INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

**REPORT OF AERONAUTICAL FIXED SERVICES
AERONAUTICAL TELECOMMUNICATIONS NETWORK
TASK FORCE**

EIGHTH MEETING

(Cairo, 24-27 June 2002)

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

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PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1   The Eighth Meeting of the MIDANPIRG AFS/ATN Task Force was held in the ICAO MID Office in Cairo from 24 to 27 June 2002.

2. OPENING

2.1   Mr. Mohamed Khonji, ICAO Deputy Director welcomed all the participants. He stressed that the Task Force should, in its future meetings, concentrate on the Deficiencies and planning implementation of ATN applications in the Middle East Region.

2.2   The Chairman of the Task Force, Mr. Ali Ahmed Ali from Bahrain, presided over the meeting.

3. ATTENDANCE

3.1   The meeting was attended by twenty eight Experts from seven States and two International Organizations. The list of participants and the list of contacts are at page 3-8

4. LANGUAGE

4.1   The discussions, were conducted in English.   Documentation was issued in English

5. OFFICERS AND SECRETARIAT

5.1   Mr. M. Traore, Regional Officer, Communications, Navigation and Surveillance of ICAO MID Office acted as the Secretary of the meeting.

6. AGENDA

6.1   The following Agenda was adopted:

   Item 1: Adoption of the Provisional Agenda

   Item 2: Review of MIDANPIRG/7 meeting Conclusions and Decisions.

   Item 3: Deficiencies related to AFS in the MID Region.

   Item 4: Review of the MID AFTN/CIDIN Routing Directory

   Item 5: Latest developments in ATN field (Regional planning and Implementation considerations, AIDC, AMHS, OLDI, etc)

   Item 6: Any other business.

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7. CONCLUSIONS AND DECISIONS DEFINITION

7.1   The MIDANPIRG records its actions in the form of Conclusions and Decisions with the following significance:

  a) **Conclusions**   f reference, merit directly the attention of States, or on which further action will be initiated by the Secretary in accordance with established procedures; and

  b) **Decisions** relate solely to matters dealing with the internal working arrangements of the Group and its Sub-Groups.

8. LIST OF CONCLUSIONS AND DECISIONS

  CONCLUSION 8/1:   NEED TO MONITOR AFTN CIRCUIT OCCUPANCY

  DECISION 8/2:   DEVELOPMENT OF MID REGIONAL AFTN CONTINGENCY PLAN

  CONCLUSION 8/3:   IMPROVEMENT IN THE TABLE CNS1 OF MID FASID

  CONCLUSION 8/4:   UPGRADE OF EXISTING COMMUNICATION INFRASTRUCTURES

  DECISION 8/5:   DEVELOPMENT OF THE MID REGIONAL ATN PLANNING DOCUMENT

  DECISION 8/6:   ATN PLANNING GROUP

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MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 1
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REPORT ON AGENDA ITEM 1:   ADOPTION OF THE PROVISIONAL AGENDA

1.1   The meeting reviewed the Provisional Agenda for the meeting presented by the Secretariat and adopted it without modification as shown in the History of the Meeting (Part I of this report).

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REPORT ON AGENDA ITEM 2: REVIEW OF MIDANPIRG/7 CONCLUSIONS AND DECISIONS

2.1   The Conclusions and Decisions adopted by the MIDANPIRG/7 meeting (Cairo, 21-25 January 2001) related to the Aeronautical Fixed Services are shown in **Appendix 2A** to the report on Agenda Item 2.

2.2   The meeting agreed that the follow-up on:

a)   Conclusion 7/26: *MID AFTN/CIDIN Routing Directory* will be reviewed under Agenda Item4: Review of the Mid AFTN/CIDIN Routing Directory

b)   Conclusion 7/27: *Organization of ATN Seminar in the Region,* Conclusion 7/30: *Preliminary Study of the Middle East VSAT Network (MID VSAT)* and Decision 7/36: *Initial Plan for the ground portion of the ATN in the MID Region* will be reviewed under Agenda Item5: Latest Developments in ATN field (Regional planning and Implementation considerations, OLDI, etc.)

c)   Conclusion 7/28: *PTT support and Cooperation for Aeronautical Telecommunication circuits* and Decision 7/50: *Elimination of Deficiencies* will be reviewed under Agenda Item3: Deficiencies related to AFS in the MID Region.

d)   Conclusion 7/29: *ICAO Position with regard to WRC-2003* will be reviewed under Agenda Item6: Any other business.

MIDANPIRG/7 CONCLUSIONS AND DECISIONS
RELATED TO AFS/ATN TF MEETING

CONCLUSION 7/26:   MID AFTN/CIDIN ROUTING DIRECTORY

That,

a)   In updating and publishing an AFTN/CIDIN Routing Directory the MID Region uses the new format adopted in EUR Region and included in **Appendix 5I** to the report on Agenda Item 5

b)   The coordinating body to be tasked to complete the development of tables on CIDIN Routing Directory.

CONCLUSION 7/27:   ORGANIZATION OF ATN SEMINAR IN THE MID REGION

That, a Seminar be organized in the framework of implementation of ATN in the MID Region in order to help in developing a clear understanding of the initial implementation aspects of ATN.

CONCLUSION 7/28:   PTT SUPPORT AND COOPERATION FOR AERONAUTICAL TELECOMMUNICATION CIRCUITS

That, States are urged to:

i)   Ensure that their National Telecommunication Administrations are aware of the importance of aeronautical circuits (both voice and data) for the safety of air traffic.

ii)   Improve the co-operation and co-ordination with their National Telecommunication Administrations in order to rectify faults on the circuits without delay thus preventing prolonged outages.

CONCLUSION 7/29:   ICAO POSITION WITH REGARD TO WRC-2003

That, the Middle East States are urged, as a matter of a priority to explain the ICAO concerns to their respective Ministerial Authorities, the League of Arab States and the Arab Civil Aviation Authorities, in order to support the ICAO and IATA concerns with regard to protection of aeronautical frequency at WRC-2003.

CONCLUSION 7/30:   PRELIMINARY STUDY FOR THE MIDDLE EAST VSAT NETWORK

That,

i)   the concept of the Middle East VSAT Network should be validated on the basis of a comprehensible study, comprising of technical feasibility and economic viability through MID SIP.

ii)   the MID States should provide the ICAO Middle East Regional Office with all technical and financial information allowing this study to be undertaken through a SIP.

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

That, the COM/MET Sub Group be dissolved and renamed as the CNS/MET Sub-Group with no change to the terms of reference as in MIDANPIRG Handbook

DECISION 7/50: **ELIMINATION OF THE DEFICIENCIES**

That, the ICAO MID Office carries out a detailed survey in collaboration with the MID States concerned by the deficiencies with priorities U and A and with the relevant International Organizations, in order to determine the problems the States are facing and how to solve these deficiencies. The results of such a survey and the experience gained should be reported to the MIDANPIRG/8.

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 3

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REPORT ON AGENDA ITEM 3:   DEFICIENCIES RELATED TO AFS IN THE MID REGION

3.1   Under this Agenda Item, the Meeting was provided with the results of the AFTN

3.2   The meeting agreed that this survey gave substantial information; it did show a quite complete picture of the situation in the Region since all main Centers were fully involved, only a few tributary Centers did not send their data.

3.3   According to the results of the survey shown in **Appendix 3A** to the Report on Agenda Item 3, the following circuits are to be upgraded:

- Abu Dhabi/Muscat
- Amman/Cairo and Amman/Damascus
- Bahrain/Singapore
- Beirut/Jeddah and Beirut/Kuwait
- Cairo/Nairobi
- Kuwait/Karachi
- Jeddah/Addis Ababa
- Muscat/Mumbai

3.4   The meeting reiterated the importance of the implementation of the circuit Amman/Beirut according to the MID AFTN Rationalized Plan.

3.5   The Centers should be reminded that the circuit loading statistics are considered as an element of overall circuit performance which should be monitored regularly and sent to ICAO MID Office.

3.6   In view of the foregoing, it was agreed that Centers continue to monitor the occupancy of AFTN circuits and therefore the Meeting endorsed the following Conclusion:

CONCLUSION 8/1:   NEED TO MONITOR AFTN CIRCUIT OCCUPANCY

That, the concerned States closely monitor occupancy of the following circuits and coordinate upgrading of the circuits capacity, in accordance with the LIM MID RAN Meeting Conclusion 6/4

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1. Abu Dhabi / Muscat	*6. Beirut / Kuwait*
2. Amman / Cairo	*7. Cairo / Nairobi*
3. Amman / Damascus	*8. Jeddah / Addis Ababa*
4. Bahrain / Singapore	*9. Muscat/Mumbai*
5. Beirut / Jeddah	*10. Kuwait/Karachi*

3.7   The Meeting was informed of the new single definition of **deficiency** as approved by the Council on 30 November 2001. The new definition is detailed below:

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.

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 3

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3.8 The meeting then reviewed and updated the table of Deficiencies in the AFS field as approved by MIDANPRG/7. This updated table is shown in **Appendix 3B** to the Report on Agenda Item 3.

3.9   The meeting was presented with a working paper from the Kingdom of Bahrain addressing the need for the development of the MID Region AFTN contingency plan as per the AFS/ATN Task Force work program. The aim is to ensure the continuity of the AFTN during the catastrophic failures in the Region, in the interest of safety and regularity of the air navigation.

3.10   The Meeting was also briefed by the representative of the Kingdom of Bahrain through an information paper on the cooperation between the Cooperation Council for the Arab States of the Gulf (GCC) in developing strategies to ensure the continuity of telecommunication services provided to various sectors including the aviation community.

3.11   The Meeting agreed that the Y2K AFTN contingency planning could be used as a basis to develop the contingency plan for the AFTN in the Region. To this end, the ICAO Office should prepare and send a questionnaire form to States requesting all the necessary information on the facilities that serving the AFTN. The meeting agreed therefore on the following Decision:

DECISION 8/2:   DEVELOPMENT OF MID REGIONAL AFTN CONTINGENCY PLAN

> *That, the MID Regional AFTN Contingency Plan be developed in order ensure the continuity of AFTN in case of a catastrophic failure at any point. States should provide to the ICAO MID Regional Office all the necessary information that would facilitate the development of the plan.*

Abu Dhabi
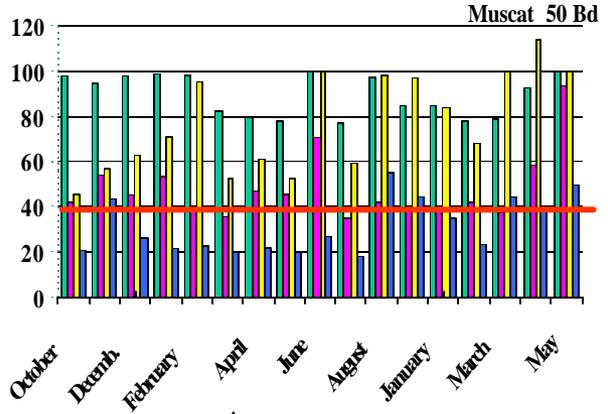
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Bahrain

Singapore 200 Bd

Cairo

Nairobi 50 Bd

Amman

Damascus 50 Bd

Beirut

Jeddah 100 Bd

Jeddah

Addis Ababa 50 Bd

Cairo 50 Bd

Kuwait 100 Bd

Kuwait

Karachi 50B

Kuwait

Bahrain 100B

Muscat

Mumbai 300 BD

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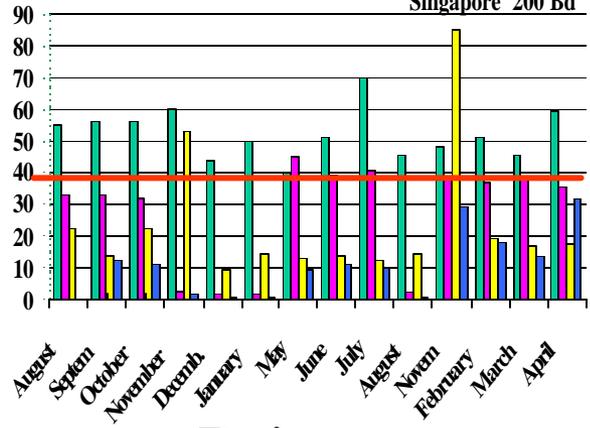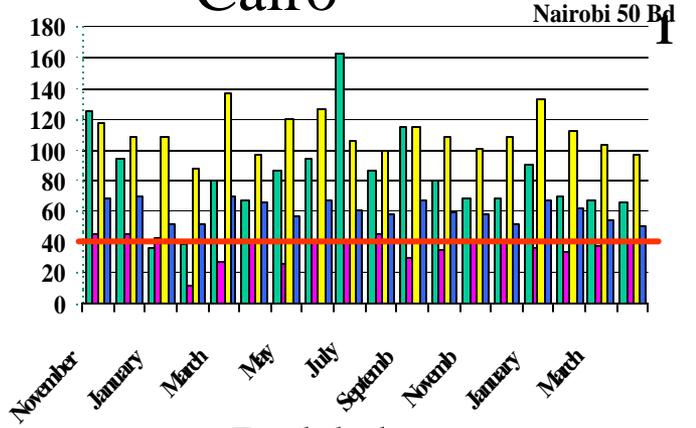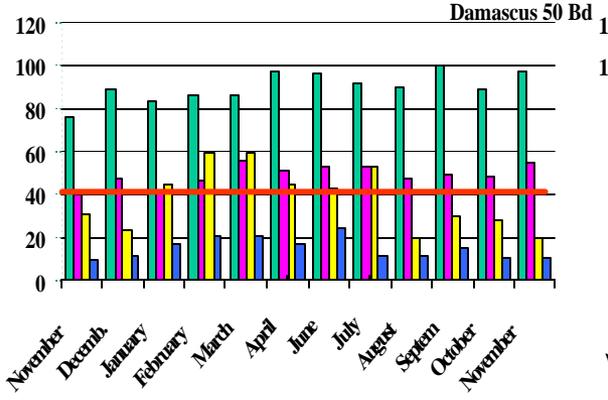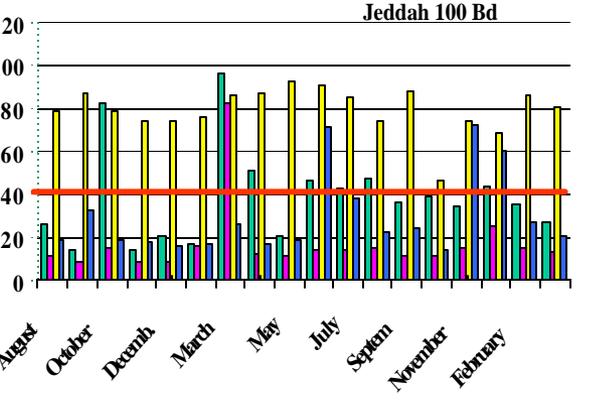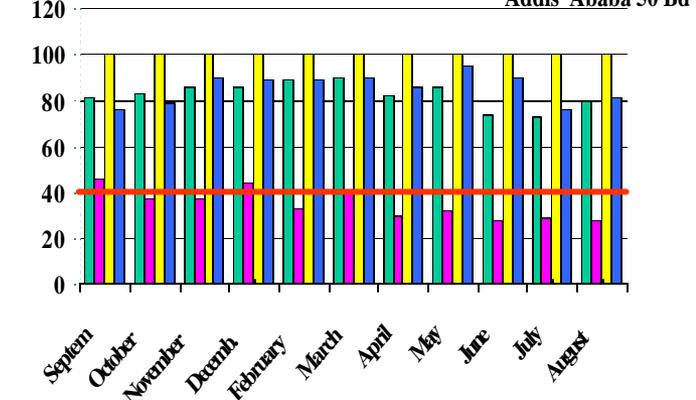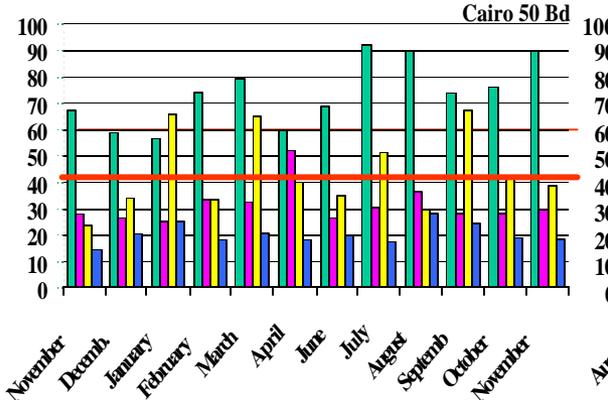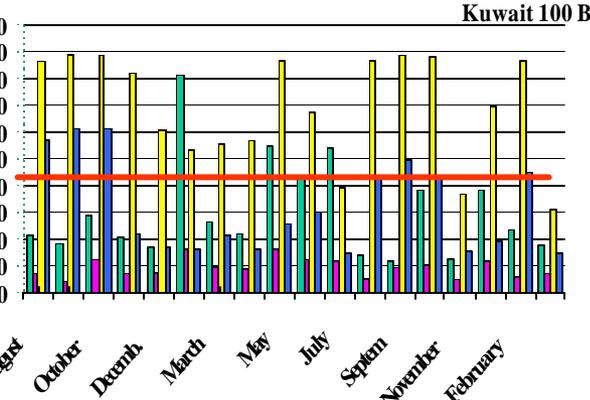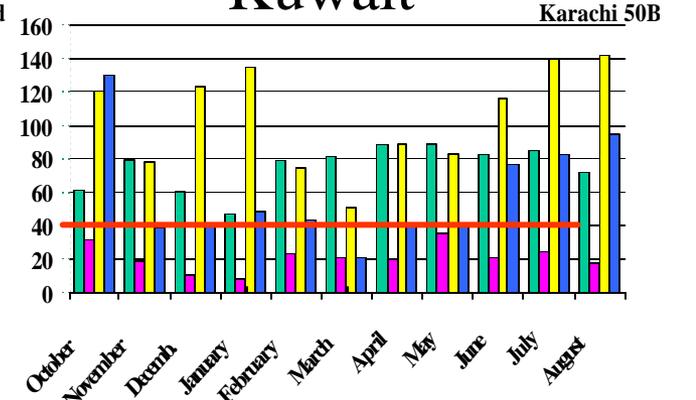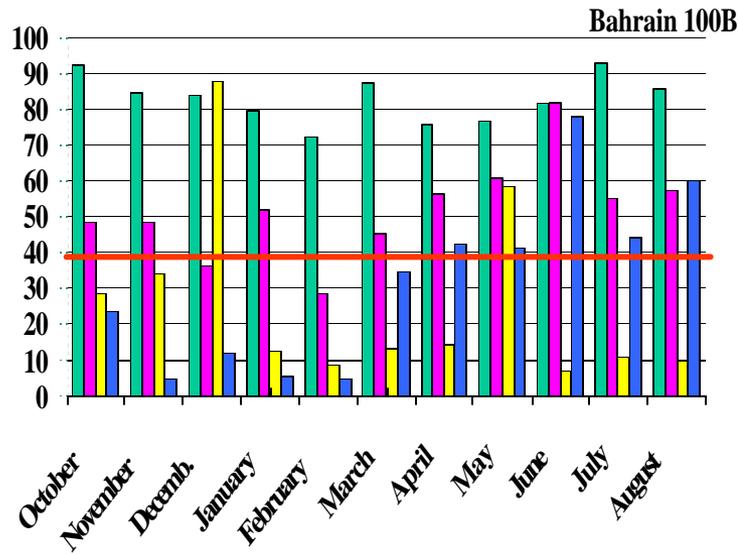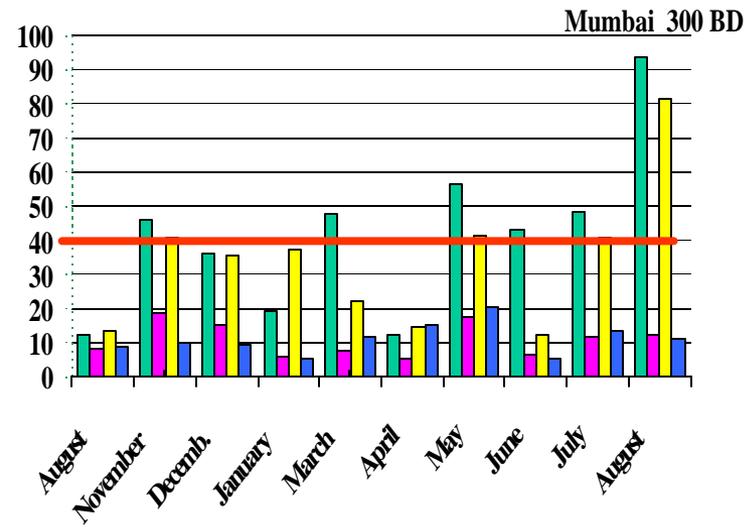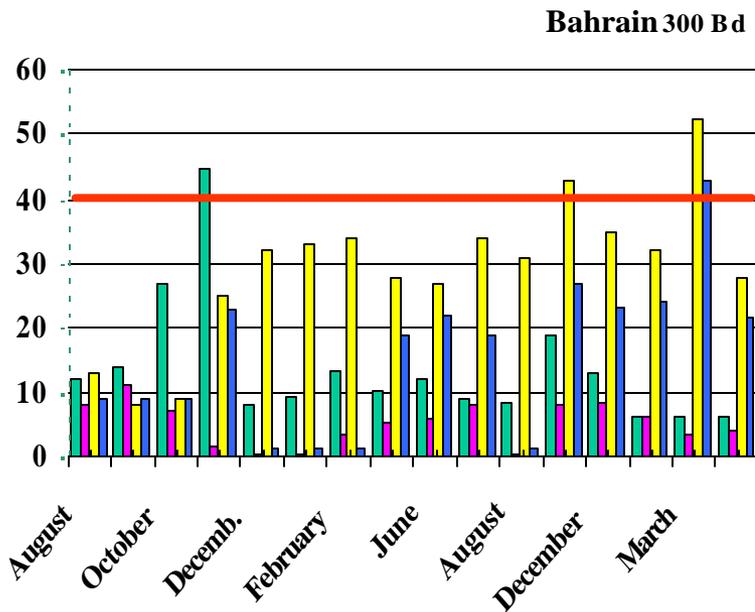
Legend of monthly graphics

Rx — Hourly %
Rx — Daily %
Tx — Hourly %
Tx — Daily %

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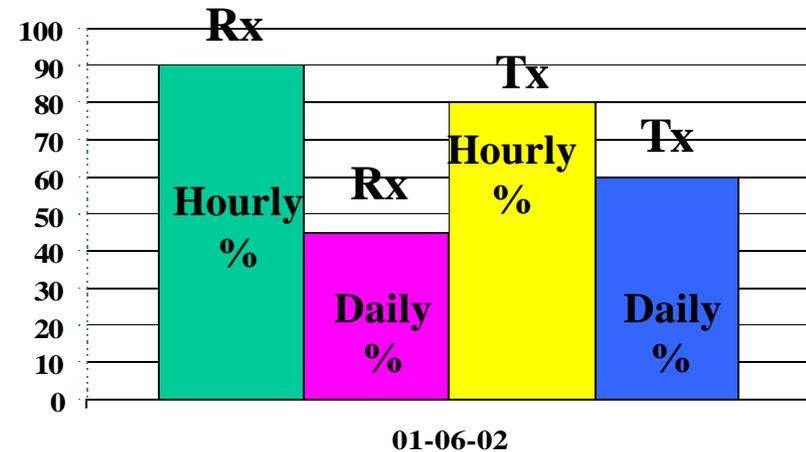
UPDATED AIR NAVIGATION DEFICIENCIES IN THE MID REGION - CNS FIELD

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first Reported	Remarks	Description	Executing body	Date of Complete	Priority for action**
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	07/10/1998	Lebanon is ready to implement the circuit		Jordan-Lebanon		A
	Israel - Jordan Ben Gurion - Amman AFTN Circuit	The circuit is not yet implemented	07/10/1998	Jordan has planned to implement the circuit in the foreseen future.				B

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
AFTN Main Circuits (LIM MID RAN Rec10/5)	Afghanistan-Bahrain Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	07/10/1998	Bahrain is ready to implement the circuit	Follow-up the matter with IATA concerning Afghanistan			B
	Afghanistan-Iran Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	07/10/1998	VSAT network to be implemented				B
	Egypt Jordan Amman Cairo AFTN Circuit	The circuit is implemented on 50 bauds	19/10/1999	Egypt is ready to up-grade the circuit to 100 bauds or higher if traffic justifies	Egypt will co-ordinate with Jordan for up-grading	Egypt Jordan		A
	Bahrain Saudi Arabia Bahrain Jeddah AFTN Circuit	The circuit is implemented on 200 bauds	19/10/1999	The circuit is working satisfactorily	Will be up-graded to CIDIN		Fourth Quarter 2002	A
	Bahrain Kuwait Bahrain Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to 9.6 K	Bahrain Kuwait	Third Quarter 2002	A
	Bahrain Singapore Bahrain Singapore AFTN Circuit	The circuit is implemented on 200 bauds	19/10/1999	Operating satisfactorily on 200 bauds	Planned to be up-graded to medium speed circuit (1200-2400)	Bahrain Singapore	TBD	B

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Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first Reported	Remarks	Description	Executing body	Date of Complete	Priority for action**
	Lebanon Saudi Arabia Beirut Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to 300 bauds	Lebanon Saudi Arabia	Third Quarter 2002	A
	Lebanon Kuwait Beirut Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	The circuit is operating satisfactorily on 200 bauds.	Planned to be up-graded to 300 bauds			A
	Egypt Saudi Arabia Cairo Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to CIDIN	Egypt Saudi Arabia	Fourth Quarter 2002	A
	Egypt Kenya Cairo Nairobi AFTN Circuit	The circuit is implemented on 50 bauds	19/10/1999	Egypt is ready to up-grade the circuit to 100 bauds	Egypt and Kenya agreed to upgrade the circuit to 1200 bps	Egypt Kenya	Fourth Quarter 2001	A
	Egypt Tunisia Cairo Tunis AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to 1200 bauds	Egypt - Tunisia	Upon Tunis readiness	A
	Saudi Arabia Ethiopia Jeddah Addis Ababa	The circuit is implemented on 50 bauds	19/10/1999	The circuit is not working satisfactorily. Saudi Arabia is ready to up-grade the circuit to higher speed.	ICAO MID Regional Office is following-up the matter with ICAO Nairobi Office		Fourth Quarter 2002	A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
	Kuwait Pakistan Kuwait Karachi AFTN Circuit	The circuit is implemented on 50 bauds	19/10/1999	Kuwait ready to up-grade to 1.2 K		Kuwait Pakistan		A
	Iran Kuwait Kuwait Tehran AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	No traffic justification for 300 bauds				A
ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Yemen Ethiopia-Eritrea India Djibouti Saudi Arabia Somalia Oman	All ATS Speech Circuits connecting following adjacent centres provided by Yemen use speed dial: Addis-Ababa Asmara Mumbai Djibouti Jeddah Mogadishu Muscat	07/10/1998	Sometimes, Communicaitons facilities do not permit communications to be established within 15 seconds	Yemen will be urged to implement Direct Speech Circuits with adjacent centres using dedicated lines ICAO MID Regional Office is following up the matter with ICAO Nairobi Office concerning the African States. Saudi Arabia and Oman are ready to implement a dedicated circuit with			A

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Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
	Saudi Arabia Eritrea Sudan	The ATS Speech Circuit connecting the following adjacent centres to Jeddah use speed dial: Asmara Khartoum	19/10/1999	Jeddah Khartoum on speed dial Khartoum Jeddah on HF	ICAO MID Regional Office is following-up the matter with ICAO Nairobi Office. Saudi Arabia is ready to implement the dedicated circuits with Asmara and Khartoum			A
AFTN usage (LIM MID RAN Rec 6/2)	~~States concerned~~	~~Recording of statistics in appropriate form, exchange of the circuit loading data with corresponding stations, evaluate circuit loading and take remedial action when occupancy level exceeds permissible levels~~	~~22/05/1995~~	~~Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office. Copy of Table to be filled is attached to Appendix 3B to the report on Agenda Item 3~~		~~States concerned~~	Completed and results presented to AFS ATN TF/8	B

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

AU@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.

AA@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.

AB@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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MIDANPIRG AFS/ATN TF/8-REPORT

4-1

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 4
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REPORT ON AGENDA ITEM 4:   REVIEW OF THE MID AFTN/CIDIN ROUTING DIRECTORY

4.1   Under this Agenda Item, the Meeting was presented with the main highlights of the AFTN improvements made during the year 2001 and mid 2002, as follows:

        Circuits:
        - Cairo / Roma
        - Bahrain / Abu Dhabi was upgraded from 2400 bps to CIDIN 9.6 Kbps
        -
        - Kabul / Karachi was established on 2400 bps using VSAT equipments

4.2   Reviewing and updating the CNS tables, the Meeting amended the table CNS1 which was proposed by the AFS/ATN TF/6 meeting. The new tabular form with explanatory note in **Appendix 4A** will be presented to the next MIDANPIRG meeting for adoption and inclusion in the MID FASID in lieu of the current table CNS1.

4.3   The Meeting therefore agreed on the following conclusion.

CONCLUSION 8/3:   IMPROVEMENT IN THE TABLE CNS1 OF MID FASID

        *That, the current table CNS1 and the explanatory note be deleted from the MID FASID and be replaced by the new tabular form and explanatory note as indicated at **Appendix 4A** to the report on Agenda Item 4.*

4.4   As regard the new AFTN/CIDIN Routing Directory, the Coordinating Body was requested to complete the development of the tables on CIDIN Routing Directory in order for the Middle East Office to prepare and publish the Twentieth Edition of the MID AFTN/CIDIN Routing Directory, as soon as possible.

4.5   Based on the assessment of circuit performance (circuit availability, transit time and occupancy) and taking into account the issues raised by Beirut Center on the need to amend the MID AFTN/CIDIN Routing Directory and table CNS1A, the Meeting agreed on the following:

        a) the MID COM centers involved in the routing of traffic between the MID and EUR Regions take into account the relevant designated Entry/Exit points, particularly the function of the Beirut Center.

        b) with the upgrading of certain main circuits, the table CNS1A should be modified in a smooth manner. Each modification should be followed by relevant assessment in order not to harm the operation of the MID AFTN circuits. In the first stage, only the tributary circuits whose performance is not in compliance with the required norms, are proposed for deletion in accordance with MIDANPIRG Conclusion 6/12.

4.6   It was recalled that any modification in the Rationalized AFTN Plan should be justified by the requesting Center(s) according to Doc 8259. After MIDANPIRG approval, the proposal of amendment to the plan will be issued and circulated to all MID States for remarks.

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 4

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4.7   Taking into account the changes occurred in the existing AFTN circuits, the Meeting updated the table CNS 1A and the AFTN/CIDIN Routing Directory as shown respectively in **Appendix 4B** and **Appendix 4C** to the Report of Agenda Item 4.

TABLE CNS 1 - AFTN PLAN

EXPLANATION OF THE TABLE

Column :

1   The AFTN Centers/Stations of individual State are listed alphabetically. Each circuit
appears twice. The category of these facilities are as follows:
M – Main AFTN COM Center
T – Tributary AFTN COM Center
S – AFTN Station

2   Category of circuit

M – Main trunk circuit connecting Main AFTN communication centers.
T – Tributary circuit connecting Main AFTN center and tributary center.
S – AFTN circuit connecting an AFTN Station to an AFTN center.

3 and **7** Type of circuit provided

LTT/a – Landline teletypewriter, analogue (eg. cable, microwave)
LTT/d – Landline teletypewriter, digital (eg. cable, microwave)
LDD/a – Landline data circuit, analogue (eg. cable, microwave)
LDD/d – Landline data circuit, digital (eg. cable, microwave)
SAT/ad – Satellite link, with/ a for analogue or d for digital

4 and **8**   Circuit signaling speed, current or planned in bits/s

5 and **9**   Circuit protocols, current or planned

6 and **10** Data transfer code (syntax), current or planned.

ITA-2 – International Telegraph alphabet No.2 (5-unit Baudot code).
IA-5 – International Alphabet No.5 (ICAO 7-unit code)
CBI – Code and Byte Independency (ATN compliant)

11   Target date of implementation
TBD – To be determined

12   Remarks

Table CNS 1 AFTN Plan

State/Station	Cat	Current				Planned					Remarks
		Type	Signaling Speed	Protocol	Code	Type	Signaling Speed	Protocol	Code	Target date of implementation	
1	2	3	4	5	6	7	8	9	10	11	12

MID FASID   **E 4-1-5**

Locations/Lugares	
Terminal I	Service
Est. terminal I	Servicio
Terminal II	
Est. terminal II	
1	2
ABU DHABI	
TEHRAN	LTT
AMMAN	
JEDDAH	LTT
BAGHDAD	
BAHRAIN	LTT
CAIRO	LTT
DAMASCUS	LTT
ISTANBUL	LTT
KUWAIT	LTT
BAHRAIN	
ANKARA	LTT
DAMMAM	LTT
NICOSIA	LTT
CAIRO	
DAMASCUS	LTT
~~ROME~~	~~LTT~~
TRIPOLI	LTT
DAMASCUS	
ATHENS	LTT
KUWAIT	LTT
TEHRAN	LTT
DAMMAM	
JEDDAH	LTT
JEDDAH	
KHARTOUM	LTT
NICOSIA	LTT
KABUL	
KARACHI	LTT
KUWAIT	
ROME	LTT
MUSCAT/SEEB	
KARACHI	LTT
TEHRAN	
ANKARA	LTT
KARACHI	LTT

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST OFFICE

Routing Directory for

AFTN and CIDIN Centres

in the MID Region

Version 0.2 draft

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
OLLL	Beirut	Lebanon	OLLL
OMAE	Abu Dhabi	U.A.E.	OMAE
OOMS	Muskat	Oman	OOMS
OPKC	Karachi	Pakistan	OPKC
ORBS	Bagdad	Iraq	ORBS
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	ORBS	Bagdad	ORBS
Jordan	OJAM	Amman	OJAM
Kuwait	OKBK	Kuwait	OKBK
Lebanon	OLLL	Beirut	OLLL
Oman	OOMS	Muskat	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 Routeing 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 Routeing Table

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

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			
OLLL	OLLL1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		
HECA	HECA1			
		OLLL2		

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
OLLL	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.

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

Supervisor:

Name:	
Phone:	202 6375639
Fax:	202 2678546
Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYS
CIDIN/AFTN:	HECAM
CIDIN/OPMET:	
SITA:	CAIXYYF

Technical supervisor:

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Phone:	202 4182964
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Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:

Name:	Abdel Fattah A. El-Sayed
Phone:	202 6375639
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 Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OE	OLBAA			L*	LGGGA	OLBAA		
B	LGGGA	OLBAA			LA	LGGGA	OLBAA		
C	LGGGA	OLBAA			LI	LGGGA	OLBAA		
D	DT	LGGGA			LL	LL	LGGGA		
EB	LGGGA	OLBAA			LM	LGGGA	OLBAA		
ED	LGGGA	OLBAA			M	LGGGA	OLBAA		
EE	LGGGA	OLBAA			N	OE	OLBAA		
EF	LGGGA	OLBAA			OA	OLBAA	OE	OBBIA	
EG	LGGGA	OLBAA			OB	OE	OLBAA	OBBIA	
EH	LGGGA	OLBAA			OE	OE	OLBAA		
EI	LGGGA	OLBAA			OJ	OJ	OE		
EK	LGGGA	OLBAA			OI	OLBAA	OE	OBBIA	
EL	LGGGA	OLBAA			OK	OLBAA	OE		
EN	LGGGA	OLBAA			OL	OLBAA	OE		
EP	LGGGA	OLBAA			OM	OLBAA	OE		
ES	LGGGA	OLBAA			OO	OE	OLBAA		
ET	LGGGA	OLBAA			OP	OLBAA	OE		
EV	LGGGA	OLBAA			OR				
EY	LGGGA	OLBAA			OS	OS	OJ		
F*	HK	OE			OT	OLBAA	OE	OBBIA	
FH	LGGGA	OLBAA			OY	OE	OLBAA		
FJ	LGGGA	OLBAA			P	OLBAA	LGGGA		
G	DT	LGGGA			R	OE	OLBAA	OBBIA	
H*	HK	OE			S	LGGGA	OLBAA		
HA	OE	HK			T	LGGGA	OLBAA		
HC	HK	OE			U	LGGGA	OLBAA		
HD	OE	HK			V	OLBAA	OE	OBBIA	
HE	N	N			W	OE	OLBAA	OBBIA	
HH	OE	HK			Y	OE	OLBAA	OBBIA	
HL	HL	DT			Z	OLBAA	OE	OBBIA	
HS	HS	OE							
K	LGGGA	OLBAA							

HECA - Cairo - Egypt

CIDIN Routeing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_				
LGGG_	LGGG	(OLBA)		
OLBA_	OLLL	(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			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

HECA - Cairo - Egypt

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
DTTC	AFTN	1 x 100	AFTN	1 x 1200	2001
HKNA	AFTN	1 x 50	AFTN		2001
HLLT	AFTN	1 x 50			
HSSS	AFTN	1 x 50			
LGGG	CIDIN	9.6K			
LIII	AFTN	1 x 50			
LLBG	AFTN	1 x 50			
OEJD	AFTN	1 x 100	CIDIN	9.6K	2002
OJAM	AFTN	1 x 50	AFTN	1 x 100	TBD
OLLL	CIDIN	9.6K			
OSDI	AFTN	1 x 50			

OAKB - Kabul - Afganistan

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 - Afganistan

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	VI	OI			OA	N	N		
B	OI	VI			OB	OI	VI		
C	OI	VI			OE	OI	VI		
D	OI	VI			OI	OI	VI		
E	OI	VI			OJ	OI	VI		
F	OI	VI			OK	OI	VI		
G	OI	VI			OL	OI	VI		
H*	OI	VI			OM	OI	VI		
HA					OO	OI	VI		
HC	OI	VI			OP	OP	OI		
HD	OI	VI			OR	OI	VI		
HE	OI	VI			OS	OI	VI		
HH					OT	OI	VI		
HL	OI	VI			OY	OI	VI		
HS	OI	VI			P	VI	OI		
K	OI	VI			R	VI	OI		
L*	OI	VI			S	OI	VI		
LB	OI	VI			T	OI	VI		
LL					U	VT	VI		
LT	OI	VI			V*	VI	OI		
M	OI	VI			VA	VI	OI		
N	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 - Afganistan

Circuit Characteristics

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

OBBI - Bahrain - Bahrain

Information

Operator:	
Phone:	+973 321185
- -	+973 321184
Fax:	+973 321905
Telex:	+490 9186 AIRCIV BN
Email:	---
AFTN:	OBBIYFYX
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	BAHAPYF

Technical operator:	
Phone:	+973 883620
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Fax:	+973 883461
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AFTN:	OBBIZZZZ
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	---

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

Technical supervisor:	
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CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	---

Management:	
Name:	ALI AHMED MOHAMED
Phone:	+973 321187
Fax:	+973 321992
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		

OBBI - Bahrain - Bahrain

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	WS	OO			OA	OKBK	OO		
B	LCNCA	OE	LCNCA	OLBAA	OB	N	N		
C	LCNCA	OE	LCNCA	OLBAA	OE*	OE	OO		
D	OE	OO			OED	OED	OE		
E	LCNCA	OE	LCNCA	OLBAA	OI	OI	OMAEA		
F	OE	OO			OJ	OE	OLBAA		
G	OE	OO			OK	OK	OLBAA		
H*	OE	OO			OL	OLBAA	OK		
HA	OE	00			OM	OMAEA	OO		
HC	OE	OO			OO	OO	OE		
HD	OE	OO			OP	OO	OE		
HE	OE	OO			OR	OLBAA			
HH	OE	OO			OS	OLBAA	OK		
HL	OE	OO			OT	OT	OK		
HS	OE	OO			OY	OE	OO		
K	LCNCA	OE	LCNCA	OLBAA	P	LCNCA	OE	LCNCA	OLBAA
L*	LCNCA	OE	LCNCA	OLBAA	R	WS	OO		
LB	LT	LCNCA			S	LCNCA	OLBAA	LCNCA	OLBAA
LL					T	LCNCA	OLBAA	LCNCA	OLBAA
LT	LT	LCNCA			U	LC	OE		
M	LCNCA	OE	LCNCA	OLBAA	V*	WS	OO		
N	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 Routeing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG	CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_	OLLL	LCNC							
LCNC_	LCNC	OLLL							
OBBI_									
OLBA_	OLLL	LCNC							
OMAE_	OMAE								

CIDIN Virtual Circuit Group

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

OBBI - Bahrain - Bahrain

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
LCNC	CIDIN	1 x 9.6K			
LTAA	AFTN	1 x 50			
OEDR	AFTN	1 x 50			
OEJD	AFTN	1 x 200	CIDIN	1 x 9.6K	II/2002
OIII	AFTN	1 x 300			
OKBK	AFTN	3 x 100	AFTN		TBD
OLBA	CIDIN	1 x 9.6K			
OMAE	CIDIN	1 x 9.6K			
OOMS	AFTN	1 x 300			
OTBT	AFTN	1 x 200			
WSSS	AFTN	1 x 200	AFTN	1 x 2400	End 2002

OEJD - Jeddah - Saudi Arabia

Information

Operator:	
Phone:	+966 2 685 0532
- -	
Fax:	+966 2 685 4016
Telex:	603807 KAIAP
Email:	
AFTN:	OEJNYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
Phone:	+966 2 685 5040 or
- -	+966 2 685 5039
Fax:	+966 2 685 5718
Telex:	
Email:	
AFTN:	OEJNYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Modhish A. Al-Garni
Phone:	+966 2 685 5611
Fax:	+966 2 685 4014
Telex:	603807 KAIAP
Email:	
AFTN:	OEJNYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Saleh Al-Ghamdi
Phone:	+966 2 6717717
Fax:	+966 2 6719041
Telex:	
Email:	dc97sha@hotmail.com
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Mohammed Al-Jodaibi
Phone:	+966 2 640 5000 ext: 5564
Fax:	+966 2 640 1477
Telex:	601093 CIVAIR SJ
Email:	maljodaibi@yahoo.com
AFTN:	OEJDYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:	
Manager	
ATS Comm. Ops and Procedures	
Presidency of Civil Aviation	
P.O. Box 929	
JEDDAH 21421	
SAUDI ARABIA	

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

Other:	

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

OEJD - Jeddah - Saudi Arabia

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	OO			OA	OB	OO		
B	LC	OB			OB	OB	OO		
C	LC	OB			OE	N	N		
D	HE	LC			OI	OB	OO		
E	LC	OB			OJ	OJ	HE		
F	HA	HE			OK	OB	OO		
G	HE	LC			OL	OL	HE		
H*	HA	HE			OM	OB	OO		
HE	HE	LC			OO	OO	OB		
HL	HE	LC			OP	OO	OB		
HS	HS	HE			OR	OL	HE		
K	LC	OB			OS	OL	HE		
L*	HE	LC			OT	OB	OO		
LC	LC	OB			OY	OYS	OO		
LK	LC	OB			P	OB	OO		
LL					R	OB	00		
LT	OB	OO			S	HE	LC		
M	HE	LC			T	HE	LC		
N	OB	OO			U	LC	OB		
					V*	OB	OO		
					VA	OO	OB		
					VE	OO	OB		
					VI	OO	OB		
					VN	OO	OB		
					VO	OO	OB		
					W	OB	OO		
					Y	OB	OO		
					Z	OO	OB		

OEJD - Jeddah - Saudi Arabia

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
HAAB	AFTN	1 x 50			
OJAM	AFTN	1 x 100			
OBBI	AFTN	1 x 200	CIDIN	1 x 9.6k	II/2002
OLBA	AFTN	1 x 100	AFTN	1 x 300	II/2002
HECA	AFTN	1 x 100	CIDIN	1 x 9.6k	II/2002
HSSS	AFTN	1 x 50			
OOMS	AFTN	1 x 300			
LCNC	AFTN	1 x 200	CIDIN	1 x 9.6k	IV/2002
OYSN	AFTN	1 x 100			

OIII - Tehran - Iran

Information

Operator:	
Phone:	0098 21-91022322
- -	
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	
AFTN:	OIIIYTYP
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

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

Supervisor:	
Name:	Houshang Mazaheri
Phone:	0098 21-9122330
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	
AFTN:	OIIIYTYC
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

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

Management:	
Name:	H. Ghaffari
Phone:	0098 21-6036645
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	
AFTN:	OIIIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Postal Address:
Civil Aviation Organization
P.O. Box 1798, 13445
Mehrabad Intl Airport
AFTN Com Center
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		
SITA		

OIII - Tehran - Iran

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	OP	OB	OP	OA		OB	OB	OM
B	LT	OB	LT	OB	OB	OB	OM	OB	OM
C	LT	OB	LT	OB	OE	OB	OM	OB	OM
D	OP	OB	OK	OB	OI	N	N	N	N
E	LT	OB	OK	OB	OJ	OS	OB	OS	OK
F	OP	OB	OK	OB	OK	OK	OB	OK	OB
G	OP	OB	OK	OB	OL	OB	OS	OB	OK
H*	OP	OB	OK	OB	OM	OM	OB	OM	OB
HE	OP	OB	OS	OK	OO	OB	OP	OB	OP
HL	OP	OB	OK	OB	OP		OB	OP	OK
HS	OP	OB	OB	OK	OR	OS	OB	OS	OK
K	LT	OB	LT	OB	OS	OS	OB	OS	OK
L*	LT	OB	OK	OB	OT	OB	OK	OB	OK
LC	OB	OM	OB	OK	OY	OB	OM	OB	OK
LL					P	OP	OB	OP	OB
LT	LT	OB	LT	OB	R	OB	OP	OR	OP
M	LT	OB	LT	OB	S	LT	OB	LT	OB
N	OB	OP	OB	OP	T	LT	OB	LT	OB
					U	LT	OB	OB	OS
					V*	OB	OP	OB	OP
					VA	OP	OB	OP	OB
					VE	OP	OB	OP	OB
					VI	OP	OB	OP	OB
					VN	OP	OB	OP	OB
					VO	OP	OB	OP	OB
					W	OB	OP	OB	OP
					Y	OB	OP	OB	OP
					Z	OP	OB	OP	OB

OIII - Tehran - Iran

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
LTAA	AFTN	1 x 50			
OBBI	AFTN	1 x 300			
OKBK	AFTN	1 x 100	AFTN	1X300	2002
OMAE	AFTN	1 x 50	AFTN	1X100	2001
OPKC	AFTN	1 x 200			
OSDI	AFTN	1 x 50			

OJAM - Amman - Jordan

Information

Operator: Majdolin Al-Trad	
Phone: +962 6 4891401/3261	
- -	
Fax:	
Telex:	
Email: majdolin@yahoo.vom	
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:	

Supervis Ahmed Abdullah	
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Phone: +962 6 4891401/3261	
Fax:	
Telex:	
Email:	
AFTN: OJAMYFYX	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA: AMMXYYA	

Technical supervi Marwan Badawi	
Name: Marwan Badawi	
Phone: + 962 6 4891401/3500	
Fax: + 962 6 4875102	
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 Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OE	HE			OA	OE	HE		
B	OS	HE			OB	OE	HE		
C	OS	HE			OE	OE	HE		
D	HE	OS			OI	OS	OE		
E	OS	HE			OJ	N	N		
F	HE	OS			OK	OE	HE		
G	HE	OS			OL	HE	OS		
H*	HE	OL			OM	OE	HE		
HE	HE	OS			OO	OE	HE		
HL	HE	OS			OP	OE	HE		
HS	HE	OE			OR	OR	OS		
K	OS	HE			OS	OS	HE		
L*	OS	HE			OT	OE	HE		
LC	OS	HE			OY	OE	HE		
LL	HE				P	OS	HE		
LT	OS	HE			R	OE	HE		
M	OS	HE			S	OS	HE		
N	OE	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 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
HECA	AFTN	1 x 50	AFTN	1 x 100	End 1999
OEJD	AFTN	1 x 100			
ORBS	AFTN	1 x 50			
OSDI	AFTN	1 x 50			

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:	
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		

OKBK - Kuwait - Kuwait

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OP	OB			OA	OB	OP		
B	LI	OL			OB	OB	OL		
C	LI	OL			OE	OB	OL		
D	OL	OB			OI	OI	OB		
E	LI	OL			OJ	OL	OS		
F	OB	OL			OK	N	N		
G	OL	OB			OL	OL	OB		
H*	OL	OB			OM	OB	OL		
HE	OL	OB			OO	OB	OL		
HL	OL	OB			OP	OP	OB		
HS	OL	OB			OR	OS	OL		
K	LI	OL			OS	OS	OL		
L*	LI	OL			OT	OT	OB		
LC	OL	LI			OY	OB	OL		
LL					P	LI	OL		
LT	LI	OL			R	OP	OB		
M	LI	OL			S	LI	OL		
N	OP	OB			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 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
LIII	AFTN	1 x 100			
OBBI	AFTN	3 x 100	AFTN	1200	TBD
OIII	AFTN	1 x 100			
OLBA	AFTN	1 x 100	AFTN	200	TBD
OPKC	AFTN	1 x 50	AFTN	100	TBD
OSDI	AFTN	1 x 50			
OTBD	AFTN	1 x 100			

OLLL - Beirut - Lebanon

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:	OLBAA
AFTN OPM/NM:	OLBAM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

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

OLLL - Beirut - Lebanon

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OE			OA	OK	OE		
B	LCNCA	HECAA			OB	OBBIA	OE		
C	LCNCA	HECAA			OE	OE	OBBIA		
D	HECAA	LCNCA			OI	OBBIA	OK		
E	LCNCA	HECAA			OJ	HECAA	OE		
F	OE	HECAA			OK	OK	OBBIA		
G	HECAA	OE			OL	N	N		
H	HECAA	OE			OM	OBBIA	OE		
K	LCNCA	HECAA			OO	OBBIA	OE		
L*	LCNCA	HECAA			OP	OK	OBBIA		
LL					OR	OR	OS		
LT	LCNCA	HECAA			OS	OS	HECAA		
M	LCNCA	HECAA			OT	OBBIA	OK		
N	OK	OE			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		

OLLL - Beirut - Lebanon

CIDIN Routeing Table

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

CIDIN Virtual Circuit Group

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

OLLL - Beirut - Lebanon

Circuit Characteristics

Situation recorded in March 2001			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 300	II/2002
OKBK	AFTN	1 x 100	AFTN	1 x 200	TBD
OSDI	AFTN	2 x 50			

OMAE - Abu Dhabi - U.A.E.

Information

Operator:	
Phone:	00971 2 4054217
- -	
Fax:	00971 2 4054373
Telex:	
Email:	aftnuae@emirates.net.ae
AFTN:	OMAEYFYX
CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

Technical operator:	
Phone:	00971 2 4054337
- -	
Fax:	00971 2 4054334
Telex:	
Email:	gcaa1@emirates.net.ae
AFTN:	
CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

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

Technical supervisor:	
Name:	M. Le Roux
Phone:	00971 2 4054203
Fax:	00971 2 4054334
Telex:	
Email:	gcaa1@emirates.net.ae
AFTN:	
CIDIN/AFTN:	OMAEM
CIDIN/OPMET:	
SITA:	

Management:	
Name:	P. Comber
Phone:	00971 2 4054246
Fax:	00971 2 4054334
Telex:	
Email:	aftnuae@emirates.net.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 Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OO			OA	OBBIA	OO		
B	OBBIA	OO			OB	OBBIA	OO		
C	OBBIA	OO			OE	OBBIA	OO		
D	OBBIA	OO			OI	OI	OBBIA		
E	OBBIA	OO			OJ	OBBIA	OO		
F	OBBIA	OO			OK	OBBIA	OI		
G	OBBIA	OO			OL	OBBIA	OO		
H	OBBIA	OO			OM	N	N		
K	OBBIA	OO			OO	OO	OBBIA		
L*	OBBIA	OO			OP	OO	OBBIA		
LL					OR	OBBIA	OI		
LT	OBBIA	OO			OS	OBBIA	OI		
M	OBBIA	OO			OT	OBBIA	OI		
N	OBBIA	OO			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 March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OBBI	CIDIN	1 x 9.6K			
OIII	AFTN	1 x 50	AFTN	1 x 200	in 2002
OOMS	AFTN	1 x 50	AFTN	1 x 200	IV/2001

OOMS - Muskat - Oman

Information

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

Technical supervisor:	
Name:	Mohd Hamed Al-Mauly
Phone:	968 519492
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.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 - Muskat - Oman

AFTN Routeing Table

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

OOMS - Muskat - Oman

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OBBI	AFTN	1 x 300			
OEJD	AFTN	1 x 300			
OMAE	AFTN	1 x 50	AFTN	1 x 200	IV/2001
OPKC	AFTN	1 x 300	intent to	delete	
OYSN	AFTN	1 x 100			
VABB	AFTN	1 x 300	AFTN (X.25)	TBD	End 2001

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 Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	VA	00			OA	OA	N		
B	OK	00			OB	OO	OI		
C	OK	OI			OE	OO	OK		
D	OK	OO			OI	OI	OO		
E	OK	OI			OJ	OK	OI		
F	OK	OO			OK	OK	OO		
G	OK	OO			OL	OO	OK		
H	OK	OO			OM	OO	OI		
K	OK	OI			OO	OO	OI		
L*	OK	0I			OP	N	N		
LL					OR	OO	OK		
LT	OI	OK			OS	OI	OO		
M	OK	OI			OT	OO	OI		
N	VA	OI			OY	OO	OI		
					P	VA	OO		
					R	VA	OO		
					S	OK	OI		
					T	OK	OI		
					U	OI	OK		
					V*	VA	OO		
					VN	ZB	VA		
					W	VA	OO		
					Y	VA	OO		
					Z	ZB	VA		

OPKC - Karachi - Pakistan

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OIII	AFTN	1 x 200			
OKBK	AFTN	1 x 50			
OOMS	AFTN	1 x 300			
ZBBB	AFTN	1 x 50			
VABB	AFTN	1 x 200			
OAKB	AFTN (VSAT)	1 x 2400			

ORBS - Bagdad - Iraq

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		

ORBS - Bagdad - Iraq

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OJ	OS			OA	OJ	OS		
B	OJ	OS			OB	OS	OJ		
C	OJ	OS			OE	OJ	OS		
D	OJ	OS			OI	OS	OJ		
E	OJ	OS			OJ	OJ	OS		
F	OJ	OS			OK	OS	OJ		
G	OJ	OS			OL	OJ	OS		
H	OJ	OS			OM	OJ	OS		
K	OJ	OS			OO	OJ	OS		
L*	OJ	OS			OP	OJ	OS		
LL					OR	N	OS		
M	OJ	OS			OS	OS	OJ		
N	OJ	OS			OT	OJ	OS		
					OY	OJ	OS		
					P	OJ	OS		
					R	OJ	OS		
					S	OJ	OS		
					T	OJ	OS		
					U	OJ	OS		
					V	OJ	OS		
					W	OJ	OS		
					Y	OJ	OS		
					Z	OJ	OS		

ORBS - Bagdad - Iraq

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
OJAM	AFTN	1 x 50			
OSDI	AFTN	1 x 50			

OSDI - Damascus - Syria

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:	Eng. Arkan Zhralden
Phone:	011-221 3752
Fax:	
Telex:	
Email:	Planned
AFTN:	OSDIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

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

Management:	
Name:	Eng. Bassam Alfndi
Phone:	011-223 2203
Fax:	011-231 0875
Telex:	
Email:	
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 Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OI	HE			OA	OI	HE	OI	OH
B	LG	HE			OB	OI	OK		
C	LG	HE			OE	OJ	OK	OJ	HE
D	HE	LG			OI	OI	HE	OI	OK
E	LG	HE			OJ	OJ	HE		
F	HE	LG			OK	OK	OI		
G	HE	LG			OL	OL	HE		
H	HE	LG			OM	OI	OK		
K	LG	HE			OO	OI	OK		
L*	LG	HE			OP	OI	OK		
LL					OR	HE	OJ	OR	OJ
M	LG	HE			OS	N	N	N	N
N	HE	LG			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	LG	OK	OI
					Y	OI	OK		
					Z	HE	LG	OK	OI

OSDI - Damascus - Syria

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
HECA	AFTN	1 x 50	AFTN	300	*)2001/2002
LGGG	AFTN	2 x 50	AFTN	300	*)2001/2002
OIII	AFTN	1 x 50	AFTN	300	*)2001/2002
OJAM	AFTN	1 x 50	AFTN	300	*)2001/2002
OKBK	AFTN	1 x 50	AFTN	300	*)2001/2002
OLLL	AFTN	2 x 50	AFTN	300	*)2001/2002
ORBS	AFTN	1 x 50	AFTN	300	*)2001/2002
CITA	AFTN	1 X 50	AFTN	300	

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

OTBD - Doha - Qatar

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		

OTBD - Doha - Qatar

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	OK			OA	OB	OK		
B	OB	OK			OB	OB	OK		
C	OB	OK			OE	OB	OK		
D	OB	OK			OI	OK	OB		
E	OB	OK			OJ	OB	OK		
F	OB	OK			OK	OB	OK		
G	OB	OK			OL	OB	OK		
H	OB	OK			OM	OB	OK		
K	OB	OK			OO	OB	OK		
L*	OB	OK			OP	OK	OB		
LL					OR	OK	OB		
M	OB	OK			OS	OB	OK		
N	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 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OBBI	AFTN	1 x 200			
OKBK	AFTN	1 x 100			

OYSN - Sanaa - Yemen

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		

OYSN - Sanaa - Yemen

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.	Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OO	OE			OA	OO	OE		
B	OO	OE			OB	OO	OE		
C	OO	OE			OE	OE	OO		
D	OO	OE			OI	OO	OE		
E	OO	OE			OJ	OO	OE		
F	OE	OO			OK	OO	OE		
G	OE	OO			OL	OE	OO		
H	OE	OO			OM	OO	OE		
K	OO	OE			OO	OO	OE		
L*	OO	OE			OP	OO	OE		
LL					OR	OO	OE		
M	OO	OE			OS	OO	OE		
N	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 Feb.2000			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OEJD	AFTN	1 x 100			
OOMS	AFTN	1 x 100			

End of Table

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 5

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REPORT ON AGENDA ITEM 5:   LATEST DEVELOPMENTS IN ATN FIELD

5.1   Under this Agenda Item, the Meeting was informed about the status of organization of the ATN Seminar planned in the MID Region. Coordination was made with ICAO Head Quarters to align the Seminar program with what had been done in similar previous seminars and found satisfactory. The proposed agenda with possible speakers for the Seminar would be as follows:

Agenda Items	Speakers from:
a) Overview of the ATN	ICAO HQ-Montreal or Eurocontrol
b) Internet Communication Services	UK or SITA
c) Upper Layers Services	SITA or Eurocontrol
d) Air-Ground Applications	France
e) Ground-Ground Applications	France
f) Update on current activities	Spain
g) Regional planning and	
implementation considerations	ICAO-Cairo and ICAO HQ

5.2   The duration of the Seminar will be two and half days. The first two days will be devoted to the above Agenda Items and the half day will be a kind of workshop where questions and answers should lead to fill/refine the planning tables for ATN applications in the MID Region.

5.3   The date of the Seminar, initially planned to be back to back with the AFS/ATN TF/8 Meeting, was postponed until further notice. This delay is due to budgetary constraints which the invited speakers are facing, on one hand and, on the other hand, to the financial regulations of the ICAO which do not allow supporting any expenses regarding the speakers (air tickets or daily subsistence allowance).

5.4   Under these circumstances, the Meeting thought that the quickest way to hold the ATN Seminar in the year 2003 was that the ICAO MID Office sent a correspondence to MID

expenses including: air tickets, accommodation, and daily subsistence allowance.

5.5   The Meeting was provided with two working papers from the Kingdom of Bahrain and Kuwait on the introduction of high speed digital technology for ground-to-ground communication between some ACC/COM Centers in the Region. This solution which is already in place in Bahrain and Kuwait Centers, serves the Air Traffic Services in an efficient and cost effective manner. This technique should be taken into consideration while developing the MID Regional AFTN Contingency Plan.

5.6   The Meeting agreed that the use of high speed digital technology was also as a part of the improvement and upgrade of the existing communication infrastructures to cater for the future ground-to-ground ATN. The Meeting therefore reached the following conclusion:

CONCLUSION 8/4:   UPGRADE OF EXISTING COMMUNICATION INFRASTRUCTURES

> *That, the States of the MID Region be encouraged, to deploy digital technology and high-speed links, as part of overall improvement of current ground-to-ground communications and provision of an infrastructure that would facilitate the transition to ATN.*

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 5

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5.7   The Meeting was provided with a working paper from the Kingdom of Bahrain calling for the development of the MID Regional ATN Planning Document. This document should correspond to the guiding principles for an evolutionary transition to ground-to-ground element of the ATN, as indicated in the **Appendix 5A** to the Report of Agenda Item 5.

5.8   The MID Regional ATN Planning Document should contain the following information and any other material that would be deemed necessary for ground-to-ground ATN planning:

   1.   ATN Regional transition Planning Activities.
          Current ground infrastructure and upgrade plans
          ATN ground-ground applications
          Ground -ground sub-networks

   2.   ATN Routing Architecture Planning. (Ground-ground sub-networks)
          Routing Domains
          Routers
          Intra-domain Routing
          Inter-domain Routing
          Regional Backbone
          Inter-regional Backbone
          Transition issues
          Initial implementation
          Target Implementation

   3.   ATS Message Handling System (AMHS) Naming Plan
          AMHS Application naming and addressing options
          AMHS Naming Scheme

   4.   ATN Inter-network Addressing Plan
          ATN Network Service Access Point (NSAP)
          NSAP Address Field Assignment
          Registration Procedures

5.9   It was recalled that the Middle East Regional ATN Planning document should be a living document in order to incorporate essential parts which yet to be developed, such as: air-ground applications, sub-network and routing architecture. The ultimate goal is to have a comprehensive ATN planning documentation that will cover both ground-ground and air-ground elements.The development of the Middle East Regional ATN Planning Document should take into account what has been already done in the other Regions in order to harmonize the different documents.

5.10   The Meeting agreed that the Experts from other Regions, relevant international organizations and industry should be invited to participate in the development of the MID Regional ATN Planning Document, where necessary. The Meeting, therefore, adopted the following decision:

DECISION 8/5:   DEVELOPMENT OF THE MID REGIONAL ATN PLANNING DOCUMENT

> *That, the MID Regional ATN Planning Document to be developed in order to provide guidance and information necessary for ATN transition in the Region.*

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 5

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5.11   The Meeting entrusted the ATN Study Group with the development of the draft of the MID Regional ATN Planning Document which is at **Appendix 5B** to the Report of Agenda Item 5. However the title and the work program of the ATN Study Group should be modified. The ICAO MID Office should send correspondence to States requesting the participation of their Experts in the future work of the Group.

5.12   The Meeting, therefore, reached the following Decision.

DECISION 8/6:   ATN PLANNING GROUP

That,

a)   *the ground-to-ground ATN Study Group established by Decision 6/2 of the AFS/ATN TF/6 be replaced by a new ATN Planning Group consisting of the Experts from: Bahrain, Egypt, Iran, Kuwait, Oman, Pakistan, UAE , IATA and ICAO.*

b)   *the new ATN Planning Group be tasked for developing the draft of the MID Regional ATN Planning Document as indicated at Appendix 5A to the report of Agenda Item 5.*

c)   *the ATN Planning Document be refined after the forthcoming ATN Seminar and be submitted to the ninth meeting of the Task Force to be held during the year 2003.*

5.13   The Meeting agreed on the proposal of the ICAO Headquarters to secure the assistance of the Air Traffic and Navigation Services (ATNS) Company of South Africa to conduct the feasibility study and present a proposed VSAT implementation plan for the MID Region that can be integrated with similar networks.

5.14   The meeting noted that ATNS has the VSAT expertise available to plan, implement and operate the MID VSAT Network on a cost-recovery basis from the users and at no cost to the States. In consequence, the Meeting agreed to support and assist the ATNS and ICAO with the studies of the Middle East VSAT network.

5.15   The MID IATA Office agreed also with the above proposal and decided to act as additional role player to assist ATNS and MID States in their tasks.

5.16   Therefore, the Meeting reviewed and amended slightly the Terms of Reference of the project to take into account more inputs allowing the evaluation of the scope of the study. The relevant table of inputs has been modified accordingly. The Terms of Reference of the project and the relevant table are at **Appendices 5C** and **5D** to the Report of Agenda Item 5, respectively.

5.17   The Meeting appreciated the AVITECH presentation on the implementation of AMHS and in particular the concepts of the AFTN/AMHS and CIDIN/AMHS gateway functions Examples of interoperability between users were explained based on the typical characteristics of gateway.

5.18   It was shown that the intercommunication between users of AMHS and CIDIN is possible by using the function of the AFTN/AMHS gateway, but only in cases where the AFTN application of CIDIN is used.

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5.19   Avitech also presented an overview of AMHS implementation planning using examples experienced in the European and Asia Pacific regions. The meeting was made aware that the initial implementation in the European region will be based upon a TCP/IP infrastructure. The rationale for this approach being the absence of a formal plan for the implementation of an ATN Internet and relationship with other European plans in support of ATS related communication requirements.

**GUIDING PRINCIPLES FOR AN EVOLUTIONARY TRANSITION TO THE
GROUND-TO-GROUND ELEMENT OF THE ATN**

a)   The ground part of the ATN would be implemented in an evolutionary and cost-effective manner.

b)   The first phase of implementation should entail only ground-ground applications, specifically ATS message handling system (AMHS) and ATS inter-facility data communications (AIDC).

c)   During the transition to the ATN, the current ATS data and voice communication systems should be improved as necessary, employing new technology to meet ANP operational requirements.

d)   Routers could be interconnected by dedicated data circuit or by means of suitable digital networks that are either implemented or will be implemented in the MID Region.

e)   The ground part of the ATN should be designed so as to facilitate smooth integration with the mobile sub-network of ATN in the future.

f)   The topology of the ATN should be based on the ISO routing framework. As a first step, the administrative domains should be identified and the routing domains with each administrative domain be defined.

g)   States/Organizations should agree on the implementation of router connections between ATN administrative routing domains. Routing policies should be established and implemented in a progressive manner.

h)   States should establish, as soon as possible, adequate and well trained human resources who are qualified on current data communications and networking technologies in order to support ATN planning and implementation.

i)   States should establish operational and engineering teams for ATN planning and implementation as part of the existing bodies dealing with the planning for domestic CNS/ATM systems implementation.

Accordingly, the ATN should be introduced in the MID Region as follows :

Phase One: AFTN Improvement

- Existing AFTN operations and network need to be examined taking into account the available infrastructure in order to introduce necessary improvement to the system. Improvement of AFTN will involve data integrity, reliability and speed by introducing digital communication circuits to replace the conventional low speed telegraphic circuits. It is essential to provide digital communications network that provides the infrastructure for the ground-to-ground element of the ATN.

Phase Two: Introduction of the ATN ground-to-ground applications & gateways

- During this phase, requirements for the introduction of ATS Message Handling system (AMHS) and ATS inter-facility data communication (AIDC) should be clearly defined. After AFTN systems upgrade and network improvements, the AMHS and AIDC implementation should take place. The AMHS can be implemented by using the gateway facility; (AMHS/AFTN Gateway & AMHS/CIDIN Gateway) this is to facilitate smooth transition to AMHS.

- The transition to use of the AFTN/ATN gateway should be also included in this phase. This involves the implementation of the AFTN/ATN gateways for connectivity between AFTN centres that are non-OSI compliant and ATN ground sub-network

- States that have AFTN/CIDIN capabilities in their centres and considering the introduction of the CIDIN/ATN/AMHS gateway should co-ordinate their planning for implementation. The specifications for CIDIN/AMHS gateway are expected to be published by the end of the year 2000.

Phase Three: Implementation of regional ATN ground-to-ground sub-network

- During this phase the implementation of the fully ATN compliant messaging environment and ATN routers shall be completed providing the ability for data exchange between OSI-compliant ATM processors. This should lead to the deployment of the full regional ATN ground-to-ground sub-network ready for the integration into the ATN air-to-ground sub-network.

- All the above activities need to be agreed between the States within the Middle East Region and have to be co-ordinated with the neighbouring regions to ensure improved inter-regional planning and compatibility with interfaced regions

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MID REGIONAL ATN PLANNING DOCUMENT

(DRAFT VERSION)

1.   CURRENT GROUND INFRASTRUCTURE AND UPGRADE PLANS:

1.1   The present ground-ground data communications system in the Middle Region comprises AFTN circuits which not only link tributary and main centers but also allow the exchange of ATS and other operational messages, as well.

1.2   Only four States have 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.

1.3   For the time being, there are 19 international circuits that operate within the Region and between neighboring regions. Further details for each AFTN circuit within the Middle East Region is documented in Table CNS 1A of the ICAO MID CNS Facilities and Services Implementation Document (FASID).

1.4   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.

1.5   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.

1.6   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.

1.7   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: **X25, Frame Relay or Asynchronous Transfer Mode (ATM).**

1.8   It can happen that due to different planning activities by States, that 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.

ATN ground applications:

1.9   According to the Manual of Technical Provisions for ATN (Doc. 9705- AN/956), 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 the ATN and a directory of all other data link
	aircraft to the ATS unit(s) for surveillance
(CPDLC)	An ATN application that provides a ATC data communication between controlling, aircraft, using air ground and ground ground -
	information and advice efficient conduct of flight.
ATS Message Handling Service (ATSMHS)	**The set of computing and communication organizations to provide the ATS message**
- (AIDC)	**An ATN application dedicated to exchanges support of flight notification, flight communication, transfer of surveillance**

2   ONCEPTS

2.1   The Middle East Regional ATN routing architecture plan is based upon several

a

within the Region and

b)   routing domains and confederations of routing domains may be applied to areas within the Region.

c)   States will make their own implementation and transition decisions.

2.2   The ATN routing architecture plan 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 the MID Region to other Regions.

2.3   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.

2.4   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.

2.5   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.

2.6   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.

3.   REGIONAL BACKBONE

3.1   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.

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

3.3   Within the Middle East Region, there are existing major communication centers that can be used to simplify the definition of backbone architecture.

3.4   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.

3.5   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.

3.6   The seven (9) BBIS sites defined in the table below are based on the expected traffic flows. The table is organized with one State and a current AFTN center site identified as a potential backbone router site.

Note: The identified backbone router sites are only examples. Actual backbone router sites will be determined by implementation

ATN Backbone router site	State
1	Bahrain
2	Egypt
3	Iran
4	Jordan
5	Kuwait
6	Lebanon
7	Oman
8	Saudi Arabia
9	United Arab Emirates

Table of definition of Middle East Regional Backbone Sites

3.7   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.

3.8   Summarizing the information presented above, the Middle East Regional Backbone

3.9   Network will consist of at least one BBIS router at each of the backbone sites identified above. Examples of locations for these routers are: Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia and United Arab Emirates.

3.10   The actual location of the routers will be based upon implementation schedules and the choices of States.

4.   REGIONAL BACKBONE ROUTER REQUIREMENTS

4.1   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.

Availability

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

Reliability

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

Capacity

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

Alternative Routing

4.5   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.

ROUTING POLICIES

4.6   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.

Inter-Regional Backbone

4.7   The second component of the Middle East Regional 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.

4.8   To sum-up, the Inter-Regional BBISs provide communication from routers within the Middle East 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.)

4.9   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 Middle East Region are found in the table below.

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

Table of circuits with other ICAO Regions

4.10   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.

Long Term Implementation

Note: Information is needed on the plans of States in implementing ATN.

4.11   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.

4.12   The table below presents a minimal Inter-Regional Backbone that provides a minimum of 2 circuits to other ICAO Regions that communicate directly with the Middle East Region.

4.13   For the long term implementation of ATN, it would be advisable to have 3 circuits to each Region.

Initial Implementation

Note: Information is needed on the plans of States in implementing ATN.

4.14   The initial implementation of the ATN, outside of the Middle East Region, will most likely be in Asia Pac. and Europe. Therefore, initial transition planning may focus on those locations.

4.15   For connecting to Asia Pac, 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 centers are already located. For example, the following locations would be candidates for such routers: Bahrain, Kuwait and Oman

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.

4.16   For connecting to Africa Inter-Regional BBISs may be located in the existing AFTN centers such as Egypt and Saudi Arabia. However, these routers would not be needed until such time as ATN traffic is destined for that Region, at which time the location of the routers would be determined.

4.17   One Inter-Regional BBIS (for example, one located at Jeddah) should serve as a routing gateway to the East and Central African Region.

4.18   A second Inter-Regional BBIS (for example, one located at Cairo) should serve as a routing gateways to the North and East African Region.

4.19   For connecting to European Region, Inter-Regional BBISs may be located at the existing AFTN centers which already possess high speed and reliable circuits with European centers.

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

Transition Issues

This area needs further work. Information about plans of the States is required.

End BISs

4.20 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 Middle East ATN Backbone will consist of routers from the selected States.

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.

5.4 The use of routing confederations is for further study.

6. ATN TRANSITION

6.1 Based upon the previous sections, the implementation of the ATN within the Middle East Region may require considerable planning for the transition of the AFTN.

Initial Regional Implementations

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

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

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

Regional ATN Implementation

6.4 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.

MID VSAT PROJECT SURVEY

EXPLANATION OF THE TABLE

Column :

1   Signaling speed in bits/s

2   Circuit protocol

3   Number of ACCs and in brackets the number of working positions in each ACC

4   Number of airports to be connected to the VSAT network

5   Circuits for instantaneous voice communications

6   Circuits for data communications

7   Number of remote VHF stations

8   Number of remote Radar stations

9   Number of domestic VSAT stations (satellite used, access techniques, modulation techniques)

10   Number of international VSAT station (satellite used, access techniques, modulation techniques)

11   Future plan concerning the above facilities

MID VSAT PROJECT SURVEY

STATE

Volume of AFTN traffic		Number of ACCs	Number of airports	Number of circuits		Remote stations		Current VSAT stations		Future Plans
Speed	Protocol			Voice	Data	VHF	Radar	Domestic	International	
1	2	3	4	5	6	7	8	9	10	11

Other useful information

MIDANPIRG AFS/ATN TF/8
Report on Agenda Item 6

REPORT ON AGENDA ITEM 6: ANY OTHER BUSINESS

6.1   Under this Agenda Item the attention of the Meeting was drawn on the ICAO and IATA concerns with regard to the protection of aeronautical frequencies at the forthcoming ITU meetings (WRC-2003 and Plenipotentiary Conferences).

6.2   Moreover, the Meeting was informed that the ICAO MID Office sent a correspondence to States about the proposal of ICAO aiming at enhancing its role of observer in the ITU World Radio Conferences (WRCs). The same correspondence requested States to fill up and return a summary of ICAO Position regarding the different agenda items to be discussed during the next WRCs.

6.3   As a matter of priority, the Meeting stressed the Experts to follow the above issues raised in the ICAO correspondence and keep informed the ICAO MID Office, not later than 31 August 2002. In parallel the ICAO Office will send a reminder letter to States requesting to designate a focal point who will be in charge of telecommunication matters relevant to WRC-2003.

6.4   The Meeting was then informed of the dates of future meetings of interest in the MID Region. It was noted that the CNS/MET SG/5 meeting was scheduled in Cairo from 21 to 24 October 2002.

6.5   The next AFS/ATN Task Force meeting will be held next year. The experts will be informed about the venue and date of the meeting in due time.

6.6   The Meeting was informed that due to a familial constraint, the Expert from Lebanon returned home before the opening session and therefore he could not attend the AFS ATN TF/8 Meeting.

-END-