defined with the same address prefix are by definition in the same routing domain.

2.1 Intra-Domain Routing

2.1.1 Intra-domain routing is the routing of PDUs from the source to destination where both are in the same domain. Intra-domain routing implies one or more ISs capable of routing PDUs across the domain. Examples of intra-domain routing would be CLNP-capable routers exchanging PDUs between two Local Area Networks.

2.1.2 Since the ATN is specified across State boundaries, there are no SARPs developed for intra-domain routing. The choice and configuration of internal routers is a local matter.

2.2 Inter-Domain Routing

2.2.1 The central definition of routing in the ATN is concerned with inter-domain routing. This is a particularly difficult problem since by the very nature of inter-domain routing; the information received cannot be fully trusted.

2.2.2 Inter-domain routing is based upon the mutual distrust of the received routing information. First, reliability mechanisms must be built-in to ensure the reliable transfer of the information. Second, the received information must be filtered to ensure that it meets the suitability constraints of the received system (in other words, can it be believed).

2.2.3 After receiving the routing information, the inter-domain router must build routing tables based upon its internal policy about routing its data.

2.3 Types of Routing Domains

2.3.1 There are two basic types of routing domains: end routing domains, and transit routing domains. An end routing domain routes PDUs to and from end-systems within its routing domain. Figure 1 shows an end routing domain.

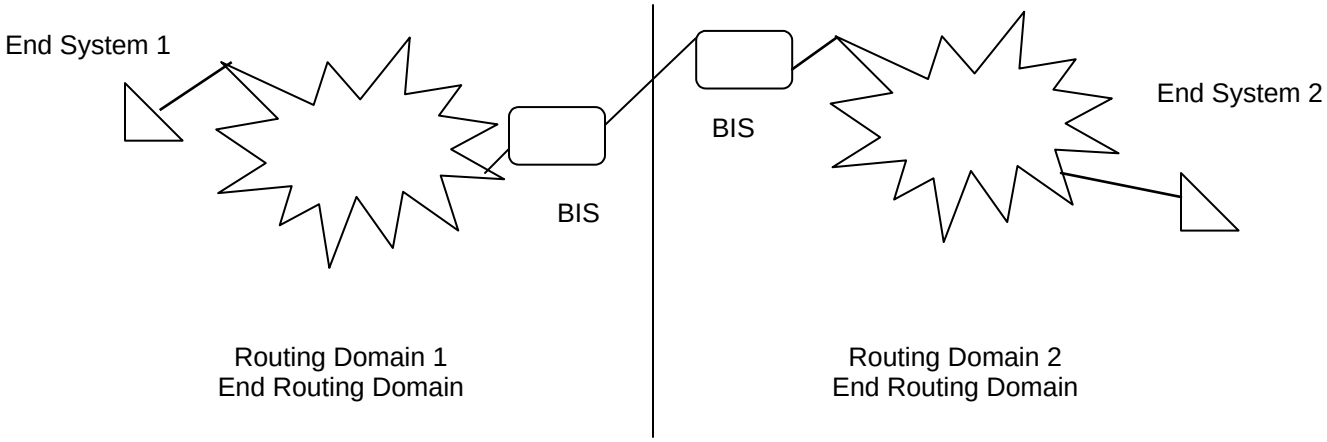

Figure 1 – End Routing Domains

A transit routing domain routes PDUs between two or more routing domains, and may as an option also act as an end routing domain. An example of a transit domain is where a set of backbone routers is configured in their own routing domain with all of the end systems in end routing domains attached to the backbone.

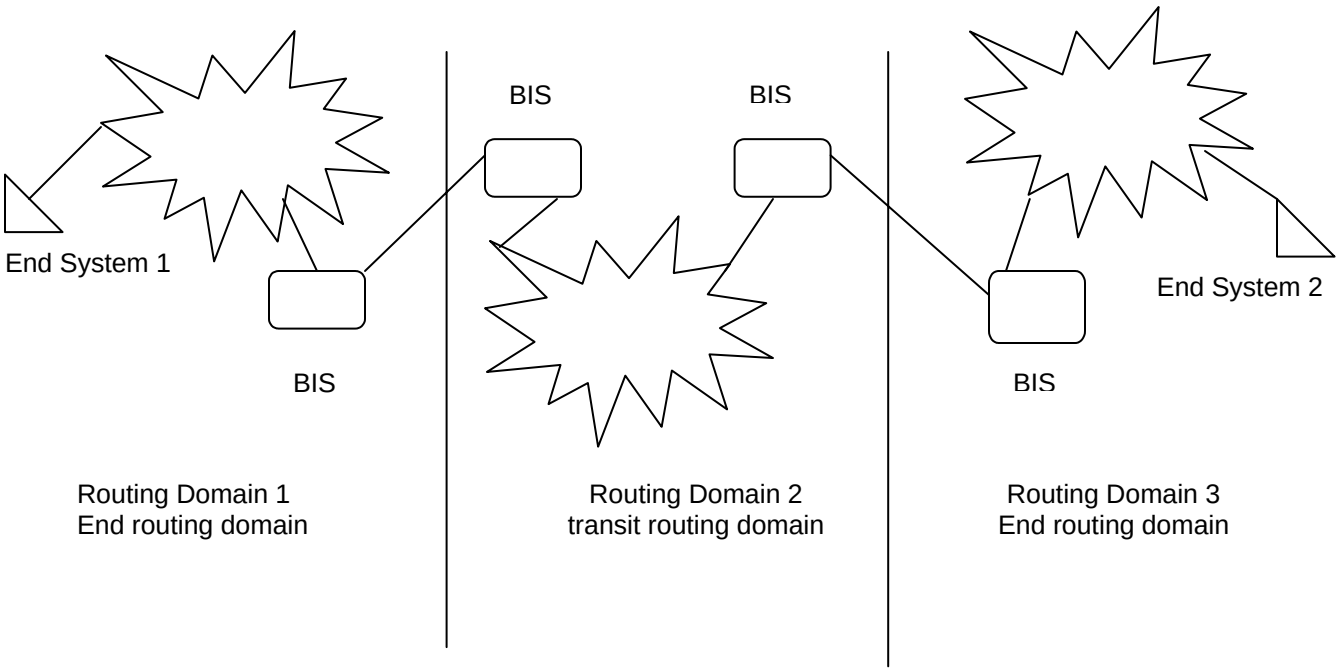

Figure 2 – Transit Routing Domains

Note: A transit routing domain may or may not be part of the backbone. A transit routing domain may consist of BISs none of which are backbone routers.

2.4 Routing Domain Construction

2.4.1 Based on the above, a routing domain consists of at least one inter-domain router.

Note: There must be at least one BIS. There is no requirement for any other equipment.
Routing domains are elements of the physical structure of the ATN.

3. ROUTER FUNDAMENTALS

All routers discussed within this document are ICAO Doc. 9705 and 9739 compliant Boundary Intermediate Systems (BISs).

NOTE: INDIVIDUAL STATES MAY ELECT TO USE OTHER ROUTERS THAT DO NOT COMPLY WITH THE ATN IDRP REQUIREMENTS AS FOUND IN ICAO DOC. 9705 WITHIN THE LIMITS OF THEIR OWN STATES. THESE ROUTER ARE INTERNAL STATE ISSUES AND OUTSIDE THE SCOPE OF THIS DOCUMENT.

3.1 Boundary Intermediate System Overview

3.1.1 Boundary Intermediate Systems comprise the interfaces between networks, and in particular, between different routing domains. The term “Boundary Intermediate System” can often be replaced with the more common term “router”.

3.1.2 An important consideration in developing the routing architecture is the different roles that routers take within the ATN environment.

3.2 Router Types

There will be two primary types of BISs employed within the Region:

- Backbone BISs (BBISs), and
- End BISs (EBISs).

Note: A third type of BIS is supported within this routing architecture but since its use is subject primarily to bi-lateral agreements between States and Organizations, it is not fully described here. This third type of BIS is non-BBIS that acts as a transit router between two RDs but is not part of the Regional backbone.

3.2.1 Backbone BISs

3.2.1.1 A BBIS is a router that primarily routes PDUs between routing domains. These routers are typically higher performance routers that aid in the efficient flow of data between domains. BBISs may have End-Systems connected to them, but often are limited to only router-to-router connections.

3.2.1.2 Within the context of the MID Region, BBISs can be further subdivided into Regional BBISs, and Inter-Regional BBISs. Regional BBISs are backbone routers that only connect to routers within the Region. Inter-regional Backbone BBISs are those backbone routers that connect to BBISs in other Regions.

Note: A single, high-performance router may act as both a Regional BBIS and an Inter-Regional BBIS based upon meeting the requirements for performance and reliability.
Note: For completeness of the routing architecture, it must be mentioned that the routers out-side of the Region to which Inter-Regional Backbone BISs attach are, in fact, Inter-Regional Backbone BISs in the other Region.

Note: The interconnections of backbone BISs typically require higher capacity communication lines based on the consolidation of traffic through those backbone routers. Even though the architecture takes into account existing AFTN infrastructure facilities, the need to upgrade the communication facilities as traffic through the backbone increases may be necessary.

Note: It is possible for some States to provide transit routing from its routing domain(s) to the routing domains of other States using BISs that are not backbone routers. For the purposes of this routing architecture, it is not possible to distinguish between these transit routing domain routers and BBISs.

3.2.2 END BISs

3.2.2.1 End BISs are connected to one or more BBISs and provide routing services to a single routing domain. Further, End BISs do not act as a transit router for passing PDUs between other routing domains.

4. MID REGION ROUTING ARCHITECTURE

The MID Region routing architecture is based upon several concepts:

1. From a routing domain point of view, the Region can be considered an "autonomous" area, that is, there is a difference between routers located within the Region and outside the Region.
2. Routing domains and confederations of routing domains may be applied to areas within the Region.
3. States will make their own implementation and transition decisions.

The routing architecture can be divided into several distinct parts:

- the definition of the backbone routing structure for passing information between routing domains within the Region;
- the definition of the routing structure between routing domains not on the backbone;
- the definition of the routing structure for use in end-routing domains; and
- the definition of the routing structure for passing information from this Region to other Regions.

The first component is the definition of the backbone routing structure that supports the exchange of data within the Region. This part defines the interconnection of the major communication facilities in the Region and how they cooperate to link all of the systems in the Region.

The second component is the definition of the structure that allows end routing domains to exchange data across the backbone to another end routing domain. This part defines how the end routing domains connect through the backbone.

The third component defines the routing structure that is used within an end routing domain. This part defines how the individual routing domains may be used to pass data.

The fourth part is needed to define how data will be routed between the systems within the Region with those systems outside the Region. More importantly, the structure describes how all-global ATN systems are accessible from systems in the Region.

4.1 MID Region Backbone

4.1.1 Regional Backbone

4.1.1.1 The definition of a Regional Backbone is based upon the efficiencies that may be realized by concentrating ATN traffic at major communication centers and using the economy of scale in passing this information between major communication centers.

4.1.1.2 The rationale for defining Regional Backbone sites is based upon existing major AFTN center sites and on the flow of both AFTN traffic and possible future air-ground ATN traffic.

4.1.1.3 Within the Region there do exist main AFTN communication centers that can be used to simplify the definition of backbone architecture.

4.1.1.4 However, it must be understood that the expected growth in communication traffic over the ATN could quickly exceed the capabilities of the existing communication infrastructure. Planning for the increased traffic loads will be needed as soon as ATN traffic begins to flow.

4.1.1.5 The architecture and communication requirements define a routing plan that incorporates alternate routing and communication paths so that no single router or communication failure can isolate major parts of the Region.

4.1.1.6 The nine (9) BBIS sites defined in Table 4.1-1 are based on the expected traffic flows. A current AFTN center site identified as a potential backbone router site. This site is listed first and in bold text as follows:

ATN Backbone router site	State
1	**BAHRAIN (Bahrain)**
2	**EGYPT (Cairo)**
3	**IRAN (Tehran)**
4	**JORDAN (Amman)**
5	**KUWAIT (Kuwait)**
6	**LEBANON (Beirut)**
7	**OMAN (Muscat**)
8	**SAUDI ARABIA (Jeddah)**
9	**UAE (Abu Dhabi)**

Table 4.1-1 – Definition of MID Region Backbone Sites

4.1.1.7 At each ATN Backbone router site, there should be at least one BBIS. States committing to operate backbone routers are presented in the table above.

4.1.1.8 Summarizing the information presented above, the MID Region Backbone network will consist of at least one BBIS router at each of the backbone sites identified above. The actual location of the routers will be based upon implementation schedules and the choices of States.

4.1.2 Backbone Router Requirements

The definition of BBIS and the location of these routers may be affected by the requirements for backbone routers. A backbone router must meet several performance and reliability requirements:

- Availability,
- Reliability,
- Capacity, and
- Alternative routing

4.1.2.1 Availability

A backbone router must provide a high-level of availability (24 hours a day, 7 days a week).

4.1.2.2 Reliability

A backbone router must be a very reliable system that may require either redundant hardware or more than one router per site.

4.1.2.3 Capacity

As a communication concentrator site, backbone routers must be capable of supporting significantly more traffic than other ATN routers.

4.1.2.4 Alternative Routing

Based upon the need for continuity of service, backbone routers will require multiple communication links with a minimum of two and preferably three or more other backbone routers to guarantee alternate routing paths in case of link or router failure.

4.1.3 Routing Policies

4.1.3.1 States providing Regional BBISs must be capable of supporting routing policies that allow for Regional transit traffic and for dynamic re-routing of traffic based upon loading or link/router failures.

4.2 Inter-Regional Backbone

The second component of the MID Region Routing Architecture is the definition and potential location of Inter-Regional Backbone Routers. The manner in which this architecture was developed was to ensure that the use of the existing communication infrastructure is possible to the greatest degree. The use of the existing communication infrastructure should reduce the overall cost of transitioning to the ATN.

As already indicated, the Inter-Regional BBISs provide communication from routers within the MID Region to routers in other regions. These Inter-Regional BBISs provide vital communications across regions and therefore need to have redundant communication paths and high availability. (Note: This can be accomplished through multiple routers at different locations.)

Based upon the current AFTN circuit environment, the following States have been identified as potential sites for Inter-Regional BBISs. The States currently have circuits with States outside of the MID Region are found in Table 4.2-1 below.

State	Neighboring Region	Current circuit
Bahrain	Asia-Pac	to be upgraded
Egypt	Africa Europe	to be upgraded
Kuwait	Asia-Pac Europe	to be upgraded
Lebanon	Europe	to be upgraded
Oman	Asia-Pac	to be upgraded
Saudi Arabia	Africa	to be upgraded

Table 4.2-1 Table of Circuits with other ICAO Regions

For the transition to the ATN, connectivity to the other Regions should be a priority. This is especially important as other Regions begin the transition to the ATN and begin deploying ATN BISs.

4.2.1 Long Term Implementation

4.2.1.1 The transition to a fully implemented ATN requires that connectivity amongst the IACO Regions be robust. That is, there is the need to ensure alternate paths and reliable communication. Table 4.2-1 presents a minimal Inter-Regional Backbone that provides a minimum of 2 circuits to other ICAO Regions that communicate directly with the MID Region. For the long-term implementation of ATN, it would be advisable to have 3 circuits to each Region. The addition of circuits to Africa should be considered.
Note: Information is needed on States Plan in implementing ATN.

4.2.2 Initial Implementation

4.2.2.1 The initial implementation of the ATN, outside of the MID Region, will most likely be in ASIA/PAC and Europe. Therefore, initial transition planning may focus on those locations. Note: Information is needed on States Plan in implementing ATN.

4.2.2.2 For connecting to other Regions, there should be a minimum of two (2) Inter-Regional BBISs. The location of these Inter-Regional BBISs may be located at the centers where the AFTN/CIDIN centers already exist.

Note: The locations presented above are examples of possible router sites. The selection of actual locations will be based on implementation schedules and circuit availabilities.

Note: For additional reliability, a third Inter-Regional BBIS would be preferred.

4.2.2.3 For connecting to Africa, an Inter-Regional BBISs may be located at the location of the existing AFTN centers: Cairo or Jeddah. However, this router would not be needed until such time as ATN traffic is destined for that Region and the location of the router would be determined at that time.

Note: Future work is still required for the definition of policy descriptions for the backbone architecture.

Note: Future work is still required for the definition of policy descriptions for the backbone architecture.

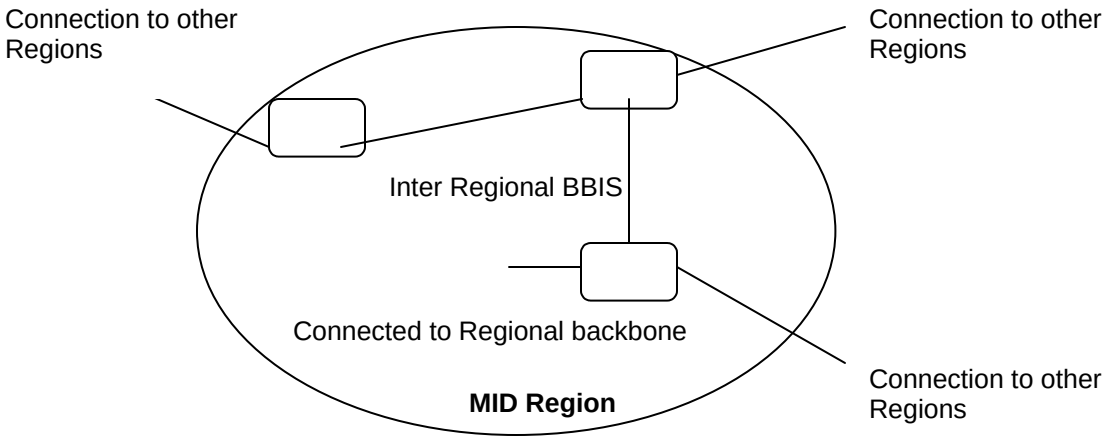

Figure 3 – Inter-Regional Backbone Routers

4.2.3 Transition Issues

4.2.3.1 The transition issues relating to the regional routing architecture is described in the ATN Transition Plan.

4.3 End BISs

4.3.1 It is assumed that naming and addressing (and routing domain definition) will be done on a Regional basis. Further, that for areas within the Region that may utilize an End BIS serving more than one State, the naming structure will be based on the Regional NSAP format defined in Doc. 9705. Further, States may choose to either implement the Regional (or Sub-Regional) NSAP format or the State NSAP format based on whether it installs a BIS.

5. ROUTING DOMAINS

5.1 Each State is expected to have one or more routing domains. Where a State chooses not to implement an ATN BIS, it may choose to incorporate its systems into a routing domain of another State.

5.2 The MID Regional ATN Backbone will consist of routers from the selected States. Each of these routers will be part of its State's routing domain.

Note: This means that the backbone will not be configured with its own routing domain. Routing to the backbone and between backbone routers will be controlled through IDRP routing policies.

5.3 Each State will be responsible for the designation of routing policies for its End Systems and End BISs. Individual States will also be responsible for establishing routing policies for routing to its designated BBIS.
The use of routing confederations is for further study.

6. ATN TRANSITION

Based upon the previous sections, the implementation of the ATN within the MID Region may require considerable planning for the transition of the AFTN/CIDIN.

6.1 Initial Regional Implementations

6.1.1 The very beginning of ATN implementation will be bilateral testing between States. for this scenario, each State will need at a minimum:

- an ATN router,
- a means for managing the router,
- an ATN application, and
- a circuit connecting the States.

6.1.2 States involved in bilateral ATN trials should consider the use of the trial infrastructure in expanding the ATN throughout the Region.

6.2 Regional ATN Implementation

6.2.1 At a certain time, sufficient bilateral trials will be underway to permit a Region-wide ATN network based upon the plan presented above. As each State implements the ATN applications and network infrastructure, it will be added to the Regional infrastructure according to this plan.

CHAPTER THREE

AMHS Naming Plan

(to be developed)

CHAPTER FOUR

NSAP Addressing Plan

(to be developed)

CHAPTER FIVE

NSAP Address Registration Form

(to be developed)

MIDANPIRG CNS/MET SG/7
Report on Agenda Item 4

REPORT ON AGENDA ITEM 4: MATTERS RELATED TO METEOROLOGY

4.1 World Area Forecast System (WAFS) Implementation

WAFS Development

4.1.1 The meeting recalled the WAFS developments since the last CNS/MET SG meeting. It was noted that, at the request of the WAFSOPSG, the SIGWX forecasts in chart form using the industry standard Portable Network Graphics (PNG) graphical format had been developed to assist States that were not in a position to receive and decode BUFR-coded SIGWX forecast. The PNG charts were provided, on a trial basis, through the SADIS satellite services (SADIS 1G and 2G and FTP service). This requirement had been implemented by mid-September 2005 by WAFC London and by early October 2005 by WAFC Washington for all of the PNG formatted charts.

4.1.2 The meeting was informed by the Chairman of the outcome of the WAFSOPSG/3 meeting. In order to assess the need for WAFS forecasts in chart form beyond 30 November 2006, ICAO Secretariat undertook a survey on the implementation of BUFR-coded SIGWX forecasts by States through the Regional Offices. The results showed that at present about 60 percent of States were in a position to receive BUFR-coded SIGWX forecasts and that by the end of 2006 this percentage was expected to rise to 79 percent. Based on the PNG-formatted trials, a number of users have indicated their preference that the PNG-formatted SIGWX charts be maintained on the SADIS. In view of the slower-than-expected pace of implementation, the WAFSOPSG/3 agreed that SIGWX forecasts in the PNG form should continue to be provided as a back-up to BUFR-coded forecasts at least until 2010.

Amendment 74 to Annex 3

4.1.3 The SADIS Provider State informed of the changes concerning the SIGWX forecasts. The proposals in Amendment 74 to Annex 3 included provision for the elimination of surface fronts, convergence zones and clouds other than CB and TCU from the high and medium-level SIGWX forecasts. Moreover, it is likely that these changes, subject to final review by the ICAO ANC and adoption by the Council, will be implemented in November 2007 from the effective date of Amendment 74 to Annex 3.

4.2 SADIS Implementation

4.2.1 The meeting noted the executive summary from the SADISOPSG/11 (Cairo, Egypt 23-25 May 2006) and information about the SADIS Second Generation Broadcast, (SADIS 2G), complemented by information from the SADIS Provider State concerning recent developments. The Meeting noted that MIDANPIRG/8 had endorsed the implementation of the SADIS 2G through its Conclusion 8/49.

Termination of the SADIS 1G Service

4.2.2 The meeting was reminded by the SADIS Provider State that according to Conclusion 9/15 of the SADISOPSG, requires the SADIS 1G service is to be available in addition to the SADIS 2G service until 31 December 2008. This means that existing SADIS users have a little over two years to make the transition to the SADIS 2G service before the legacy SADIS IG service is terminated.

International SADIS Seminars

4.2.3 The meeting noted with interest the two international SADIS seminars that took place in Bangkok and Paris during July and September 2006 respectively. Since the primary purpose of these events was to provide SADIS users with an opportunity to discuss their current and future hardware and software requirements with the vendors and the SADIS stakeholders to get together and discuss any issues associated with the migration from the legacy SADIS 1G service to the new SADIS 2G service. In light of the above, the group formulated the following draft conclusion:

DRAFT CONCLUSION 7/6: INTERNATIONAL SADIS SEMINAR

That, the SADIS Provider State be invited to arrange, in coordination with ICAO,MID Regional Office an international SADIS seminar in the MID Region to support the transition to the SADIS Second Generation (2G) service.

SADIS Strategic Assessment Tables

4.2.4 The meeting reviewed a draft version of the SADIS Strategic Assessment Tables for the period 2006-2010, collated by the SADIS Provider State on behalf of the SADISOPSG Strategic Assessment Team in view of planning resources for the next 5 years (2006 to 2010 inclusive), at **Appendix 4A** to the report on Agenda Item 4. In accordance with the procedures established on the basis of MIDANPIRG/5 Decision 5/15, the meeting was asked to maintain these tables on an annual basis and endorsed the tables to be forwarded to the SADISOPSG and formulated the following draft conclusion:

DRAFT CONCLUSION 7/7: SADIS STRATEGIC ASSESSMENT TABLES

That, the SADIS Strategic Assessment Tables, presented at Appendix 4A to this report, representing the estimated requirement for OPMET information in alphanumeric form, BUFR and AIS data volumes, issued in the MID Region for the period 2006-2010, be forwarded to the SADISOPSG.

4.2.5 The meeting noted the executive summary of the eleventh meeting of the SADIS Operations Group (SADISOPSG/11) (Cairo, Egypt, 23 – 26 May 2006).

4.3 **International Airways Volcano Watch**

4.3.1 The meeting noted that based on the fact that in the MID Region there are no active volcanoes, however, the potential exists that at some time, volcanic ash could become an aviation hazard in airspace used in the MID region. The meeting was reminded that major volcanic eruptions can affect large airspace areas, sometimes far away from the volcano causing serious safety problems for aviation.

MID Region volcanic ash SIGMET test

4.3.2 In light of the above, as a first step, it was suggested to the meeting that an exercise be carried out to test the issuance and reception of volcanic ash advisories (VAA) and VA SIGMET. The scenario for the eruption and motion of the ash cloud would be initiated by VAAC Toulouse. The first test would be undertaken during 2007.

4.3.3 The aim is to ensure the smooth implementation of the IAVW in the MID region in case of an actual volcanic eruption that would affect the MID Region. It is important to minimize the problems encountered in previous tests carried out in other regions, concerning basic problems such as the correct routing and the heading for VAA and VA SIGMETs.

4.3.4 In this regard, the meeting formulated the following draft conclusion:

DRAFT CONCLUSION 7/8: MID REGION VOLCANIC ASH TEST

That,

a) the MID Regional Office issue a State letter to review the MET and ATS procedures to raise the awareness of the volcanic ash problem;

b) the volcanic ash Advisory Centre (VAAC) Toulouse is invited to carry out a test once a year on volcanic ash SIGMETs; and

c) the CNS/MET SG monitor the results of the test and take the appropriate action.

4.3.5 The group noted the executive summary of the second meeting of the IAVW Operations Group (IAVWOPSG/2) (Lima, Peru, 26-30 September 2005).

4.4 **MID OPMET Data Procedures**

FASID Tables MET 2A and 2B

4.4.1 The meeting addressed the future of FASID Tables MET 2A and 2B in view of the full implementation of global exchange of OPMET data through the AFS satellite broadcast.

4.4.2 The meeting noted the recommendation by the SADISOPSG for the replacement of FASID Table MET 2A by Annex 1 to the *SADIS User Guide* (SUG), which provides a global list of requirements for METAR/SPECI and TAF to be broadcast on the AFS satellite broadcasts. The FASID Tables MET 2A and 2B govern the exchange of METAR/SPECI and TAF, and SIGMET, respectively and include complex inter-and intra-regional OPMET exchanges. These tables reflect the regional air navigation (RAN) agreements called for by Annex 3. The tables should, in principle, be current at all times since they detail the MET information required by users and form the basis for MET charges.

FASID Table MET 2A

Replacement of the tables

4.4.3 In the case of the MIDANPIRG, the ROBEX scheme could be considered to cater for these regional exchanges and could be expanded, if required.

4.4.4 With regard to the scope of information included in Annex 1 to the SUG, it will be recalled that it is applicable to all ICAO Regions. Therefore, it is suggested that the database be henceforth referred to as “OPMET information (METAR/SPECI and TAF) required to be available on the ISCS and SADIS”.

4.4.5 The database will be kept up-to-date by the ICAO MET Section and the most up-to-date version can be accessed, at all times, from the open SADISOPSG website.

FASID Table MET 2B

4.4.6 The meeting will be aware of the fact that no detailed requirements are listed in Annex 1 to the *SADIS User Guide* concerning SIGMET. However, all SIGMET are required to be disseminated by the MWOs to the SADIS and ISCS uplink stations, in accordance with Annex 3.

4.4.7 Under these circumstances, it is suggested that whilst the provisions related to SIGMET be retained in the ANP (BORPC and MET provisions), the FASID Table MET 2 B should be deleted.

4.4.8 Consequently the meeting formulated the following draft conclusion:

DRAFT CONCLUSION 7/9: FUTURE OF THE FASID MET 2A AND MET 2B

That, the MID Regional Office invites the MID States to agree:

a) the FASID Table MET 2A not be repeated in ANP/FASID and that a simple link (i.e. a URL address) to the global data base "OPMET information (METAR/SPECI and TAF) required to be available on the ISCS and SADIS"[1] be provided under the heading of FASID Table MET 2A in all the ANP/FASID;

b) the approach ensuring the currency of information in the data base "OPMET information (METAR/SPECI and TAF) required to be available on the ISCS and SADIS" as outlined under paragraph 2.2.5 be implemented as of March 2007; and

c) the FASID Table MET 2 B be deleted from all the ANP/FASID.

Note. – It is important to retain the provisions related to SIGMET in the BORPC and MET provisions of the ANP.

4.5 **Review of the MET part of the ANP/FASID**

4.5.1 The meeting recalled that the SADISOPSG formulated Conclusion 11/9 calling for the Secretariat to consider developing a database oriented version of global FASID Table MET 1A, in time for the SADISOPSG/12 meeting. This database was considered necessary in order to maintain the currency of the database-oriented Annex 1 to the SADIS User Guide which includes the requirement for TAF and which should be, by definition, consistent with FASID Table MET 1A.

4.5.2 The meeting agreed that with the advent of the global database, it would be redundant if the requirements related to forecast (TAF and TREND) provided at international aerodromes were repeated in the regional FASID Table MET 1A. It is therefore, suggested that FASID Table MET 1A be eliminated from ANP/FASID and that a simple link (i.e. a URL address) to the global database be provided under the heading of FASID Table MET 1A in all the ANP/FASID. In other words, the global database would replace the regional tables.

[1] Currently known as Annex 1 to the *SADIS User Guide*

Update procedure

4.5.3 It is essential that all the changes be endorsed by the users (IATA, IFALPA etc.) since TAF and TREND should be issued in response to user requirements, not based on an arbitrary decision by the State concerned. Such endorsement could be sought at the CNS/MET SG Meeting. More importantly, a formal amendment as contained in the global FASID MET Table 1A pertaining to the region concerned should be undertaken by the regional office.

4.5.4 The full cycle should not last more that nine months and the updated database would be available by the end of each calendar year. The process can be summarized as follows:

a) yearly consultation with State in March concerning TAF and TREND issued;

b) endorsement of the changes by the MET SG of the PIRG concerned in September at the very latest;

c) formal consultation and amendment to FASID to be finalised in November; and

d) update of the database in December.

Simplification of the format

4.5.5 The meeting noted that currently FASID Tables MET 1A, in particular Column 6 ("area of coverage of charts") and Column 7 ("AFTN routing area of destination") do not reflect a RAN agreement and are redundant.

4.5.6 Therefore, it was suggested that Columns 6 and 7 be deleted from the FASID Table MET 1A and that with these simplifications the database be called "Forecasts (TAF and TREND) to be issued at international aerodromes". In light of the above, the group formulated the following draft conclusion:

DRAFT CONCLUSION 7/10: UPDATE AND MAINTENANCE OF THE FASID TABLE MET 1A

That, the MID Regional Office invites the MID States to agree:

a) the content of FASID Table MET 1A be simplified by eliminating Column 6 ("area of coverage of charts") and Column 7 ("AFTN routing areas of destination");

b) the FASID Table MET 1A not be repeated in the ANP/FASID and that a simple link (i.e. a URL address) to the global database "Forecasts (TAF and TREND) to be issued at international aerodromes" be provided under the heading of FASID Table MET 1A in all the ANP/FASID; and

c) the approach ensuring the currency of information as outlined under paragraph 4.6.4 be implemented as of 2007.

MIDANPIRG CNS/MET SG/7
Appendix 4A to the Report on Agenda Item 4

ATTACHMENT A

SADIS STRATEGIC ASSESSMENT TABLES: CURRENT AND PROJECTED DATA VOLUMES 2007-2010

SUMMARY

Note.— 1 octet = 1 byte = 1 character.

Table 1. OPMET data volumes per day (in K bytes)

Region	*Current 2006*	*Projected 2007*	*Projected 2008*	*Projected 2009*	*Projected 2010*
MID	264	283	283	283	283
TOTAL	**264**	**283**	**283**	**283**	**283**

Table 2. BUFR data volumes per day (in K bytes)

Region	*Current 2006*	*Projected 2007*	*Projected 2008*	*Projected 2009*	*Projected 2010*
MID	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**

Table 3. AIS data volumes per day (in K bytes)

Region	*Current 2006*	*Projected 2007*	*Projected 2008*	*Projected 2009*	*Projected 2010*
MID	0	10	10	10	10
TOTAL	**0**	**10**	**10**	**10**	**10**

ATTACHMENT B

Table 1. MID— OPMET data volumes

OPMET data	*Current 2006*	*Projected 2007*	*Projected 2008*	*Projected 2009*	*Projected 2010*
ALPHANUMERIC DATA					
Number of **FC bulletins** issued per day	36	40	40	40	40
Number of **FT bulletins** issued per day	141	145	145	145	145
Number of **SA bulletins** issued per day	667	700	700	700	700
Number of **SP bulletins** issued per day	0	10	10	10	10
Number of **SIGMET** bulletins issued per day	1	10	10	10	10
BINARY DATA					
Number of other bulletins issued per day	0	0	0	0	0
TOTALS					
Total number of OPMET bulletins per day	845	905	905	905	905
Average size of OPMET bulletin (bytes)	313	313	313	313	313
Total estimated OPMET data volume per day (K bytes)	**264**	**283**	**283**	**283**	**283**

Table 2. MID — BUFR data volumes

Graphical information in the BUFR code form	*Current 2006*	*Projected 2007*	*Projected 2008*	*Projected 2009*	*Projected 2010*
TOTALS					
Total number of BUFR messages per day	0	0	0	0	0
Average size of messages (bytes)	0	0	0	0	0
Total estimated volume of BUFR messages per day (in K bytes)	**0**	**0**	**0**	**0**	**0**

Note. — No distribution of BUFR-encoded VAG expected as no VAAC are located in the MID Region.

Table 3. MID — AIS data volumes

AIS data	*Current 2006*	*Projected 2007*	*Projected 2008*	*Projected 2009*	*Projected 2010*
ALPHANUMERIC AIS DATA (NOTAM related to volcanic ash, ASHTAM)					
Number of ASHTAM bulletins issued per day	0	1	1	1	1
Number of NOTAM bulletins issued per day	0	1	1	1	1
TOTALS					
Total number of AIS bulletins per day	0	2	2	2	2
Average size of AIS bulletin (byte)	0	5000	5000	5000	5000
Total estimated volume of AIS data per day (in K bytes)	**0**	**10**	**10**	**10**	**10**

Note. — Modest provision is made for the distribution of ASHTAM and NOTAM related to volcanic ash starting from the year 2006.

MIDANPIRG CNS/MET SG/7
Report on Agenda Item 5

REPORT ON AGENDA ITEM 5: REVIEW OF DEFICIENCIES IN CNS AND MET FIELDS

CNS

5.1 The meeting noted that ICAO MID Regional Office has created an online air navigation deficiencies database which allowed Regional officers to keep track of the deficiencies through this database. This database would soon become online for the MID States and would facilitate the update and eventually the elimination of the deficiencies in the MID Region.

5.2 Syria advised the meeting that, a new AFTN switch is installed which might be capable of generating the statistic report to eliminate the deficiency of none sending the monthly Statistics.

5.3 States attending the meeting reviewed and updated the list of deficiencies as shown in the **Appendix 5A** to the report on Agenda Item 5. It was agreed that ICAO MID Regional Office sends a State letter for update of the deficiencies to States not present at the meeting.

MET

5.4 The group reviewed the methods of reporting deficiencies in the field of aeronautical meteorology, developed by the ICAO MET Section in coordination with the Regional; Officer/Meteorology (RO/MET), in response to CAR/SAM/3 RAN Recommendation 13/9. The guidelines on the reporting of deficiencies were sent to all ICAORDs in 2003. In particular, it is important to seek ways and means to ensure the currency of the information in view of the decreasing number of missions to States by the RO/MET.

The guidelines addressed two main issues:

- *collection of information; and*
- *reporting of information, including detailed guidance on prioritization.*

5.5 The experience, since the issuance of the guidelines, shows that the information included in the regional lists of deficiencies has not substantially improved. A list of suggested follow-up action included in the guidelines is given in the **Appendix 5B** to the report on Agenda Item 5. An overall assessment indicates that little has been achieved since 2003. It is considered that the main problem lies in the collection of information; the presentation (reporting) of the information cannot be a problem in the light of the guidelines developed. Therefore, it is suggested that the meeting concentrates its efforts to find solutions how to improve the data collection.

5.6 To enhance and improve the collection of data related to MET deficiencies the following steps were considered:

a) establishment of regional databases by ROs/MET related to the MET deficiencies;

b) regular contacts with the users (IATA, IFALPA); and

c) more widespread use of “indirect sources”, i.e.

1) differences filed by States;
2) MET missions to States; and
3) reports by IATA and IFALPA.

5.7 If no action is urgently taken, the lists included in the PIRG reports related to MET deficiencies will become increasingly irrelevant. Consequently, the group formulated the following draft conclusion:

DRAFT CONCLUSION 7/11: COLLECTING AND MAINTAINING MET DEFICIENCIES DATABASES

That, the MID Regional Office:

a) establish regional databases related to deficiencies in the MET field; and

b) enhance efforts in collecting data related to deficiencies using, inter alia, indirect sources listed under 5.7 above and information obtained from users.

MIDANPIRG CNS/MET SG/7
Appendix 5A to the Report on Agenda Item 5

Deficiencies in the CNS field

AFGHANISTAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19	Afghanistan-Bahrain-Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	10/7/1998	Bahrain is ready to implement the circuit	S	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Bahrain	~~Dec-05~~ Mar-07	B
2	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19	Afghanistan-Iran-Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	10/7/1998	VSAT network to be implemented	S	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Iran	~~Dec-05~~ Mar-07	B
3	AFTN usage (LIM MID RAN Rec 6/2)	Kabul AFTN Center	Circuit Loading Statistics	5/22/1995	Monthly statistics should be sent to MID Office	S	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office	Afghanistan	~~Dec-05~~ Mar-07	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

BAHRAIN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Afghanistan-Bahrain-Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	10/7/1998	Bahrain is ready to implement the circuit	O	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Bahrain	~~Dec 05~~ Mar-07	B
2	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Bahrain – Singapore-Bahrain – Singapore AFTN Circuit	Operating satisfactorily on 200 bauds	10/19/1999	Bahrain – Singapore Bahrain – Singapore AFTN Circuit	O	Planned to be up-graded to medium speed circuit (9.6 K)	Bahrain Singapore	~~Jun 05~~ SEP 06	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

EGYPT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM MID RAN Rec 10/5)	Egypt – Kenya-Cairo – Nairobi AFTN Circuit	The circuit is implemented on 50 bauds	10/19/1999	Egypt is ready to up-grade the circuit to 9.6 K	O	Egypt and Kenya agreed to upgrade the circuit to 1200 bps	Egypt – Kenya	~~Dec-05~~ Jun 07	A
2	AFTN Main Circuits (LIM MID RAN Rec 10/5)	Egypt – Tunisia-Cairo – Tunis AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Egypt is ready to up-grade the circuit to 9.6 K	O	Planned to be up-graded to 1200 bauds. Upon Tunis readiness	Egypt - Tunisia	~~Dec-05~~ Jun 07	A
3	VHF Coverage Required in the South West part of the FIR	Egypt	Coverage by HF	9/1/2003	Egypt to Report	S	Egypt to provide VHF coverage Partial coverage done	Egypt	~~Dec-05~~ Jun 07	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM MID RAN Rec10/5)	Iran – Kuwait-Kuwait – Tehran AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Iran State they are ready as per letter 21/09/2006	O	Planned to be upgraded to 9.6K.	Iran Kuwait	~~Dec-05~~ Mar-07	A
2	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Afghanistan-Iran-Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	10/7/1998	VSAT network to be implemented Iran State they are ready as per letter 21/09/2006	S		Afghanistan Iran	~~Dec-05~~ Mar-07	B
~~3~~	~~Radio Frequencies~~	~~Abadan Airport Ahwaz~~	~~121.900 MHz~~	~~7/20/2002~~	~~Interference with Basra (Iraq)~~ Iran Letter 21/09/2006	~~O~~	~~Co-ordination with concerned States~~	~~Iran Iraq~~	~~Dec-05~~	~~U~~
~~4~~	~~Radio Frequencies~~	~~Kerman Shah~~	~~119.300 MHz~~	~~7/20/2002~~	~~Interference with Qatar~~ Iran Letter 21/09/2006	~~O~~	~~Co-ordination is undergoing with Iran. No complain from Qatar~~	~~Qatar Iran~~	~~Dec-05~~	~~U~~
~~5~~	~~Radio Frequencies~~	~~Tehran ACC~~	~~123.900 MHz~~	~~8/14/2002~~	~~Interference with India~~ Iran Letter 21/09/2006	~~O~~	~~Co-ordination is undergoing between ICAO Cairo and ICAO Bangkok~~	~~Bangkok Off. Cairo Office Iran India~~	~~Dec-05~~	~~U~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN usage (LIM MID RAN Rec 6/2)	Baghdad AFTN Center	Circuit Loading Statistics	5/22/1995	Monthly statistics should be sent to MID Office	S	Refers to ICAO fax ref. F.ME 165 reminding States to send data to ICAO Office Center not operational	Iraq	~~Dec 05~~	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

JORDAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Jordan-Lebanon-Amman-Beirut AFTN Circuit	The circuit is not yet implemented	10/7/1998	Lebanon is ready to implement the circuit	S	Jordan will co-ordinate with Lebanon for up-grading	Lebanon – Jordan	~~Dec 05~~ Mar-07	A

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

KUWAIT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM MID RAN Rec10/5)	Iran-Kuwait-Kuwait – Tehran AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	The circuit is operating satisfactorily on 100 bauds	O	Planned to be upgraded to 9.6K	Kuwait Iran	~~Dec-05~~ Mar-07	A
2	AFTN Main Circuits (LIM MID RAN Rec10/5)	Lebanon-Kuwait-Beirut – Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	The circuit is operating satisfactorily on 100 bauds.	O	Kuwait is ready to upgrade to higher speed according to the readiness of Lebanon	Kuwait Beirut	~~Dec-05~~ Mar-07	A
~~3~~	~~AFTN usage (LIM MID RAN Rec 6/2)~~	~~Kuwait AFTN Center~~	~~Circuit Loading Statistics~~	~~5/22/1995~~	~~Monthly statistics should be sent to MID Office~~	~~O~~	~~Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office~~	~~Kuwait~~	~~Jun-05~~	~~B~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

LEBANON

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM MID RAN Rec10/5	Lebanon – Kuwait Beirut – Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	The circuit is operating satisfactorily on 100 bauds	O	Planned to be up-graded to 300 bauds	Kuwait Lebanon	~~Dec-05~~ Mar-07	A
2	AFTN Main Circuits (LIM MID RAN Rec10/5)	Lebanon – Saudi Arabia Beirut – Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Lebanon is ready to implement the circuit to either 200 Bauds or 9.6 K	O	Planned to be up-graded to 300 bauds	Lebanon Saudi Arabia	~~Dec-05~~ Mar-07	A
3	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Jordan-Lebanon Amman-Beirut AFTN Circuit	The circuit is not yet implemented	10/7/1998	Lebanon is ready to implement the circuit	S	Another alternative should be proposed in the MID AFTN Plan	Jordan Lebanon	~~Dec-05~~ Mar-07	A

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

OMAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN usage (LIM MID RAN Rec 6/2)	Muscat AFTN Center	Circuit Loading Statistics	5/22/1995	Data should be sent to ICAO Office	O	Software not available yet	Oman	~~Jun-05~~ SEP 07	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

QATAR

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN usage (LIM MID RAN Rec 6/2)	Doha AFTN Center	Circuit Loading Statistics	5/22/1995	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office	H	Data should be sent to ICAO Office	Qatar	~~Jun-05~~ Mar-07	B
2	Radio Frequencies	Doha	119.300 MHz	2/11/2003		O	Coordination with concerned States	Qatar Iran	~~Jun-05~~	U

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

SAUDI ARABIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM RAN Rec 10/5)	Lebanon – Saudi Arabia Beirut – Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Circuit to be improved Saudi Arabia ready	O	Planned to be up-graded to 9.6K Upgrade to 64K expected	Lebanon – Saudi Arabia	~~Dec-05~~ Dec-07	A
2	AFTN Main Circuits (LIM RAN Rec 10/5)	Saudi Arabia – Ethiopia Jeddah – Addis Ababa	The circuit is implemented on 50 bauds	10/19/1999	The circuit is not working satisfactorily. Saudi Arabia is ready to up-grade the circuit to higher speed	F	Planned to operate with VSAT network Expected implementation with NAFISAT	Ethiopia Saudi Arabia	~~Dec-06~~ Jun-07	A
3	AFTN usage (LIM MID RAN Rec 6/2)	Jeddah AFTN Center	Circuit Loading Statistics	5/22/1995	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office.	O	Data should be sent to ICAO Office	Circuit Loading Statistics information is part of a software modification required in the new switching system	~~Dec-05~~ Dec-07	B
4	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Saudi Arabia – Sudan	The ATS Speech Circuit connecting the following adjacent centres to Jeddah use speed dial: Asmara Khartoum	10/19/1999	Jeddah – Khartoum on speed dial	F	Planned to operate with VSAT network. Expected implementation with NAFISAT	Saudi Arabia Sudan	~~Dec-06~~ Jun-07	U

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	**Facilities/ Services**	**Description**	**Date first reported**	**Remarks/ Rationale for non-elimination**		**Description**	**Executing body**	**Date of completion**	**Priority for action**
5	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Saudi Arabia – Yemen	The ATS Speech Circuit connecting to Sanna'a centre uses speed dial	10/7/1998	Sometimes, Communications facilities do not permit communications to be established within 15 seconds	O	Planned to operate with VSAT network Expected implementation with NAFISAT	Saudi Arabia Yemen	~~Dec 06~~ Jun-07	U

[(1)] Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN usage (LIM MID RAN Rec 6/2)	Damascus AFTN Center	Circuit Loading Statistics	5/22/1995	Monthly statistics should be sent to ICAO Office	H	Planned to implement new AFTN system	Syria	~~Jun-05~~ Mar-07	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

UAE

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	Radio Frequencies	AL Ain	129.150 MHz	6/25/2002	Kish Air Dispatch	O	Nat. Telecom. Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	A
2	Radio Frequencies	UAE ACC	121.500 MHz	7/16/2002	Unknown Interference	O	Report was sent to Nat. Telecom. Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U
3	Radio Frequencies	UAE ACC	128.250 MHz	1/26/2002	Atmospheric/ Speech	O	Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U
4	Radio Frequencies	UAE ACC	129.500 MHz	3/29/2002	Unknown Interference	O	Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U
5	Radio Frequencies	UAE ACC	124.850 MHz	1/24/2002	Atmospheric	O	Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U
6	Radio Frequencies	UAE ACC	133.550 MHz	2/28/2002	Unknown Interference	O	Report was sent to Nat. Telecom. Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U
7	Radio Frequencies	UAE ACC	119.300 MHz	3/29/2002	Doha	O	Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	**Facilities/ Services**	**Description**	**Date first reported**	**Remarks/ Rationale for non-elimination**		**Description**	**Executing body**	**Date of completion**	**Priority for action**
8	Radio Navigation Aids	Dubai ILS	110.900 MHz	3/26/2002	Unknown Interference	O	Nat. Telecom. Admin.	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U
9	Radio Navigation Aids	Dubai ILS	110.100 MHz	3/26/2002	Unknown Interference	O	Nat. Telecom. Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	U
10	Radio Navigation Aids	Dubai ILS	109.500 MHz	3/22/2002	Unknown Interference	O	Nat. Telecom. Admin	Follow-up by ICAO and State	~~Dec-05~~ Mar-07	A

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

YEMEN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Yemen – Ethiopia-Eritrea – India – Djibouti – Saudi Arabia – Somalia – Oman	All ATS Speech Circuits connecting Sana'a with the following adjacent centres provided by Yemen use speed dial: Addis-Ababa Asmara Mumbai Djibouti Jeddah Mogadishu Muscat	10/7/1998	Communications should be established within 15 seconds	O	Yemen will be urged to implement Direct Speech Circuits with adjacent centres VSAT network will operate for some centers	Concerned States and ICAO	~~Dec 05~~ for Oman and Saudi Arabia, ~~Dec 06~~ for the others Mar-07	U

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Note:

* Priority for action to remedy a deficiency is based on the following safety assessments:

"U" priority = Urgent requirements having a direct impact on safety and requiring immediate corrective actions.

Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

"A" priority = Top priority requirements necessary for air navigation safety.

Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

"B" priority = Intermediate requirements necessary for air navigation regularity and efficiency.

Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

Definition:

A *deficiency* is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

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(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

MIDANPIRG CNS/MET SG/7
Appendix 5B to the Report on Agenda Item 5

FOLLOW-UP ACTION SUGGESTED IN 2003

. . .

In order to update the regional lists of deficiencies occurring in the field of aeronautical meteorology regularly, perhaps the most difficult task involves the ultimate clearance of a deficiency owing to the States' sensitivity that will exist in most cases. In order to achieve the best possible results, it is important that:

a) *an agenda item related to deficiencies be included in the agenda of every MET sub-group meeting.* The issue of deficiencies should be regarded as a high-priority agenda item at each and every MET sub-group meeting with the importance of proper notification and a sense of urgency in the clearing of deficiencies being stressed by the Secretariat;

b) *regular contacts be maintained with States to update the list of deficiencies*. All States concerned should be contacted prior to every MET sub-group meeting to establish the level of progress made and to remind the States that the *clearing of deficiencies* is regarded as a high-priority item by ICAO and that they have a responsibility under Article 28 of the Chicago Convention for providing safe air navigation services. This could be done either by direct telephone contact or by the use of any planned missions or coincident with other planned meetings or by correspondence;

c) *user organizations be regularly contacted.* IATA and IFALPA should be contacted before each MET sub-group meeting to seek their views and assess whether any new deficiencies would be appropriate through changes during the intervening period between meetings;

d) *the list of the deficiencies be kept up-to-date*. The Secretaries of the MET sub-groups of the PIRGs should keep the list of deficiencies up-to-date and send a copy of the updated list to the MET Section on 1 July each year; and

e) *special implementation projects (SIPs), seminars and workshops be organized.* These mechanisms should be used, where appropriate.

MIDANPIRG CNS/MET SG/7
Report on Agenda Item 6

REPORT ON AGENDA ITEM 6: FUTURE WORK PROGRAMME OF THE CNS/ MET SG

6.1 The meeting noted the continuous weak participation by meteorology experts during the CNS/MET Sub-Group meeting which jeopardize the meteorological matters in the MID Region.

6.2 The meeting noted that the Third Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) Member States MMS/3 (Jeddah, 4-6 September 2006) discussed the increase of efficiency of MIDANPIRG subsidiary bodies in light of the revised terms of reference and work programme of MIDANPIRG with a view to reflect regional priorities related to ICAO Strategic Objectives and recommended change of the MIDANPIRG Organizational Structure as given in **Appendix 6A** to the report on Agenda Item 6 the meeting was in view to support the recommended new structure.

6.3 In view of the above new structure the meeting agreed to split the CNS/MET Sub-Group into two separate Sub-Groups, i.e. the CNS Sub-Group and the MET Sub-Group. In this context, the meeting also agreed to dissolve the AFS/ATN Task Force.

6.4 In view of the split up of the CNS/MET Sub-Group into two separate Sub-Groups the meeting formulated the following draft decisions:

DRAFT DECISION 7/12: SPLIT CNS/MET SG INTO TWO SUB-GROUPS

That, CNS/MET SG be split in two separate Sub-Groups, each Sub-Group to have its own Terms of Reference and Work Programme.

DRAFT DECISION 7/13: DISSOLUTION AFS/ATN TASK FORCE

That, as a result of CNS/MET Sub-group split into two separate sub-groups, the AFS/ATN Task Force to be dissolved and its Work Programme carried out by the CNS Sub-Group.

6.5 The meeting reviewed and agreed to the new terms of reference and work program of the CNS Sub-Group as per **Appendix 6B** to the report on Agenda Item 6 and drafted the following draft decision:

DRAFT DECISION 7/14: UPDATED TERMS OF REFERENCE AND WORK PROGRAMME OF THE CNS SUB-GROUP

*That, the meeting agreed on the updated terms of reference of the CNS Sub-Group presented in **Appendix 6B**.*

6.6 The meeting reviewed and agreed to the new terms of reference and work program of the MET Sub Group as per **Appendix 6C** to the report on Agenda Item 6 and drafted the following draft decision:

DRAFT DECISION 7/15: UPDATED TERMS OF REFERENCE AND WORK PROGRAMME OF THE MET SUB-GROUP

*That, the meeting agreed on the updated terms of reference of the MET Sub-Group presented in **Appendix 6C**.*

6.7 The meeting was informed of actions taken to solve the concerns of the airspace users regarding delays in the processing and transmission of flight plans in the MID Region and noted that the RVSM TF/12 meeting addressed this issue and agreed to the following draft conclusion:

DRAFT CONCLUSION 12/3: SURVEY RELATIVE TO THE IMPROPER HANDLING OF FPLS AND ASSOCIATED ATS MESSAGES

That,

a) the methodology for the identification of causes of improper handling of FPLs and associated ATS messages at Appendix 4F to the report on Agenda Item 4 is endorsed;

b) States carry out a survey relative to the improper handling of FPLs and associated ATS messages based on this methodology for a period of at least one month; and

c) the results of the survey be ready before 30 September 2006 with a view to be presented to the CNS/MET SG/7 meeting.

6.8 The meeting noted that the survey was done by four States only consequently requested the rest of the Sates to carryout the survey and provide it to the ICAO MID Office for further analysis before 30 December 2006 the meeting agreed to re iterate RVSM TF/12 meeting draft conclusion as above.

6.9 The meeting was informed of ICAO approved strategic objectives for the years 2005-2010 and noted that each ICAO Regional Offices have to initiate the development of their own operational Plans in which critical tasks are broken down into smaller, contributing tasks. Accordingly there would have to be a transition process and ultimately MIDANPIRG subsidiary bodies would need to develop project proposal with its own milestones, time-frames, resources and critical paths and submit to MIDANPIRG for endorsement in view of the above the meeting agreed on the following projects:

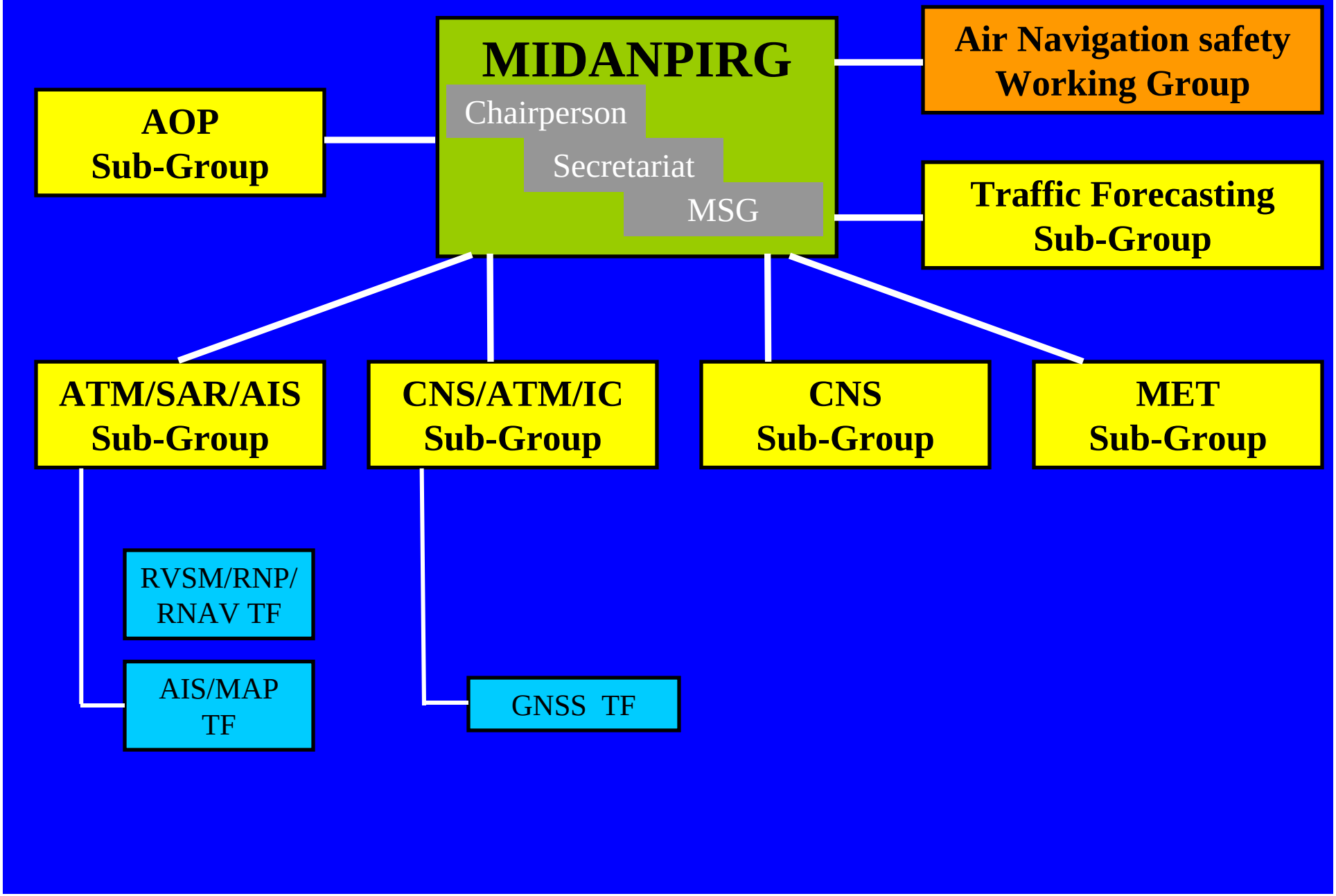
1) Establishment of Initial FPL Processing System (IFPS) in the MID Region to be led by Bahrain
2) Development of MID ATN Plan
3) Implementation of High Speed circuits between main centers
4) Implementation of MID VSAT Network

6.10 The Work Programme of the CNS Sub-Group is updated to include the above project.

6.11 The meeting reviewed ALLPIRG/5 List of conclusions related to CNS/MET also reviewed State Letter Ref. M7/1- 06/62, from ICAO Secretary General inviting States to include in their action plan the follow-up measures associated with the conclusions of ALLPIRG/5 meeting consequently the meeting agreed to take appropriate actions for including ALLPIRG/5 conclusions to the wok of the group.

6.12 The meeting had appreciated Bahrain efforts regarding the development of the feasibility study for the establishment of the Integrated Initial FPL Processing System (IFPS) in the MID Region the meeting noted that there are a lot of regulatory aspects that need resolution for which the group can not decide, consequently the group recommended that working paper 23 to be submitted to MIDANPIRG/10 which is planned in February 2007.

MIDANPIRG Organizational Structure (Revised: Sep. 2006)



MIDANPIRG Organizational Structure

- **MIDANPIRG Subsidiary Bodies:**
- **Air Navigation Safety Working Group**
- **AOP Sub-Group**
- **ATM/SAR/AIS Sub-Group**
  - **** RVSM/ RNP/RNAV Task Force***
  - **** AIS/MAP Task Force***
- **CNS/ATM/IC Sub-Group**
  - **** GNSS Task Force***
- **CNS Sub-Group**
- **MET Sub-Group**
- **Traffic Forecasting Sub-Group**

MIDANPIRG CNS/MET SG/7
Appendix 6B to the Report on Agenda Item 6

COMMUNICATION, NAVIGATION AND SURVEILLANCE SUB-GROUP (CNS SG) OF THE MID REGION

A. Terms of Reference

Task No.	Strategic Objectives	Tasks
1	A/B/D/E	Review and identify any deficiencies that impede the implementation or provision of efficient CNS (Communication, Navigation and Surveillance) services in the MID Region.
2	A/B/D/E	Make specific recommendations aimed at improving communication, navigation, and surveillance services through the use of existing procedures and facilities or, through modernization programmes and evolutionary introduction of new technologies and procedures.
3	A to E	Review and identify inter-regional co-ordination issues in the fields of CNS and recommend actions to address those issues based on clearly established performance objectives in support of the ICAO Strategic Objectives and in connection with the Global Plan Initiatives (GPIs).
4	A/D/E	Follow up on the implementation of the elements of the Aeronautical Fixed Services (AFS) data and digital voice communications and plan for the transition and implementation of ATN in the MID Region to meet performance capacity requirements of the CNS ATM System. The planning function includes the development of necessary recommendations and regional documentation.
5	A to E	Ensure the continuing and coherent development of the MID Regional Air Navigation Plan with the monitoring of the New CNS/ATM Systems research and development, trials and demonstrations in the fields of CNS and facilitate the transfer of this information and expertise between States.

B. Work Programme

Task No.	Task	Deliverables	Action by	Target date
1	Monitor CNS/ATM planning and development trials in the field of CNS and facilitate the transfer of this information and expertise amongst States	a) monitor global development that many have beneficial consequences in regional planning activities b) encourage States to conduct R&D, trials of new CNS services c) serve as a focal point for review of ongoing work regional groups that is relevant to CNS d) ensure that the capabilities and capacities offered through existing aircraft equipage, ATM infrastructure and ATC systems is utilized to the maximum extent possible.	CNS SG	Ongoing
2	Survey and update of CNS deficiencies in the MID Region on a regular basis and focus on surveys and information from users such as IATA and IFALPA.	That the MID Regional Office presents the results of the surveys and the updated deficiencies to the next CNS SG meeting	CNS SG	2007
3	To follow-up the developments of ICAO position regarding future ITU World Radio Communication (WRC) Conferences and their preparatory meetings	Highlight the ICAO position concerning future ITU WRC conferences to the MID States, and ensure States understand and Support ICAO position during the WRC meetings	CNS SG	Ongoing
4	Harmonization of AIS, MET and FPL	States should take the necessary measures to enable users to access both AIS and MET information from a common interface based on the flight plan entry	States	Ongoing
5	Development of MID ATN planning document	Develop guidance material for the use of IP as a Sub- Network for ATN with particular emphasis on system compatibility between adjacent centers and security the guidance has to detail the of plans and could be used as reference for all MID States for smooth ATN implementation	CNS SG	2007
6	Implementation of High Speed digital circuits between main centers	Harmonize and increase the number of high speed digital circuits between MID States and interregional for the support of the Global plan ensuring that the capabilities and capacities offered are utilized to the highest degree possible	CNS SG States	2008
7	Implementation of the MIDVSAT project	MID States start the implementation of MIDVSAT project	CNS SG	2008
8	Establishment of IFPS in the MID Region	Support Bahrain for the development of the IFPS study	CNS SG Bahrain	2008

Task No.	Task	Deliverables	Action by	Target date
9	Review the AFTN performance levels	Keep monitor of AFTN performance and recommend upgrade when necessary.	CNS SG	Ongoing
10	ATN Development	Keep track of the ATN development in the ACP and incorporate in the region guidance document	CNS SG	Ongoing
11	ATN Operational procedures	1) To review existing AFTN transitional/ operational procedures and develop a new transitional and operational procedures applicable to the operation and use of the AMHS. 2) Develop appropriate ATN operational procedures. 3) To developed coordinated AFTN routing change with AMHS routing change procedures.	CNS SG	2008
12	ATN Implementation coordination	1) Review and analyze implementation problems and develop coordinated solutions 2) States to report and share implementation and operational experience gained	CNS SG States	ongoing
13	Frequency issues	1) Review frequency congestion and propose recommendation 2) Review frequency interference and propose recommendations 3) Recommend new AMS systems	CNS SG	Ongoing
14	AMHS register	1) Assist states in development of the addressing scheme 2) Complete the addressing scheme for the MID region 3) Introduce monitoring and management procedures.	CNS SG States	2007

C) Composition

The Sub Group will be composed of all MID Region Provider States, and IATA, IFALPA as observers, additional representatives from States and International/Regional Organizations may be invited on ad-hoc basis when required.

MIDANPIRG CNS/MET SG/7
Appendix 6C to the Report on Agenda Item 6

METEOROLOGY SUB-GROUP (MET SG) OF THE MID REGION

A. Terms of Reference

Task No.	Strategic Objectives	Tasks
1	A/D	Review and update the MID Regional Air Navigation Plan in accordance with the operational requirements of the MID Region and ensure its seamless and consistent implementation for the new CNS/ATM systems in the MET field
2	A/D	Review and identify deficiencies that prevent the implementation or provision of MET service in the MID Region; and provide assistance for their correction
3	A/D/E	Monitor the CNS/ATM systems research and development, trials and demonstrations in the field of MET and facilitate the transfer of this information and expertise between States
4	A/D	Make specific recommendations aimed at improving MET services by the use of existing procedures and facilities and/or through the evolutionary implementation of MET systems

B. Work Programme

Task No.	Task	Deliverables	Action by	Target date
1	SADIS strategic assessment of data/information to be included in the satellite broadcast	Review requirements for SADIS broadcast and maintain the SADIS strategic tables	MET SG	2007
2	Review and update the ROBEX scheme and other OPMET exchange and improve the regional and inter-regional exchange and availability of OPMET information in the MID Region	a) review and update the regional ROBEX tables and relevant documents; b) propose optimizations changes to the ROBEX scheme; and c) improve the availability of OPMET data at the Regional OPMET Data Banks (RODB)	MET SG	2007
3	Monitoring of the implementation of International airways volcano watch (IAVW) and tropical cyclone advisories and SIGMETs	Monitor and provide assistance in the implementation of volcanic and tropical cyclone advisories and SIGMETs procedures to ensure provision of timely information on volcanic ash and tropical cyclones to aircraft	MET SG	Ongoing
4	Monitor CNS/ATM planning and development trials in the field of MET and facilitate the transfer of this information and expertise amongst States	a) monitor global development that many have beneficial consequences in regional planning activities b) encourage States to conduct R&D, trials of new MET services c) serve as a focal point for review of ongoing work regional groups that is relevant to MET	MET SG	2008
5	Survey of MET deficiencies in the MID Region on a regular basis and focus on surveys and information from users such as IATA and IFALPA.	That the MID Regional Office presents the results of the surveys to the next MET SG meeting	MET SG	2008

C) Composition

The Sub Group will be composed of all MID Region Provider States, and IATA, IFALPA as observers additional representatives from States and International/Regional Organizations may be invited on ad-hoc basis when required.

REPORT ON AGENDA ITEM 7: ANY OTHER BUSINESS

7.1 The meeting thanked the UK MET Office and ICAO Paris Regional Office for supporting MID Region Meteorological activities.

Date and Venue for the next meeting

7.2 The meeting agreed that the duration of next meeting will be for three working days and scheduled for the period between June and September 2007 (inclusive). The venue location will be coordinated by ICAO MID Regional Office and communicated to States.

MIDANPIRG CNS/MET SG/7
Attachment A to the Report

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