INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE FOURTH MEETING OF THE AERODROME OPERATIONAL PLANNING SUB-GROUP

AOP SG/4

(Cairo, 23 - 25 February 2004)

The views expressed in this Report should be taken as those of the MIDANPIRG Aerodrome Operational Planning Sub-Group and not of the Organization. This Report will, however, be submitted to the MIDANPIRG and any formal action taken will be included in the Report of the MIDANPIRG.

Approved by the Meeting

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PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Fourth Meeting of the MIDANPIRG Aerodrome Operational Planning Sub-Group (AOP SG/4) was held at ICAO Middle East Regional Office, Cairo from 23-25 February 2004.

2. OPENING

2.1 Mr. A. Zerhouni, ICAO Regional Director, welcomed all the delegates to Cairo and, gave a brief information on the importance of aerodromes to support air Navigation activities. He further highlighted tasks assigned to AOP Sub-Group and brought to the attention of the meeting issues to be addressed by the Sub-Group with a focus on elimination of deficiencies, latest development in the AOP field related to New Larger Aeroplane operations at existing aerodromes and ICAO USOAP. Mr. Zerhouni wished the meeting every success in its deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of 54 participants, which included delegates from 12 States and one International Organization. The list of participants is as at **Attachment 1** to the report.

4. OFFICERS AND SECRETARIAT

4.1 Mrs. Nawal A. HADY, Regional Officer, Aerodromes and Ground Aids from the ICAO Middle East Cairo Office, was Secretary of the meeting.

4.2 Mr. M. Khonji ICAO MID Deputy Regional Director also supported the meeting.

5. LANGUAGE

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

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1:	Adoption of the Provisional Agenda and election of AOP SG Chairperson and Vice Chairperson
Agenda Item 2:	Review MIDANPIRG/8 Actions on the AOP SG/3 Report
Agenda Item 3:	Review and update Tables AOP1 and CNS 3 of MID FASID
Agenda Item 4:	Monitoring and Follow up Deficiencies in the AOP field in the MID region
Agenda Item 5:	Certification of Aerodromes implementation follow-up in the MID region
Agenda Item 6:	Result of assessment study on Bird Strike Hazard to on or in the vicinity of Aerodromes in the MID region

Agenda Item 7: Follow up latest development in the AOP field (New Larger Aircrafts - NLA)

Agenda Item 8: Aerodrome Safety Aspects

Agenda Item 9: Future Work Programme

Agenda Item 10: Any other business

7. CONCLUSIONS AND DECISIONS – DEFINITION

7.1 The Sub-Group records its actions in the form of Draft Conclusions and Draft Decisions for further action and adoption by the MIDANPIRG as its Conclusions and Decisions with the following significance:

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

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

7.2 In the same context, the Sub-Group can record its actions in the form of Conclusions and Decisions where no further action is required by the MIDANPIRG or already authorized by MIDANPIRG.

8. LIST OF DRAFT CONCLUSIONS AND DECISIONS

DRAFT CONCLUSION 4/1	PROPOSAL FOR AMENDMENT TO MID FASID TABLES AOP 1 AND CNS 3
DRAFT CONCLUSION 4/2	UPDATES TO LIST OF DEFICIENCIES IN AOP FIELD IN THE MID REGION
DRAFT CONCLUSION 4/3	MANDATORY IMPLEMENTATION OF CERTIFICATION OF INTERNATIONAL AERODROMES
DRAFT CONCLUSION 4/4	STUDY RESULTS ON BIRD STRIKE HAZARD TO AIRCRAFT OPERATION SAFETY ON OR IN THE VICINITY OF MID AIRPORTS
DRAFT CONCLUSION 4/5	CONTROL OF OBSTACLES AT AND AROUND AERODROMES
DRAFT CONCLUSION 4/6	NOTIFICATION OF DIFFERENCES TO ANNEX 14 VOLUME I

PART II - REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF AOP SG CHAIRPERSON AND VICE CHAIRPERSON

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

1.2 The meeting was informed that due to other commitments, Mr. Davood Khodaverdi of Iran, would no longer be able to serve as Chairperson of the AOP Sub-Group. At the proposal of Iran and seconded by Kuwait, Eng. Samir H. Eshky, KAIA Development Project Coordinator from Saudi Arabia, was unanimously elected as Chairperson of AOP Sub-Group.

1.3 The meeting also was informed that Mr. Mohamed Ali Salem from Bahrain would no longer be able to serve as a Vice Chairperson of AOP Sub-Group because of his retirement. At the proposal of Bahrain and seconded by Egypt, Eng. Munir A. Saad Asad, Director Airport Safety & Standards from Jordan, was unanimously elected as Vice Chairperson of AOP Sub-Group.

REPORT ON AGENDA ITEM 2: FOLLOW UP DECISIONS AND CONCLUSIONS OF MIDANPIRG/8 IN AOP FIELD

2.1 The meeting was presented with a list of Conclusions and Decisions related to AOP field, that were agreed by the eighth meeting of Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/8) as contained in **Appendix 2A** to the Report on Agenda Item 2.

2.2 A summary of the follow up actions taken by the secretariat and other parties to MIDANPIRG/8 Conclusions and Decisions concerning AOP are contained in **Appendix 2B** to the Report on Agenda Item 2.

MIDANPIRG/8 Report
(Cairo, 7-11 September 2003)

LIST OF CONCLUSIONS AND DECISIONS RELATED TO AOP FIELD

DECISION 8/2: REVISED TERMS OF REFERENCE AND WORK PROGRAMME FOR THE AOP SUB-GROUP

That,

The MIDANPIRG/8 approves the revised Terms of Reference and Work Programme of AOP Sub-Group as presented in Appendix 6A to the report on Agenda Item 6

AOP SG work Programme to include Safety Management System at aerodromes

Further review is required by AOP SG to incorporate any other critical safety areas

DECISION 8/3: AERODROME CERTIFICATION IMPLEMENTATION PLAN FOLLOW-UP REGIONAL PERSPECTIVE

That, forms as contained in Appendix 6B to the report of Agenda Item 6 be adopted for follow-up of the implementation plan timeline related to Certification of Aerodromes and Safety Management System at aerodromes in the MID Region.

CONCLUSION 8/4: CERTIFICATION OF AERODROMES IMPLEMENTATION MANDATES

That,

a) MID States be urged to ensure establishment of the necessary regulatory regime to comply with Provisions of Annex 14 Volume I, related ICAO Specifications and guidance material contained in ICAO Manual Doc 9774;

b) MID States be invited to incorporate measures for safety promotion and Incident/Accident prevention at aerodromes as part of Safety Management System in the Aerodrome Manual

CONCLUSION 8/5: CONDUCT OF A RISK ASSESSMENT STUDY ON BIRD STRIKE HAZARDS TO AIRCRAFT OPERATIONS SAFETY ON OR IN THE VICINITY OF MID AIRPORTS

That, a regional risk assessment study be conducted on Bird Strike Hazard to safety of aircraft operations on, or in the vicinity of airports in the MID region, and the result be reviewed by the next AOP SG/4 meeting.

CONCLUSION 8/6: IMPACT OF NEW LARGE AEROPLANES (NLAS) OPERATIONAL REQUIREMENT ON EXISTING AERODROME PHYSICAL CHARACTERISTICS, FACILITIES AND SERVICES

That, States in the MID Region be invited to plan for appropriate measures to comply with Annex 14, Volume I - Code F - provisions related to planning the NLA operational requirements at existing Int'l aerodromes intending to accommodate NLAs.

DECISION 8/7: FOLLOW UP OF STATE SAFETY MEASURES RELATED TO ADEQUACY OF EXISTING INT'L AERODROMES TO ACCOMEDATE NLA OPERATIONS

That, appropriate means be studied by AOP SG to follow up safety measures taken by States for the adequacy of their existing aerodromes that intend to accommodated NLA operations.

CONCLUSION 8/8: NEED FOR TRAINING OF STATE AERODROME INSPECTORS

That,

a) Civil Aviation Training Centres in the MID region be invited to promote Training Courses for State/Service Providers Aerodrome inspectors and Safety Auditors.

b) ICAO be requested to consider as urgent, training guidance in human resource development related to States' aerodrome inspectors and aerodrome safety management systems.

CONCLUSION 8/27: NOTIFICATION OF DIFFERENCES

That, in accordance with Article 38 of the Convention on International Civil Aviation (Doc 7300), States which have not yet done so, notify ICAO of any differences, which may exist between their national regulations and ICAO provisions related to AIS/MAP and ensure that relevant information is also published under paragraph GEN 1.7 of their national AIP.

DECISION 8/51: SAFETY OF AIR NAVIGATION SERVICES IN THE MID REGION

That, with a view to enhance safety of air navigation services in the MID Region, a MIDANPIRG Air Navigation Safety Working Group is established with Terms of Reference and composition as at Appendix 8H, to address the issue of deficiencies at a regional level and assist States in the elimination of their deficiencies.

CONCLUSION 8/54: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION

That, States:

1) allocate sufficient resources for the elimination of the air navigation deficiencies listed at Appendices 8A, 8B, 8C and 8D to the report of Agenda Item 8;

2) are encouraged to set up an internal group of experts to examine the list of deficiencies and take appropriate actions with a view to recommend to their higher Civil Aviation Authorities solutions for elimination of deficiencies;*

3) *formulate and review on a regular basis an action plan including the rationale for non-elimination of deficiencies, using the format presented as Appendix 8G to the report on Agenda Item 8. The first action plan to be submitted to the ICAO MID Regional Office for review, prior to the 31st December 2003.*

**Note: Such group should also include other experts from out of the air navigation field as appropriate, for strengthening and effectiveness of recommendations.*

CONCLUSION 8/55: REVISED TERMS OF REFERENCE OF MIDANPIRG

That ICAO Council approve the revised Terms of Reference of MIDANPIRG, available at Appendix 9A to the report on Agenda Item 9.

DECISION 8/56: MIDANPIRG PROCEDURAL HAND BOOK 'DRAFT' SECOND EDITION – SEPTEMBER 2003

That, the MIDANPIRG Procedural Hand Book Second Edition, September 2003 at Appendix 9B to the report on Agenda Item 9 is approved.

AOP SG/4
Appendix 2B to the Report on Agenda Item 2

FOLLOW-UP ON MIDANPIRG/8 CONCLUSIONS AND DECISIONS RELATED TO AOP FIELD

CONC./DEC.	TITLE	FOLLOW-UP	REMARKS
Dec. 8/2	Revised Terms Of Reference and Work Programme for the AOP Sub-Group	Actioned	Actioned
Con. 8/3	Aerodrome certification implementation plan follow-up –Regional perspective	Actioned – Forms for Follow up were adopted Ongoing – Follow up implementation plan in the MID Region	The MIDANPIRG adopted the Forms for follow-up of the implementation plan timeline related to Certification of Aerodromes and Safety Management System at aerodromes in the MID Region. Information contained are to be updated
Con. 8/4	Certification of Aerodromes Implementation Mandates	Ongoing	- To be implemented by States - A second workshop on "Certification of Aerodromes" was conducted in the MID Region jointly by ICAO/ACI on 22-23 February 2003 in Dubai.
Con. 8/5	Conduct of a risk assessment study on Bird Strike Hazards to aircraft operations safety on or in the vicinity of MID airports	Actioned	
Con. 8/6	Impact of New Large Aeroplanes (NLAs) operational requirement on existing aerodrome physical characteristics, facilities and services	Ongoing	States in the MID Region be invited to plan for appropriate safety measures for New Larger Aeroplane (NLA) operations at existing aerodromes
Dec. 8/7	Follow up of State safety measures related to adequacy of existing int'l aerodromes to accommodate NLA operations	Ongoing	Guidance on NLA operations at existing aerodromes are the subject of New ICAO Circular, Draft Version is now available to States on the ICAONET website.
Conc. 8/8	Need for Training of State aerodrome inspectors	Ongoing	ICAO is in process of organizing a workshop on Aerodrome Inspector training.

CONC./DEC.	TITLE	FOLLOW-UP	REMARKS
Con. 8/54	Elimination of Air Navigation deficiencies in the MID Region	Ongoing	MIDANPIRG urged States to allocate sufficient resources for elimination of the AOP Field (amongst other disciplines), to set an internal group of experts aiming at elimination of deficiencies and to formulate and review on a regular bases an action plan including the rational for non elimination of deficiencies using an adopted format to be submitted to MID office.

REPORT ON AGENDA ITEM 3: REVIEW AND UPDATE TABLES AOP 1 AND CNS 3 OF MID FASID IN RELATION TO AERODROME OPERATIONS

3.1 The meeting was reminded that the Air Navigation Plan (ANP), which will now be contained in two parts, namely, Basic ANP and FASID is a planning document and need not necessarily reflect the existing facilities and services. The facilities and services shown in the documents represent those, which will be needed for a reasonable period in future planning, say, approximately 5 years. Therefore these documents are not meant for operational use. The existing facilities and services should be shown in the AIPs published by States, which should be used for operational purposes.

3.2 The Basic ANP Table AOP gives the list of Aerodromes as agreed and published by the States for International Scheduled Air Transport, Regular Use (RS), International Non-scheduled Air Transport, Regular Use (RNS).

3.3 The FASID Tables AOP1 gives the Facilities and Services to be provided at these aerodromes and International Scheduled Air Transport, Alternate Use (AS) and International Non-schedule Air Transport, Alternate Use (ANS). The Physical Characteristics of the Runway, Taxiway and Apron are decided based on the Traffic Forecasts and the largest airplane normally expected to use the aerodrome, and Facilities and Services should conform to the BORPC and the ICAO SARPs included in the Annexes and supported by other related documents such as ICAO Manuals, etc. It was also be noted that these drafts do not contain the charts which will appear in the final document, that will be produced by the ICAO AIS/MAP section in Montreal on the basis of the information in the corresponding tables.

3.4 It was noted that the FASID Table AOP 1 listed the requirements of Radio Navigational Aids for Precision Approach, Non Precision Approach and Terminal Aids; the details and amendments of such facilities that were shown in FASID Table CNS 3 are to be discussed during CNS/MET Sub-Group meetings .

3.5 In accordance with the TOR of the Sub-Group, the meeting is to identify anticipated capacity and implementation of shortfalls at international aerodromes in the MID Region and their causes through the continuous review of “Basic requirements for facilities and services at international aerodromes”.

3.6 The procedure for the amendment of the Basic Air Navigation Plan was brought to attention of the meeting, as approved by the Council on 25 February 1998, and that for the amendment of the FASID, as approved by the Council on 26 February 1997, they form part of the Introduction of MID Basic ANP (Doc. 9708, Volume I). These procedures are to be followed to initiate an amendment for the MID Basic ANP and/or MID FASID.

3.7 It was noted that regional plans are to be revised when it becomes apparent that they are no longer consistent with current and foreseen requirements of international civil aviation and that, when the nature of a required change permits. The associated amendments of the regional plan are to be undertaken by correspondence between the Organization and the Contracting States and International Organizations concerned. It was also noted that, the procedure for the amendment of the FASID, which contains dynamic material, is more simplified.

3.8 In accordance with the MID Basic ANP and FASID *“Amendments of the FASID shall be effected on the basis of an adequately documented proposal submitted by a Contracting State (or a group of States) to the ICAO Regional Office; the proposal should include the facts that lead to the conclusion that the amendment is necessary”*

3.9 For MID FASID tables; Iran, Iraq, Jordan and Saudi Arabia were having updates to their AOP-1 tables as indicated in **Appendix 3A** and Iran, Iraq and Jordan were having updates to their CNS3 tables as indicated in **Appendix 3B**, an amendment proposal will be prepared based on information received from States and be circulated by ICAO MID office for approval according to ICAO established procedures.

3.10 For the presentation of the proposed amendment related to MID FASID AOP1 and CNS3 tables; the meeting noted that the text of the amendment is arranged to show deleted text with a line through it and the new text highlighted with grey shading, as shown below:

~~Text to be deleted is shown with a line through it.~~	text to be deleted
New text to be inserted is high lighted with grey shading.	new text to be inserted
~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.	new text to replace existing text

3.11 Accordingly, the meeting formulated the following Draft Conclusion:

DRAFT CONCLUSION 4/1- PROPOSAL FOR AMENDMENT TO MID FASID TABLES AOP 1 AND CNS 3

*That, a proposal for Amendment as contained in **Appendices 3A & 3B**, be issued according to established procedures to reflect updates to AOP1 &CNS3 tables of MID FASID.*

AOP SG/4
Appendix 3A to the Report on Agenda Item 3

TABLE FASID AOP 1 C PHYSICAL CHARACTERISTICS, RADIO AND VISUAL AIDS AT AERODROMES

Note - The names of aerodromes listed in column 1 of the following table derive from the list of international aerodromes required in the AOP Part of the Basic MID ANP.

EXPLANATION OF THE TABLE

General

Table AOP 1 shows the operational requirements for air traffic services, physical characteristics, radio navigation aids, visual aids and runway visual range (RVR) at each aerodrome.

Columns 6 to 9 show physical characteristics related to taxiways and runways. The physical characteristics of taxiways should be appropriate for the runways with which they are related.

Columns 5 and 10 to 13 show the requirements for air traffic services, radio and visual aids and RVR for the runway with which the entry is associated. These aids are generally indicated by "X" and the "X" indicates that the aid should be in accordance with the type of runway (column 7). If the aid is different from the type of runway, then a "1", "2" or "3" is entered to indicate Category I, II or III, respectively.

Column

1 **Name of the city and aerodrome, preceded by the location indicator.**

Note.C When the aerodrome is located on an island and no particular city or town is served by the aerodrome, the name of the island is included instead of the name of a city.

Designation of the aerodrome as:

RS C international scheduled air transport, regular use
RNS C international non-scheduled air transport, regular use
AS C international scheduled air transport, alternate use
ANS C international non-scheduled air transport, alternate use

When an aerodrome is needed for more than one type of use, normally only the use highest on the above list is shown. An exception is that AS aerodromes are identified even when they are required for regular use by international non-scheduled air transport.

2 **Alternate aerodromes for the regular aerodromes listed in column 1, or if the aerodrome listed in column 1 serves only as an alternate, the regular aerodromes for which it is an alternate. The aerodrome is shown by listing the name of the city, preceded by the location indicator.**

3 **Aerodrome reference code (RC) for aerodrome characteristics expressed in accordance with Annex 14, Volume I, Chapter 1.**

4 **Required rescue and fire fighting service (RFF). The required level of protection is expressed by means of an aerodrome RFF category number, in accordance with Annex 14, Volume I, Chapter 9, Section 9.2.**

5 **Air traffic services:**

APP C Approach control service. An "R" is shown it indicates that the service should be provided with radar.
TWR C Aerodrome control tower. An "R" is shown it indicates that the service should be provided with an aerodrome surface movement radar.
ATIS C Automatic Terminal Information Service.
AFIS C Aerodrome Flight Information Service.

6 Runway designation numbers.

7 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume I, Chapter 1 are:

NINST C non-instrument runway
NPA C non-precision approach runway
PA1 C precision approach runway Category I
PA2 C precision approach runway Category II
PA3 C precision approach runway Category III

8 Taxiway (TWY) to be provided to threshold of associated runway.

9 Required runway length expressed in terms of a balanced field length. In planning, account is taken of local conditions. If the requirement for alternate use is more critical, the aircraft type and runway length required are also indicated below the abbreviation AAS@.

Critical aircraft for pavement strength and required pavement strength expressed as the all-up mass in thousands of kilograms. The operational mass of an aircraft, such as B747 and DC10, which may have a bearing on the design of culverts, cable ducts, bridge overpasses, etc., is also shown. If the aircraft requiring the aerodrome for alternate use is more critical, the aircraft type and pavement strength required are also indicated below the abbreviation AAS@.

Note 1.C A specific aircraft model based on the best available sources of information should be selected for planning runway length as this requirement is particularly affected by aircraft model differences. Aircraft models should thus be reviewed carefully to see that the correct one is used in determining the aerodrome characteristics. ICAO's Air Navigation Commission has directed that RAN meetings provide in the plan as realistic figures as possible on runway length and pavement strength requirements at individual aerodromes.

Note 2.C For international general aviation aerodromes, when there is no requirement for the runway to be paved, the pavement strength may be shown as "UNPAV".

Note 3.C Should a requirement for more than one runway be indicated for an aerodrome, the lengths of the secondary runways. A specification concerning the lengths of such runways can be found in Annex 14, Volume I, Chapter 3, Section 3.1.7.

Note 4.C When the length or pavement strength is not a current requirement, the year in which it will be required is entered.

Radio navigation aids (approach and landing)

10 PA-Precision Approach Aid, shown against the runway to be served and indicated by an AX@.

NPA C Non Precision Approach Aid. An AX@ indicates that the aid should be provided.

T C Terminal Navigation Aid. An AX@ indicates that one of the aids should be provided.

Note: Refer to Table CNS 3 for details. The appropriate radio navigation aid and the requirement of aligning DME with ILS/VOR are shown in this Table CNS 3.

Lighting aids

11 PA C precision approach lighting system, Category I, II or III shown by an AX@ if the aid is the same category as the runway type (column 7) or, if it is different, by the numeral 1, 2 or 3 against the runway to be served, to indicate the type of system required.

SA C simple approach lighting system, shown by an AX@ against the runway to be served.

VA C visual approach slope indicator system, shown by an AL@ or an AS@ against the runway to be served. The letter AL@ indicates that the system should be PAPI or T-VASIS (AT-VASIS) and the letter AS@ indicates that the system should be PAPI/(APAPI).

RWY C runway edge, threshold and runway end lighting. An AX@ indicates that these aids should be provided.

CLL C runway centre line lighting, shown by an AX@ against the runway to be served.

TDZ C runway touchdown zone lighting, shown by an AX@ against the runway to be served.

TE C taxiway edge lighting. An AX@ indicates that the aid should be provided. This requirement pertains to the entire aerodrome and only one entry is made when planning requirements for more than one runway are shown.

TC C taxiway centre line lighting. An AX@ indicates that this should be provided for the particular runway with which the entry is associated.

STB C stop bars. An AX@ indicates that stop bars should be provided for the runway with which the entry is associated.

B C aerodrome or identification beacon. An AX@ indicates that the aid should be provided. This requirement pertains to the entire aerodrome and only one entry is made when planning requirements for more than one runway are shown.

Marking aids

12 **DES C runway designation marking, shown by an AX@ against the runway to be served.**

CLM C runway centre line marking. An AX@ indicates that the aid should be provided.

THR C runway threshold marking, shown by an AX@ against the runway to be served.

TDZ C runway touchdown zone marking, shown by an AX@ against the runway to be served.

SST C runway side stripe marking. An AX@ indicates that the aid should be provided.

AMG C aiming point marking, shown by an AX@ against the runway to be served.

TWY C taxiway centre line and, where required, edge marking. An AX@ indicates that the aid should be provided.

HLD C taxiway holding position marking, shown by an AX@ against the runway to be served. The pattern of the marking should conform to the provisions of Annex 14, Volume I, Section 5.2.9.

13 **Runway visual range (RVR).**

TDZ C observations should be provided representative of the touchdown zone.
MID C observations should be provided representative of the middle of the runway.
END C observations should be provided representative of the stop end portion of the runway.

TABLE AOP 1

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS						MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTRWYLDZ	TTTECB	SWB	DCLDSM	TTDTHRZ	SAMSTG	THWLYD	TMEDZ	INDD
					APP	TWR	ATIS	AFIS																		
1	2		3	4	5				6	7	8	9	10			11					12				13	
AFGHANISTAN																										
OAKB KABUL/Kabul	VIAR	Amritsar	4D	8	X	X			11	NPA		3000		X			X	L	X			X		X	X		
RS	VIDP	Delhi							29	PA1	X	DC10-30 219	X		X	X		L	X		X		X	X	X	X		X
	OPRN	Islamabad																								
	OAKN	Kandahar																								
	OPKC	Karachi																								
	OPPS	Peshawar																								
	UTTT	Tashkent																								
OAKN KANDAHAR/Kandahar	OAKB	Kabul	4D	8				X	05	NPA	X	2450		X			X	L	X		X		X	X	X	X	X	
AS									23	NPA		DC10-30 193		X	X		X	L	X				X		X			

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTWY LDZ	STT TEC B	B	DCL ESM	TTH RZ	SAS TMG	THW YD	TMD ZDIND
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
BAHRAIN																									
OBBI BAHRAIN/Bahrain Intl	OMAA	Abu Dhabi	4E	9	X	X	X	X	12 R	NPA	X	2600		X	X		X	L	X	X X X	X	X X	X	X	X X
RS	OMAL	Al Ain							30 L	NPA	X	B747 290		X			X	L	X			X	X		X
	OEDF	Dammam																							
	OTBD	Doha	4E		X	X	X	X	12 L	PA 2	X	4000	X		X	X		L	X X X	X X X	X	X X	X	X	X	X X X
	OMDB	Dubai							30 R	PA 2	X	B747 365	X			X		L	X X X			X	X X	X	X
	OKBK	Kuwait																							
	OERK	Riyadh																							
	OMSJ	Sharjah																							

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO					RVR
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EGYPT																											
HEAR EL-ARISH/El-Arish Int'l	HESH	SHARM EL-SHEIKH	4C	7	X				16	NPA	X	3019		X		X	L	X	X	X	X	X	X	X	X	X	
AS	HETB	TABA							34	NPA		B767 PCN 55		X		X	L	X			X	X	X	X	X	X	
HEAT ASYUT/Asyut Int'l	HECA	CAIRO	4C	7		X			13	NPA	X	3019		X		X	L	X	X	X	X	X	X	X	X	X	
	HELX	LUXOR							31	NPA		B767 PCN 45		X		X	L	X			X	X	X	X	X	X	
AS																											
HEAX ALEXANDRIA/Alexandria Int'l	LTAC	ANKARA	4C	7	X	X		X	04	NPA	X	2201		X	X	X	L	X	X	X	X	X	X	X	X	X	X
	LGAT	ATHINAI							22	NPA		B737-200 48				X	L	X	X		X	X	X	X	X	X	
RS	OLBA	BEIRUT																									
	HEBA	BORG EL-ARAB							18	NPA		1801		X				X	X		X	X	X	X	X	X	
												48															
									36	NPA						X	L	X			X	X	X	X			
	HECA	CAIRO																									
	LCLK	LCLK																									
	HELX	LUXOR																									

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY CTL DZ	TTE SCB	S TT B	B	DES CLM	THR TDZ	SST SAG	TWY THL D	TDZ MEIN D
					APP	TWR	ATIS	AFIS																		
1	2		3	4	5				6	7	8	9	10			11						12				13
HEAZ CAIRO/Almaza Int'l ANS	HEAX HECA HELX	ALEXANDRIA CAIRO LUXOR	3C	4		X			18 36 05 23	NPA NPA NINST NINST	X	2050 27 1240 27		X X		X X	L	X X					X X			
HEBA ALEXANDRIA / Borg El Arab Int'l RS	HEAX HECA LGAT OLBA LCLK HELX	CAIRO ATHINAI BEIRUTB LCLK LUXOR	4E	8		X			14 32	PA1 NPA	X	3400 A300-600 55	X			X X	L L	X X	X		X	X X	X X	X X	X X	X X

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO					RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY LCTZ	TTEC STB	B	DESL CLM	THR TDZ	SSTG SAMG	THWY TWLD	TDZ MEIND
					APP	TWR	ATIS	AFIS																			
1	2		3	4	5				6	7	8	9	10			11					12					13
HECA CAIRO/Cairo Int'l	LTAC	ANKARA	4E	9	X	X	X	X	05L	PA2	X	3300	X	X	X	X	L	X X X	X X X	X	X X	X X	X X	X X	X X
RS	LGAT	ATHINAI							23R	PA2		B707-300C 153	X			X	L	X X X	X X X		X X	X X	X X	X X	X X
	OLBA	BEIRUT										B747 320													
	HELX	LUXOR																							
	LCNC	NICOSIA	4E						05R	PA2		4000	X		X	X	L	X X X	X X X		X X	X X	X X	X X	X X X
	LGRP	RODOS							23L	PA2		B747 320	X		X	X	L	X X X	X X		X X	X	X X	X	X X X
			4D						16	NINST	X	3178	X	X	X			X			X	X	X X	X	
									34	NINST		B707-300C 153	X	X		X		X			X	X	X X		
HEGN HURGADA/Hurghada	HELX	LUXOR	4E	9	X	X		X	16	NPA	X	4000		X	X	X	L	X	X	X	X X	X	X X		X
RS	HESH	SHARM EL SHEIK							34	PA1	X	B747 70	X			X	L	X	X		X X	X	X X	X X	X

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS						MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTR WYLZ	STS TECB	B	DCL ESM	TTD HRZ	SAM STG	THL WYD	TMED IND DZ
					APP	TWR	ATIS	AFIS																		
1	2		3	4	5				6	7	8	9	10			11						12				13
HELX LUXOR/Luxor	HESN	ASWAN	4E	9	R	X		X	02	NPA	X	3000		X	X	X	L	X	X	X		X X	X X	X X	X	
RS	HECA	CAIRO							20	PA1	X	A300-600 70	X			X	L	X		X		X	X X	X X	X X	X
	HEGN	HRUGHADA																								
	HSSS	KHARTOUM																								
HEMA MARSA ALAM/Marsa Alam Int'l	HEGN	HRUGHADA	4C	7	X				15	NPA	X	3000	X			X		X X X	X X X		X X	X X	X X	X X		
RNS	HELX	LUXOR							33	NPA		B767 54					L	X X X	X X X		X X	X X	X X	X X		
	HECA	CAIRO																								
	HESN	ASWAN																								
HEOW SHARK EL OWEINAT/ Shark El Oweinat Int'l	HECA	CAIRO	4C	5		X			01	NPA		3500 B767 60		X							X	X X	X X			
	HEGN	HRUGHADA							19	NINST											X X	X X	X			
AS	HELX	LUXOR																								
	HESN	ASWAN																								

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY CLDZ	TTE CB S	B	DES CLM	THR TDZ	SST AMG	TWY HLD	TDZ MEIND
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
HEPS PORT-SAID/ Port-Said Int'l	HECA	CAIRO	4C	6		X			10	NPA		2349		X		X	L	X		X	X X	X X	X X	X X	
	HELX	LUXOR							28	NPA		35		X		X	L	X			X X	X X	X X	X X	
AS																									
HESC ST. CATHERINES/St. Catherine Int'l	HECA	CAIRO	3C	7					17	NPA		2115			X	X	L	X		X	X X	X X	X X	X	
	HESH	SHARM EL-SHEIKH							35	NINST		F27 40									X	X X	X		
RS																									
	HEGN	HURGHADA																							
HESH SHARM EL-SHEIKH/ Sharm El Sheik Int'l	HECA	CAIRO	4E	9	R	X		X	04L	PA1	X	3080	X	X	X	X	L	X	X	X	X X	X X	X X	X X	X
	HEGN	HURGHADA							22R	NPA	X	A300-600 65				X	L	X	X		X	X X	X	X X	
RS																									
	HELX	LUXOR							04R	NPA	X	3081	X			X		X	X		X X	X X	X X	X X	
									22L	NPA	X	B747 65				X		X	X		X X	X X	X X	X X	
HESN ASWAN/Aswan Int'l	HELX	LUXOR	4E	9	R	X		X	17	NPA	X	3402		X		X	L	X	X	X	X X	X X	X	X X	X
RS									35	PA1	X	A300-600 60	X			X	L	X			X	X X	X X	X X	

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTDWYLZ	STTECB	B	DCLESM	TTDTHRZ	SAMSTG	THWYD	TMEDZINDD	
					APP	TWR	ATIS	AFIS																		
1	2		3	4	5				6	7	8	9	10			11					12				13	
HETB TABA/Taba Int'l	HESH	SHARM EL SHEIKH	4E	7	R	X			04	NPA	X	4000			X	X	L	X	X	X	X X	X X	X X	X X	
AS									22	NINST		B747 70				X	L	X	X		X X	X X	X X	X X	
IRAN, ISLAMIC REPUBLIC OF																									
OIKB BANDAR ABBAS/Bandar Abbas	OMAA	Abu Dhabi	4D	8	X	X	X		03R	NPA		3645		X		X	L	X	X	X	X X	X X	X X	X X	
RS	OBBI	Bahrain							21L	PA1	X	B747 290	X		X	X	L	X			X	X X	X	X	
	OTBD	Doha																							
	OMDB	Dubai							03L	NINST	X	3442									X X	X X	X X	X X	
	OISS	Shiraz	3C						21R	NINST		F28 33									X	X X	X	X	
OIFM ESFAHAN/Shahid Beheshti	OISS	Shiraz	4E	9	X	X	X		08L	NPA		4400		X		X	L	X	X	X	X X	X X	X X	X X	
RS	OIII	Tehran							26R	PA1	X	B747 290	X		X	X	L	X			X	X X	X	X	
									08R	NPA	X	4400		X		X	L		X		X X	X X	X X	X X	
									26L	NPA		B747 290		X		X	L				X	X X	X	X	

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO		ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA	AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY LGTD	TTE STB	B	DES CLM	THR TDZ	SSTG SAM	TWY THD	TMDZ MEIND
					APP	TWR	ATIS	AFIS																	
1		2	3	4	5				6	7	8	9	10			11					12				13
OIMM	MASHHAD/Shahid Hashemi Nejad Intl	OIII	Tehran	4D	8	X	X	X		13L	NPA		3776		X		X	L	X	X	X	X	X X	X X	X X	X X	
										31R	PA1	X	B747 290	X		X	X	L	X		X		X	X	X	X	
	RS									13R	NPA		3886		X		X	L	X	X	X	X	X X	X X	X X	X X	
										31L	NPA	X	B747 290	X		X	X	L	X		X		X	X	X	X	
OISS	SHIRAZ/Shiraz Intl	OBBI	Bahrain	4D	8	X	X	X		11R	NINST		4259		X		X	L	X	X	X	X	X X	X X	X X	X X	
	RS	OIFM	Esfahan							29L	PA1	X	B747 290	X		X	X	L	X		X		X	X	X	X	
										11L	NINST	X	4342		X		X	L					X X	X X	X X	X X	
										29R	NPA		B747 290		X		X	L					X	X	X	X	
OITT	TABRIZ/Tabriz	OIII	Tehran	4D	6	X	X			12L	NPA		3604		X		X	L	X	X	X	X	X X	X X	X X	X X	
	RNS	OIFM	Esfahan							30R	PA1	X	B747 290	X		X	X	L	X		X		X	X	X	X	
										12R	NINST		3517				X	L					X X	X X	X X	X X	
										30L	NINST		F27 20				X	L					X	X	X	X	

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTDWYLZ	STTECB	B	DCLESM	TTHRZ	SAMST	THWYD	TMEDZINDD
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
OIII TEHRAN/Mehrabad Intl	OMDB	Dubai	4E	9	R	X	X		11R	NPA		4070		X		X	L	X	X	X	X	X	X	X	X
RS	OIFM	Esfahan							29L	PA1	X	B747 290	X		X	X	L	X			X	X	X	X	X
	OKBK	Kuwait																							
	OMSJ	Sharjah							11L	NPA		3992		X		X	L	X			X	X	X	X	X
	OISS	Shiraz							29R	NPA		A300 265		X		X	L	X			X	X	X	X	X
	OBBI	Bahrain																							
OIIE TEHRAN/Emam Khomaini Intl	OISS	Shiraz	4E	9	X	X	X		11L	NPA		4200		X		X	L	X X X	X	X	X	X	X	X	X
RS ~~(Future)~~	OIFM	Esfahan							29R	PA2	X	B747 365	X			X	L	X X X			X	X	X	X	X
(Opened on 1 February 2004)	OMDB	Dubai																							
	OKBK	Kuwait																							
	OMSJ	Sharjah																							
	OIII	Tehran																							
	OBBI	Bahrain																							
OIZH ZAHEDAN/Zahedan Intl	OIKB	Bandar	4D	8	X	X	X		17	NPA		4250		X	X	X	L	X		X	X	X	X	X	X
RS	OIMM	Abbas							35	~~NPA~~ PA1	X	A300 142	X	~~X~~		X	L	X			X	X	X	X	X
		Mashhad																							

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY CTLDZ	TTE SCB	B	DESL M	TTHR D Z	SSTA MG	TWY HLD	TDZ MEIN DD
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
IRAQ																									
ORBS BAGHDAD/~~Saddam~~ Baghdad Int'l	OJAI	Amman	4E	9	R	X	X		15R	NPA		3300		X	X	X	L	X	X	X	X	X	X	X	
	ORMM	Basrah							33L	PA2	X	B747 340	X			X	L	X X X			X	X	X	X	X
RS	OSDI	Damascus																							
	OKBK	Kuwait							15L	PA2	X	3300	X			X	L	X X X	X		X	X	X	X	X
									33R	NPA		B747 340		X		X	L	X			X	X	X		
ORMM BASRAH/Basrah Intl	ORBS	Baghdad	4E	9	X	X			14	PA2		4000	X		X	X	L	X X	X	X	X	X	X	X	X
RS									32	PA2		B747 340	X		X	X	L	X X			X	X	X		X
ISRAEL																									
LLET EILAT/Eilat	LLOV	Ovda	3C	7	X	X			03	NPA		1900			X	X	L	X	X	X	X	X	X	X	
RS	LLBG	Tel Aviv/Ben Gurion							21	NINST		B757 90				X	L				X	X	X		
LLHA HAIFA/Haifa	LLBG	Tel Aviv/Sde Dov	2C	5		X			16	NINST		1200				X	L	X	X	X	X	X	X	X	
RNS									34	NINST		AT72 25					L				X X	X X			

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTDWYLZ	STTECB	B	DCLES M	TTHRZ	SAST G	THWYD	TMEDZ INDD
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
LLJR JERUSALAM/Atarot	LLBG	Tel Aviv/Ben Gurion	4C	7		X			12	PA1		2000		X	X		L	X	X	X	X X	X	X	X X	
RNS									30	NPA	X	B757 60	X			X	L				X X	X	X	X	X
LLOV OVDA/Ovda Intl	LLET	Elat	4E	9	X	X			02L	NINST		2650				X	L	X	X	X	X X	X	X	X X	
RNS	LLBG	Tel Aviv/Ben Gurion							20R	NPA		B747 280		X		X	L	X			X X	X	X	X X	
LLBG TEL AVIV/Ben Guiron	LGAT	Athinai	4E	9	X				03	NPA		1745		X		X	L	X X	X X X	X	X X	X	X	X X	
RS	HECA	Cairo				X			21	NINST	X	B747 300				X	L	X X	X X X		X X	X X	X	X X	X
	LCLK	Larnaka																							
	LLOV	Ovda							08	NPA		3965					L	X X X	X X X	X	X X	X X	X	X X	
									26	PA1	X	B747 365	X		X	X X	L	X X	X X X		X X	X X	X	X X	X
									12	PA1		3112	X	X	X	X	L	X	X X X	X	X X	X X	X	X X	X
									30	NPA	X	B747 325				X	L	X	X X X		X X	X X	X	X X	
LLSD TEL AVIV/Sde-Dov	LLBG	Tel Aviv/Ben Gurion	2C	7		X			03	NINST	X	1740					L	X	X	X	X X	X	X	X X	
RNS									21	NINST		AT72 25					L					X	X	X X	

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY CLZ	TTE TCB	SB	DES CLM	THR TDZ	SST SAMG	TWY THLD	TDZ MID END
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
JORDAN																									
OJAM AMMAN/Marka Intl	OJAI	Amman	4E	9	X	X	X	X	06	NINST		3300					L	X	X		X	X	X	X	
AS	OSDI	Damascus							24	PA1	X	B747 285	X	X	X	X	L	X			X	X	X	X	X X X
OJAI AMMAN/Queen Alia	OJAM	Amman	4E	9	X	X	X	X	08R	NPA		3660		X	X	X	L	X	X	X	X	X	X	X	
RS	OLBA	Beirut							26L	PA1	X	B747 317	X			X	L	X	X		X	X	X	X	X X X
	HECA	Cairo																							
	OSDI	Damascus							08L	NPA	X	3660		X		X	L	X			X	X	X	X	
	LCLK	Lamaka							26R	NPA		B747 317		X	X	X	L	X			X	X	X	X	
OJAQ AQABA/ ~~Aqaba~~ King Hussein	OJAI	Amman	4D	7	X	X	X	X	~~02~~ 01	PA1		3000	X						X			X	X	X	X X X
RNS	OJAM	Amman							~~20~~ 19			B747 150							X			X			
OJJR JERUSALEM/Jerusalem	OJAM	Amman	4D	8	X	X			12	NPA		2150		X	X	X	L	X		X	X	X	X	X	X
RS									30	PA1		B 737 60	X	X		X	L					X		X	

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTR WLDZ	STS TTEC	B	DCL ESM	TTD HRZ	SAG SSTM	THL WYD	TMED IND DZ
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
KUWAIT																									
OKBK KUWAIT/Kuwait Intl	ORBS	Baghdad	4E	9	R	X	X	X	15R	PA2	X	3400	X		X	X	L	X X X	X X X	X	X X	X X	X X	X X	
RS	OBBI	Bahrain							33L	PA2	X	B747 350	X		X	X	L	X X X	X X X		X X	X X	X X	X X	X X X
	ORMM	Basrah																							
	OEDF	Dammam							15L	PA2	X	3500	X		X	X	L	X X X	X X X		X X	X X	X X	X X	X X X
	OERK	Riyadh							33R	PA2	X	B 747 350	X		X	X	L	X X X	X X X		X X	X X	X X	X X	
LEBANON																									
OLBA BEIRUT/Beirut Intl	OJAI	Amman	4E	9	R	X	X		17	PA1		3395	X	X	X	X	L	X	X	X	X X	X X	X X	X	
RS	HECA	Cairo							35	NINST		B747 320									X	X	X		
	OSDI	Damascus																							
	LCLK	Larnaka							18	PA1	X	3250	X	X	X	X	L	X	X	X	X X	X X	X X	X	
	LCPH	Paphos							36	NINST		B747 320					L	X			X	X	X		
									03	PA1	X	3800	X		X	X	L	X	X		X X	X X	X X	X	
									21	PA1	X	B747 365	X			X	L	X			X	X	X		

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY CLDZ	TTE STCB	B	DESL CLM	THR TDZ	SSTG SAMG	THWY THLD	TDZ MEIND
					APP	TWR	ATIS	AFIS																		
1	2		3	4	5				6	7	8	9	10			11					12				13
OMAN																									
OOMS MUSCAT/Seeb Intl	OMAA	Abu Dhabi	4E	9	X	X			08	PAI	X	3589	X		X	X	L	X X	X X		X X	X X	X X	X X	
RS	OMAL	Al-Ain							26	PA1	X	B747 350	X		X	X	L	X X	X X		X X	X X	X X	X X	
	OMDB	Dubai																							
	OPKC	Karachi																							
	OMRK	Ras al																							
	OOSA	Khaimah																							
	OMSJ	Salalah																							
		Sharjah																							
OOSA SALALAH/Salalah	OOMS	Muscat	4E	9	X	X			07	NPA	X	3340		X	X		L	X X X	X X X	X	X X	X X	X X	X	
AS									25	PA1		B747 320	X			2	L	X X X	X		X X	X X	X X	X	X X
QATAR																									
OTBD DOHA/Doha Intl	OBBI	Bahrain	4E	9	X	X			16	NPA		3400		X		X	L	X	X	X	X	X	X X	X	
RS	OEDF	Dammam							34	PA1	X	B747 340	X			X	L	X			X	X X	X	X	X
	OMSJ	Sharjah																							

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS						MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTR WLDZ	STTE	STCB	B	DCLS	DCLM	TTHR	TTDZ	SASS	SAMG	THWY	TDZ	TMEIN DIND
					APP	TWR	ATIS	AFIS																				
1	2		3	4	5				6	7	8	9	10			11						12						13
SAUDI ARABIA																												
OEDF DAMMAM/King Fahid Intl	OBBI	Bahrain	4E	9	R	X	X		16L	PA1	X	4000	X		X	X	L	X X X	X X X		X	X X	X X	X X	X X	X X	X X X
RS	OEMA	Madinah							34R	PA1	X	B 747 390	X			X	L					X X	X X	X X	X X	X X	
	OEJN	Jeddah								PA1																	
	OKBK	Kuwait							16R	PA1	X	4000	X		X	X	L	X X X	X X X		X	X X	X X	X X	X X	X X	X X X
	OERK	Riyadh							34L		X	B747 390	X			X	L					X X	X X	X X	X X	X X	
	OMSJ	Sharjah																									
OEJN JEDDAH/King Abdulaziz Intl	HECA	Cairo	4E	9	X	X	X		16R	PA2	X	3800	X		X	X	L	X X X	X X X		X	X X	X X	X X	X X	X X	X X X
RS	OEDF	Dammam							34L	PA2		B747 350	X			X	L	X X X				X X	X X	X X	X X	X X	
	HELX	Luxor							16C	PA2	X	3300	X			X	L	X X X	X X X		X	X X	X X	X X	X X	X X	X X X
	OEMA	Madinah							34C	PA2		B747 350	X			X	L	X X X				X X	X X	X X	X X	X X	
	OERK	Riyadh							16L	PA1		3700	X			X	L	X X X			X	X X	X X	X X	X X	X X	X X X
									34R	PA1	X	B747 350	X			X	L	X X X	X X X			X X	X X	X X	X X	X X	
OEMA MADINAH/Prince	OEJN	Jeddah	3D	8					17	PA1		3350	X			X	L	X X X			X	X X	X X	X X	X X	X X	X X X
Mohammad Bin Abdulaziz									35	PA1			X			X		X X X				X	X X	X X	X X	
AS																											
			4E						18	~~NINST~~ NPA	X	3050	X	X		X	L	X	X		X	X X	X	X X	X X	X	
									36	PA1		A300 142					L	X				X	X X	X	X		
												B747 260															

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY LDZ	TTE SCB	B	DES LM	THR TDZ	STS SMG	TWY D	TDZ MIND
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
OERK RIYADH/King Khalid Intl	OBBI	Bahrain	4E	9	X	X	X		15L	PA1		4205	X		X	X	L	X	X	X	X X	X X	X X	X	
RS	OEDF	Dammam							33R	PA1	X	B747 340	X			X	L	X			X	X X	X	X X	
	OEJN	Jeddah																							
	OEMA	Madinah							15R	PA1	X	4205	X						X		X X	X X	X X	X	
									33L	PA1		B 747 390	X								X	X X	X X		
SYRIAN ARAB REPUBLIC																									
OSAP ALEPPO/Aleppo Intl	OLBA	Beirut	4C	6	X	X			09	NINST		2900			X		L	X	X	X	X X	X	X	X	
RS	OSDI	Damascus							27	NPA		A300 160		X		X	L	X			X	X	X		
OSLK BASSEL AL-ASSAD/Latakia	OSAP	Aleppo	4D	4					17	NPA		2800		X	X	X	L				X X	X	X	X X	
RS									35	NINST		A 300 160					L				X	X	X		
OSDI DAMASCUS/Damascus Intl	OSAP	Aleppo	4E	9	X	X	X		05L	NPA	X	3600				X	L	X	X	X	X X	X	X X	X X	
	OJAI	Amman																							
RS	OJAM	Amman							23R	PA1		B 747 360	X		X	X	L	X			X	X X	X		X
	OLBA	Beirut																							
	LCLK	Larnaka							05R	NPA		3600		X	X	X	L	X			X X	X	X		
	OSLK	Latakia							23L	NINST	X	B 747 360					L	X			X	X	X		

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTR WLDZ	STTE	BCB	DCLM	TTHR	SAST	THWY	TMEDZ
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
UNITED ARAB EMIRATES																									
OMAA ABU DHABI/Abu Dhabi Intl	OBBI	Bahrain	4E	9	X	X	X		13 R	PA1	X	4100	X			X	L	X X	X X X	X	X X	X X	X X	X X	X X X
RS	OMAL	Al Ain							31 L	PA3	X	B747 390	X		X	X	L	X X X	X X X		X X	X X	X X	X X	X X X
	OTBD	Doha																							
	OMDB	Dubai																							
	OMSJ	Sharjah							13 L	PA 3		4100	X		X	X	L	X X X	X X X		X X	X X	X X	X X	X X X
	OOMS	Muscat																						X X	X X X
	OMFG	fUJAIRA							31 R	PA1		B747 390	X			X	L	X X	X X X	X	X X	X X	X X		
OMAL AL AIN/Al Ain Intl	OMAA	Abu Dhabi	4E	9	X	X	X		01	PA1	X	4000	X		X		L	X	X	X	X X	X X	X X	X X	X
RS	OBBI	Bahrain																							
	OTBD	Doha							19	NPA		B 747 390		X			L	X	X		X X	X X	X X	X X	
	OMDB	Dubai																							
	OMSJ	Sharjah																							
	OOMS	Muscat																							
	OMFG	fUJAIRA																							
OMDB DUBAI/Dubai Intl	OMAA	Abu Dhabi	4E	9	X	X	X		12L	PA3	X	4000	X			X	L	X X X	X X X	X	X X	X X	X X	X X	X X X
RS	OMAL	Al Ain							30R	PA3	X	B747 390	X		X	X	L	X X X	X X X		X	X X	X X	X X	X X X
	OBBI	Bahrain										4000							X X X						
	OTBD	Doha							12R	PA2	X		X			X	L	X X X			X X	X X	X X	X X	X X X
	OOMS	Muscat							30L	PA2		B747 390	X			X	L	X X X	X X X		X	X X	X X	X X	X X X
	OOSA	Salalah																							
	OMSJ	Sharjah																							

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY CLZ	TTE SCB SWY	B	DES CLM	THR TDZ	SST SAG	TWY HLD	TDZ MIND
					APP	TWR	ATIS	AFIS																	
1	2		3	4	5				6	7	8	9	10			11					12				13
OMFJ FUJAIRAH/Fujairah Intl RS	OMAA OMAL OMDB OMSJ OOMS	Abu Dhabi Al Ain Dubai Sharjah Muscat	4E	9	X	X	X		11 29	NPA PA1		3750 B 747 390	X	X	X	X X	L L	X X		X	X X X X	X X X X	X X X	X X	X
OMRK RAS AL KHAIMAH/Ras Al Khaimah Intl RS	OMAA OMAL OTBD OMDB OMSJ	Abu Dhabi Al Ain Doha Dubai Sharjah	4E	9	X	X			16 34	NPA PA1		3750 B 747 390	X	X	X X	X X	L L	X X	X	X	X X X	X X X	X X X	X X	X
OMSJ SHARJAH/Sharjah Intl RS	OMAA OMAL OBBI OTBD OMDB OOMS OMRK	Abu Dhabi AL Ain Bahrain Doha Dubai Muscat Ras al Khaimah	4E	9	X	X	X		12 30	NPA PA2	X	4060 B747 390	X	X	X	X X	L L	X X X X X X	X	X	X X X	X X X X	X X X	X X	X

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RCTR WYLDZ	STS TTE CTB	B	DCL ESM	TTD THRZ	SAG STS	THL WYD	TMED IND DZ
					APP	TWR	ATIS	AFIS																		
1	2		3	4	5				6	7	8	9	10			11					12				13
YEMEN																									
OYAA ADEN/Aden Intl	HHAS	Asmara	4E	9	X	X			08	NPA		3100		X		X	L	X	X	X	X	X	X	X	
RS	HFFF	Djibouti							26	PA1	X	B747 350	X		X	X	L	X			X	X	X	X	X
	OYHD	Hodeidah																							
	OYRN	Mukalla																							
	OYSN	(Riyan) Sana'a															L								
OYHD HODEIDAH/Hodeidah	OYA`A	Aden	4E	9	X	X			03	NPA	X	3000		X	X	X	L	X	X	X	X	X	X	X	
RS	OYSN	Sana'a							21	NPA		B747 260		X		X	L	X			X	X	X	X	
	OYTZ	Taiz																							
OYRN MUKALLA/Riyan	OYAA	Aden	4E	9	X	X			06	NPA	X	3000		X	X	X	L	X	X	X	X	X	X	X	
RS									24	NPA		B747 260		X		X	L	X			X	X	X	X	
OYSN SANA'A/Sana'a Intl	OYAA	Aden	4E	9	X	X			18	PA1	X	3600	X		X	X	L	X	X	X	X	X	X	X	X
RS	OYHD	Hodeidah							36	NPA		B747 290		X		X	L	X			X	X	X	X	
	OEJN	Jeddah																							
	OYTZ	Taiz																							

CITY/AERODROME/USE VILLE/AERODROME/EMPLOI CIUDAD/AERODROMO/USO	ALTERNATE AERODROMES AERODROMES DE DEGAGEMENT AERODROMOS DE ALTERNATIVA		AERODROME AERODROME						PHYSICAL CHARACTERISTICS CARACTERISTIQUES PHYSIQUES CARACTERÍSTICAS FÍSICAS				RADIO AIDS AIDES RADIO RADIOAYUDAS			LIGHTING AIDS AIDES LUMINEUSES AYUDAS LUMINOSAS					MARKING AIDS MARQUES SEÑALAMIENTO				RVR
			RC	RFF	ATS				RWY NO PISTE NO PISTA NO	RWY TYPE TYPE DE PISTE TIPO DE PISTA	TWY	RWY LENGTH LONG. DE PISTE LONG. DE PISTA PAV. STRENGTH RESISTANCE RESIST. PAVIM.	PA	NPA	T	PSA	VA	RWY CLDZ	TTE CCB SSTB	B	DES CLM	THR TDZ	SSTG AMG	TWY HLD	TDZ MEND
					APP	TWR	ATIS	AFIS																		
1	2		3	4	5				6	7	8	9	10			11					12				13
OYTZ TAIZ/Ganad RS	OYAA HFFF OYHD OYSN	Aden Djibouti Hodeidah Sana'a	4E	9	X	X			01 19	NPA NPA	X	3000 B747 290		X X	X	X X	L L	X	X	X	X X	X	X X	X	X	

AOP SG/4
Appendix 3B to the Report on Agenda Item 3

TABLE CNS 3 C RADIO NAVIGATION AIDS (MID REGION)

TABLA CNS 3 C AYUDAS PARA LA RADIONAVEGACIÓN (REGIÓN MID)

EXPLANATION OF THE TABLE

Column

1 Name of the country, city and aerodrome and, for en-route aids, the location of the installation.

2 The designator number and runway type:

NPA **C** non-precision approach
PA-1 **C** precision approach runway, Category I
PA-2 **C** precision approach runway, Category II
PA-3 **C** precision approach runway, Category III

3 The functions carried out by the aids appear in columns 4 to 8 and 10 to 12:

A/L **C** Approach and landing
T **C** Terminal
E **C** En-route

4 ILS **C** Instrument landing system. Roman numeral I and II indicate the acting category of the ILS, I, II or III. (I) indicates that the facility is implemented

The letter "D" indicates a DME requirement to serve as a substitute for a marker beacon component of an ILS

*Note.**C** Indication of category refers to the standard of facility performance to be achieved and maintained in accordance with pertinent specifications in ICAO Annex 10 and not to the specifications of the ILS equipment itself, which are not necessarily the same.*

An asterisk (*) *indicates that the ILS requires a Category II signal quality, but without reliability and availability provided by redundant equipment and automatic changeover.*

5 Radio beacon localizer, be it associated with an ILS or to be used as an approach aid to an aerodrome.

6 Radiotelemetrical equipment. When an "X" appears in column 6 in line with the VOR in column 7, this indicates the need that the DME be installed at a common site with the VOR.

7 VOR VHF omnidirectional radio range.

8 NDB – Non Directional Beacon

9 The distance and altitude to which signal protection of the VOR or VOR/DME are required, indicated in nautical miles (NM) and in thousands of feet.

10, 11 GNSS-global navigation satellite system (includes GBAS and SBAS).

GBAS (ground-based augmentation system) implementation planned to be used in precision approach and landing CATI, CATII, CAT III.

SBAS (Satellite-based augmentation system) implementation planned to be used for route navigation, for terminal, for non precision approach and landing. An "X" indicates service availability,; exact location of installation will be determined.

Note.- GPS receiver is under standard rules and ABAS (aircraft-based augmentation system)

12 **Remarks**

Note.- Columns 5 to 12 use the following symbols:

X- Required but not implemented
XI- Required and implemented

EXPLICATION DU TABLEAU
(To be completed by HQ)

EXPLICACIÓN DE LA TABLA

Columna

1 Nombre del país, ciudad y aeródromo, y en el caso de las ayudas en ruta, el lugar de la instalación.

2 Tipo de pista:

NINST **C** pista de vuelo visual
INST **C** pista para aproximaciones por instrumentos
NPA **C** pista para aproximaciones que no son de precisión
PA-I **C** pista para aproximaciones de precisión, Categoría I
PA-II **C** pista para aproximaciones de precisión, Categoría II

3 La función de las ayudas figura en las columnas 4 a 8 y 10 a 12

A/L **C** aproximación y aterrizaje
T **C** terminal
E **C** en ruta

4 ILS **C** el número de designación de la pista con ILS aparece junto a los números romanos I o II, a fin de indicar la categoría de actuación del ILS de Categoría I o II respectivamente.

*Nota.**C** La indicación de la categoría se refiere al nivel de actuación de la instalación que ha de lograrse y, de acuerdo con las disposiciones pertinentes del Anexo 10, no con las especificaciones del equipo ILS instalado, que no son necesariamente las mismas.*

**Indica que el ILS requiere una calidad de señal de Categoría II, pero sin la fiabilidad y disponibilidad que proporcionan la redundancia de equipo y la transferencia automática.*

5 Radiofaro de localización, ya sea asociado con un ILS o como ayuda para la aproximación a un aeródromo.

6 Equipo radiotelemétrico. Alineado con el ILS según lo indicado en la columna 4 cuando el DME se necesita para sustituir a una radiobaliza del ILS. Cuando está alineado con el VOR en la columna 7, indica que es necesario que el DME esté instalado

junto al VOR.

7 VOR recomendado.

8 NDB

8 La distancia y altitud necesarias para proteger la señal del VOR o VOR/DME, en millas marinas (NM) y en miles de pies.

9 ……

10,11 ……

12 ….

TABLE CNS 3

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
AFGHANISTAN											
GHAZNI		E				X		200/45			
KABUL/Kabul	11 NPA	A/L			X	X					
	29 PA 1	A/L	I*	X	X	X					
		T			X	X					
		E			X	X		300/45			
KANDAHAR/Kandahar	05 NPA	A/L		x		X					
	23 NPA	A/L				X					
		T				X		300/45			
		E				X		300/45			
BAHRAIN											
BAHRAIN/Bahrain Intl	12R NPA				X I	X I					
	30L NPA				X I	X I					
	12L PA2	A/L	II (I)		XI	XI					
	30R PA2	A/L	II (I)	X	XI	XI		300/45			
EGYPT											
EL-ARISH/ El-Arish Int'l	16 NPA	A/L			XI	XI		150/45			
	34 NPA										
ASYUT/ Asyut Int'l	13 NPA	A/L			XI	XI		200/45			
	31 NPA	E									
ALEXANDRIA/ Alexandria Intl	04 PA 1	A/L	I*		XI	XI	XI	100/45			
	22 NPA	E			XI	XI		150/45			
	18 NPA										
	36 NPA										

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
CAIRO/ Almaza Int.	18 NPA 36 NPA 05 NINST 23 NINST	A/L					XI	25/45			
ALEXANDRIA/ Borg El Arab Int'l	32 PA 1 14 NPA	A/L T	I* (I) D	X	XI	XI	XI	100/45			
CAIRO/Cairo Intl	05R PA 2 23R PA 2	A/L A/L	II II(I)	X X	XI	XI		150/45			
	23L PA 2 05L PA 2 16 NPA 34 NPA	A/L A/L T E	II (I) II (I)	X X	XI	XI		200/45			
HURGHADA/ Hurghada Intl	16 NPA 34 PA 2	A/L T E	I*(I)		XI XI	XI XI		100/45			
LUXOR/ Luxor Intl	02 NPA 20 PA 1	A/L T E	I* (I)		XI XI	XI XI		150/45			
MARSA ALAM/ Marsa Alam Int'l	15 NPA 33 NPA	A/L			XI	XI		150/45			
SHARK EL OWEINAT/ Shark El Oweinat Int'l	01 NPA 19 NPA	L					XI	100/45			
PORT –SAID/ Port –Said Int'l	10 NPA 28 NPA	L			XI	XI		200/45			
ST. CATHERINE/ St. Catherine Intl	17 NPA 35 NINST	L					XI	150/45			
SHARM EL SHEIKH/ Sharm El Sheikh Intl	04L PA1 22R NPA 04R NPA 22L NPA	A/L T E	I (II)	X	XI XI	XI XI	XI	100/45 200/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
ASWAN/ Aswan Intl	17 PA1 35 PA1	A/L T E	II	X	XI XI	XI XI		150/45			
TABA/ Taba Int'l	04 NPA 22 NPA	A/L T			X	XI	 XI	150/45 100/45			
IRAN, ISLAMIC REPUBLIC OF											
ABADAN	32L PA 1	A/L E	I* (I)		 XI	 XI		 200/45			
AHWAZ	30 PA 1	A/L E	I* (I)		XI	XI		300/45			
ARDABIL	~~31~~ 33 PA 1	A/L E	I* (I)		 XI	 XI		 200/45			
ASALOYEH	30 PA 1	A/L E	I*		XI	XI		300/45			
BANDAR ABBAS/Intl	21L PA1	A/L E	I* (I)		XI	XI		200/45			
BANDAR LENGEH	NPA	A/L E			XI	XI		200/45			
BANDAR MAHSHAHR / MAHSHAHR	NPA	A/L E			XI	XI		300/45			
BIRJAND		E			XI	XI		300/50			
BOJNORD	NINST	E			XI	XI		150/45			
BUSHEHR	~~NPA~~ 30 PA2	A/L E	I*		XI	XI		300/45			
CHAH BAHAR / KONARAK	NPA	A/L E			XI	XI		200/45			
DARBAND		E			XI	XI		300/45			
DEH-NAMAK		E			XI	XI		300/45			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
ESFAHAN / Shahid Beheshti Intl	26R PA 1	A/L E	I*(I)		XI	XI		300/45			
HAMADAN	NPA	A/L E			XI	XI		200/45			
ILAM	NPA	A/L E			XI	XI		300/45			
IRAN-SHAHR	NPA	A/L E			X	X		300/45			
JAM/TOHID	NPA	A/L			XI	XI		300/45			
KARAJ / PAYAM	NPA	A/L			XI	XI		200/45			
KERMAN	~~NPA~~ 34 PA1	A/L E	I*(I)		XI	XI		200/45			
KERMANSHAH / Shahid Ashrafi Esfahani	29 PA1	A/L E	I* (I)		XI	XI		300/45			
KHARK ISLAND /Khark	NPA	A/L E			XI	XI		300/45			
KHORAM ABAD	29 PA 1	A/L E	I*		XI	XI		200/45			
KISH ISLAND	NPA	A/L E			XI	XI		200/45			
MALAYER		E			XI	XI		300/45			
MASHHAD / Shahid Hashemi Nejad Intl	31R PA1	A/L E	I* (I)		XI	XI		300/45			
NOSHAHR	NPA	A/L E			X	X		200/45			
OMIDIYEH	NPA	A/L			XI	XI		200/45			
RASHT	27 PA 1	A/L E	I* (I)		XI	XI		300/45			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
SABZEVAR	NPA	A/L E			XI	XI		300/45			
ANARAK		E			XI	XI		300/45			
SANANDAJ	NPA	A/L E			XI	XI		200/45			
SARI/Dashte-Naz	NPA	A/L E			XI	XI		300/45			
SAVEH		E			XI	X		300/45			
SHIRAZ / Shahid Dastghaib Intl	29L PA 1	A/L E	I* (I)		XI	XI		300/45	X		
SIRJAN	NPA	A/L E			XI	XI		200/45			
TABRIZ Intl	30R PA 1	A/L E	I* (I)		XI	XI		200/45			
TEHRAN/Imam Khomaini Intl	29R PA 2	A/L	II* (I)		XI	XI		300/45			
TEHRAN/Mehrabad Intl	29L PA 1	A/L E	I* (I)	XI	XI	XI		300/45	X		
UROMIYEH	~~NPA~~ 21 PA1	A/L E	I* (I)		XI	XI		200/45			
YAZD / Shahid Sadooghi	NPA	A/L E			XI	XI		300/45			
ZAHEDAN	~~NPA~~ 35 PA1	A/L E	I* (I)		XI	XI		200/45			
ZANJAN	NPA	E			XI	XI	XI	200/45			
IRAQ											

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
AIN ZALAH		E			X	X		100/50			
BAGHDAD/~~Saddam~~ Baghdad Int'l	15R PA 2	A/L	II (I)	X	X	X					
	33L PA 2	A/L	II (I)	X	X	X					
	15L PA 2	A/L	II (I)	X	X	X					
	33R PA 2	A/L	II (I)	X	X	X					
		E			X	X		200/45			
BASRAH/Intl	14 PA 2	A/L	II (I)	X	X	X					
	32 PA 2	A/L	II (I)	X	X						
		E				X		300/45			
HASHIMIYA		E			X	X		200/45			
(HADITHA)		E			X	X		100/50			
MANDALY		E									
MOSUL	PA~~2~~ 1	A/L		X	X	X					
SAMARA		E			X	X		200/45			
HAWIJA		E			X	X		100/50			
SHATRA		E			X	X		100/50			
ISRAEL											
ELAT/Elat	03 NPA	A/L			XI	XI					
	21 NINST	E			XI	XI					
					X	X		300/45			
HAIFA/Haifa	16 NINST										
	34 NINST										

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
JERUSALEM/Atarot	12 NINST 30 PA 1	A/L A/L	 I*								
METZADA		E			X	X		150/45			
NATANIA		E			X	X		150/45			
OVDA/Intl	20R NPA 02L NINST	A/L	I		X	X		150/50			
TEL AVIV/Ben Gurion	03 NPA 21 NINST 08 NINST 26 PA 1 12 PA 1 30 NPA	 A/L A/L A/L E E	 I* (I) I* (I)	 X X	XI XI XI XI XI XI	XI XI XI XI XI X X		 150/50 200/50			
TEL AVIV/Sde-Dov	03 NINST 21 NINST	A/L A/L									
ZOFAR		E			X	X		150/45			
JORDAN											
AMMAN/MARKA	24 PA 1	A/L E	I (I)	XI	XI X	XI XI	X	 150/50	 X		
AMMAN/Queen Alia	08R NPA 26L PA 2 08L NPA 1 26R NPA	A/L A/L A/L A/L	I*	XI	XI XI XI XI	XI XI XI XI	 X X		X		

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
AQABA/~~Aqaba~~ king Hussein	~~02~~ 01 PA 1	A/L	I*	XI	XI	XI	X	200/50	X		
		E			X	X		200/50			
METSA		E			X	X		150/50			
QATRANEH		E			X	X		100/50			
KUWAIT											
KUWAIT/Intl	15R PA 2	A/L	II (I)	XI	XI						
	33L PA 2	A/L	II (I)	XI	XI						
	15L PA 2	A/L	II (I)		XI						
	33R PA 2	A/L	II (I)		XI						
		T			XI	XI		300/50			
		E			XI	XI		300/50			
LEBANON											
BAYSUR		E				X		180/40			
BEIRUT/Beirut Intl	18 PA 1	A/L	I* (I) D	X	X I	X I					
	21 PA 1	A/L	I* (I) D		X I	X I					
	03 PA 1	A/L	I* (I) D		X I	X I					
		E			X I	X I		150/45			
CHEKKA		E			X	X		80/50			
SAIDA		E			X	X		150/50			
OMAN											
HAIMA		E			X I	X I		200/45			
IZKI		E			X I	X I		200/45			
MARMUL		E			X I	X I		200/45			
MUSCAT/Seeb Intl	08 PA 1	A/L	I* (I) D		X I						
	26 PA 1	A/L	I* (I) D		X I						
		E			X I	X I		200/45			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
SALALAH/Salalah	07 NPA	A/L			X I	X I					
	25 PA 1	A/L	I* (I) D		X I	X I					
		E			X I	X I		200/45			
SUR		E			X I	X I		200/45			
QATAR											
DOHA/Doha Intl	16 NPA	A/L			X	X					
	34 PA 1	A/L	I* (I)	X	X	X					
		E			X	X		300/45			
SAUDI ARABIA											
AL JOUF	10 NPA	A/L			XI	XI					
	28 NPA	A/L			XI	XI					
	28 PA 1	A/L	I*		XI	XI					
		T			X	X		300/50			
AL SHIGAR		E			XI	XI		300/50			
ARAR	10 NPA	A/L			XI	XI					
	28 NPA	A/L			XI	XI					
		T			X	X					
		E			XI	XI		300/50			
BAHA	07 NPA	A/L			XI	XI					
	25 NPA	A/L			XI	XI					
	25 NPA	A/L		X							
	25 PA 1	A/L	I*		XI	XI					
		T			X	X		300/50			
BIR DURB		E			X	X		300/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
BISHA	18 NPA	A/L			XI	XI					
	36 NPA	A/L			XI	XI					
	18 PA1	A/L	I*		X						
		T			X	X					
		E			X	X		300/50			
BOPAN		E			XI	XI		300/50			
DAFINAH		E			XI	XI		300/50			
DAMMAM (King Fahad Intl)	16L PA 1	A/L	I (I)		XI	XI					
	34R PA 1	A/L	I (I)		XI	XI					
	16R PA 1	A/L	I (I)		XI	XI					
	34L PA 1	A/L	I (I)		XI	XI					
		T			XI	XI					
		E			XI	XI		300/50			
GASSIM	15 NPA	A/L			XI	XI					
	33 NPA	A/L			XI	XI					
	15 PA 1	A/L	I*		X						
		T			X	X					
		E			X	X		300/50			
					I						
GURIAT	10 NPA	A/L			XI	XI					
	28 NPA	A/L		X							
	28 NPA	A/L			XI	X					
		T			X	X					
		E			X	X		300/50			
HAFR AL-BATIN	16 NPA	A/L			XI	XI					
	34 NPA	A/L			XI	XI					
		T			X	X					
		E			XI	XI		300/50			
HAIL	18 NPA	A/L			XI	XI					
	36 NPA	A/L			XI	XI					
	18 PA 1	A/L	I *		X						
		T			X	X					
		E			X	X		300/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
HALAIFA		E			XI	XI		300/50			
JEDDAH/King Abdul Aziz	16R PA 2	A/L	II (I)		XI	XI					
Intl	34L PA 2	A/L	II (I)		XI	XI					
	16L PA 1	A/L	I* (I)		XI	XI					
	34R PA 1	A/L	I* (I)		XI	XI					
	16C PA 2	A/L	II (I)		XI	XI					
	34C PA2	A/L	II (I)		XI	XI					
		T			XI	XI					
		E			XI	XI		300/50			
JUBAIL	17 NPA	A/L				X					
	35 NPA	A/L				X					
	35 PA 1	A/L	I*		X						
		T			X			300/50			
MADINAH/Prince	17 PA 1	A/L	I*		XI	XI					
Mohammad Bin Abdulaziz	35 PA 1	A/L	I*	X	XI	XI					
	36 PA 1	A/L	I*	X	XI	XI					
	18 NPA	A/L			XI	XI					
		T			XI	XI					
		E			XI	XI		300/50			
MAGALA		E			XI	XI		300/50			
RABIGH		E			XI	XI		300/50			
						I					
RAFHA	11 NPA	A/L			XI	XI					
	29 NPA	A/L			XI	XI					
		T			X	X					
		E			XI	XI		300/50			
RAGHBA		E			XI	XI		300/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
RIYADH/King Khalid Intl	15L PA 1	A/L	I* (I)		XI	XI					
	33R PA 1	A/L	I* (I)		XI	XI					
	15R PA 1	A/L	I* (I)		XI	XI					
	33L PA 1	A/L	I* (I)		XI	XI					
		T			XI	XI					
		E			XI	XI		300/50			
TURAIF	10 NPA	A/L			XI	XI					
	28 NPA	A/L			XI	XI					
		T			X	X					
		E			XI	XI		300/50			
WADI AL-DAWASIR	10 NPA	A/L			XI	XI					
	28 NPA	A/L			XI	XI					
	10 PA 1	A/L	I*		XI						
		T			X	X					
		E			XI	XI		300/50			
WEDJH	15 NPA	A/L			XI	XI					
	33 NPA	A/L			XI	XI					
	33 NPA	A/L		X							
	33 PA 1	A/L	I*								
		T			X	X					
		E			XI	XI		300/50			
YENBO	10 NPA	A/L			XI	XI					
	28 NPA	A/L			XI	XI					
	28 PA 1	A/L	I*		XI						
		T			X	X					
		E			XI	XI		300/50			
SYRIAN ARAB REPUBLIC											
ALEPPO/Neirab	27 NPA	A/L		X		X					
		E				X		150/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
DAMASCUS/Intl	05L NPA	A/L			X	X					
	23R PA 1	A/L	I* (I)	X	X	X					
	05R NPA	A/L			X	X					
		E			X	X		150/50			
KARIATAIN		E			X	X		150/50			
LATAKIA/Bassel -Al- Assad	17 NPA	A/L		X	X	X					
TANF		E				X		160/40			
UNITED ARAB EMIRATES											
ABU DHABI/Abu Dhabi Intl	13 PA 1	A/L	I* (I)		X I	X I					
	31 PA 3	A/L	III (I)		X I	X I					
		E			X I	X I		300/45			
AL AIN/Al Ain Intl	01 PA 1	A/L	I*		X I	X I					
	19 NPA	A/L			X I	X I					
		E			X I	X I		300/45			
DUBAI/Dubai Intl	12L PA 3	A/L	III (I)		X I	X I					
	30R PA 3	A/L	III (I)		X I	X I					
	12R PA 2	A/L	II (I)		X I	X I					
	30L PA 2	A/L	II (I)		X I	X I					
		E			X I	X I		300/45			
FUJAIRAH/Fujairah Intl	11 NPA	A/L			X I	X I					
	29 PA 1	A/L	I* (I)		X I	X I					
		T			X I	X I		40/25			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
RAS AL KHAIMAH/Ras al Khaimah Intl	16 NPA 34 PA 1	A/L A/L	 I* (I)	X X	X I	X I					
SHARJAH/Sharjah Intl	12 NPA 30 PA 1	A/L A/L E	 I* (I)	 X I	X I X I	X X X I		 300/45			
YEMEN											
ADEN/Intl	08 NPA 26 PA 1	A/L A/L E	 I* (I)	 X	X X X	X X X		 300/50			
AL-GHAIDAH		E			X	X		300/50			
HODEIDAH	03 NPA 21 NPA	A/L A/L E	 	X X	X X X	X X X		 200/45			
RIYAN/Intl	06 NPA 24 NPA	A/L A/L E	 	 	X X X	X X X		 300/50			
SANA'A/Intl	18 PA 1 36 NPA	A/L A/L E	I* (I) 	X 	X X X	X I X I X I		 200/45			
SIYUN		E			X	X		150/45			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
TAIZ/Intl	01 NPA 19 NPA	A/L A/L E		X X	X X X	X X X		200/45			

Appendix to Table CNS 3
GEOGRAPHIC SEPARATION CRITERIA FOR VOR, VOR/DME AND ILS INSTALLATIONS

1.1 *VHF omnidirectional radio range (VOR)/distance measuring equipment (DME)*

1.1.1 In the selection of frequencies for VOR and/or VOR/DME the following criteria are to be applied:

a) for VORs required to serve en-route flight operations, geographic separations of:

1) for co-channel, 1020 km (550 NM) between 200 NM/45K (facilities' service distance/ratio of facilities' ERPs) facilities and 1 330 km (720 NM) between 300 NM/45K facilities;

2) for adjacent channel, 410 km (220 NM);

b) for VORs required for use in terminal areas (40 NM/25K), geographic separations of:

1) for co-channel, 370 km (200 NM);

2) for adjacent channel*, 110 km (60 NM); and

c) for VORs required for use in approach and landing operations (25 NM/10K), geographic separation of:

1) for co-channel, 240 km (130 NM);

2) for adjacent channel*, 55 km (30 NM).

1.1.2 Detailed frequency assignment criteria for VOR are provided in Annex 10, Volume I, 3.3.2 and Attachment C to Part I, Sections 3.4. and 3.5, and Part II, Section 4.2 (see the note below).

1.1.3 Detailed frequency assignment criteria for DME are provided in Annex 10, Volume I, 3.5.3.3 and Attachment C to Part I, and Part II, Section 4.3 (see the note below).

1.2 *Instrument landing system (ILS)*

1.2.1 Considering the density of ILS installations in the MID Region, the 325 km (175 NM) geographic separation for co-channel operation is to be applied.

1.2.2 Detailed frequency assignment criteria for ILS are provided in Annex 10, Volume I, 3.1.3.2, Attachment C to Part I, Section 3.5 and Part II, Section 4.2 (see the note below).

*Note.**C** As a consequence of the restructuring of Annex 10 (see paragraph 6.50 of the report on Agenda Item 6) and following Amendment 71 to this Annex, Attachment C to Part I should be referred to as Attachment C to Volume I, and Part II of Volume I will constitute Volume V of Annex 10.*

* Based on 100 kHz channel spacing

REPORT ON AGENDA ITEM 4: FOLLOW UP DEFICIENCIES in the AOP field in the MID Region

4.1 The meeting was reminded that ICAO Secretary General had addressed the Ministers of Civil Aviation in a State letter M 6/1-02/79 dated 27 September 2002 accompanied by an individual list of deficiencies, pertaining to the State concerned, inviting their attention to resolve the deficiencies through the allocation of appropriate resources.

4.2 The meeting was informed that MIDANPIRG/8 encourage the States in the MID region to; allocate sufficient resources for the elimination of the air navigation deficiencies and to set up an internal group of experts to examine the list of deficiencies and take appropriate actions with a view to recommend to their higher Civil Aviation Authorities solutions for elimination of deficiencies, also to formulate and review on a regular basis an action plan including the rationale for non-elimination of deficiencies.

4.3 The meeting was informed that an "Air Navigation Safety Working Group" was established in the MID Region as decided by MIDANPIRG/8 (Decision 8/51; *Safety of Air Navigation Services in the MID Region*), as a good tool to address the issue of deficiencies aiming at identifying resources and acting as a resource for resolving deficiencies. One of the ways in which the ANS WG would be able to act as a resource for resolving the deficiencies, would be through its advocacy with relevant high-level officials and/or donor Organizations.

4.4 A State letter AN 2/2 – 242 dated 19 November 2003 related to elimination of Air Navigation deficiencies in the MID region, Including those of aerodromes, was also, sent to all MID States concerned and was requesting them to provide their updated list as well as their action plan developed to eliminate those deficiencies and rationale for non-elimination of deficiencies, using the adopted format as in **Appendix 4B** to the report on Agenda Item 4. The date requested for response was before 31 December 2003. Replies received from six States did not contain any of AOP deficiencies status except the one received from Syria.

4.5 Some information was available from the Users during the meeting. Accordingly, a list of deficiencies in the AOP field was prepared and presented. The meeting while reviewing/updating the list, urged the States concerned to take appropriate action to resolve their listed deficiencies.

4.6 While discussing a system to detect AOP Deficiencies in the MID region, the meeting emphasized, at current stage, the need of all concerned, the States and the users, to extend their cooperation in this exercise so that effective solutions can be suggested for the resolution of the deficiencies in the region. In this regard the meeting adopted the list of deficiencies in the AOP field given in the **Appendix 4A** to the Report on Agenda Item 4, and formulated the following Draft Conclusion:

DRAFT CONCLUSION 4/2- UPDATED LIST OF DEFICIENCIES IN AOP FIELD IN THE MID REGION

*That, MID Region concerned States provide information to the ICAO MID Regional Office on the actions taken to resolve any deficiencies using form as contained in **Appendix 4B** to the Report on Agenda Item 4. In particular critical areas related to aerodrome operational safety issues.*

AOP SG/4
Appendix 4A to the Report on Agenda Item

UPDATED AIR NAVIGATION DEFICIENCIES IN THE MID REGION – AOP FIELD

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
MID/3 RAN Rec. 1/3 ASIA/PAC 3 RAN, Rec.3/1	**Afghanistan**** Kabul Intl. Airport	No VASIS on RWY 11/29 No ILS RWY 11/29;	April 2000 April 2000	Operations should be restricted to daylight VMC only	Operations should be restricted to daylight VMC only	DGCA	June 2004	U
ASIA/PAC/3, Rec. 4/2, 4/10	**Egypt** Aswan Int'l Airport	Inadequate runway 35 markings and first 200m RWY unusable while there is no displaced threshold markers	Sep. 2002		RWY Markings need to be refurbished and displaced threshold markers are required	EAC	April 2004	A

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
	Cairo Int. Airport	RWY 05R/23L surface is severely coated with rubber deposits, in particular TDZ	Sep. 2002		Rubber deposits are to be removed	CAC	End 2004	A
		RWY 05R lights have variable luminosity	April 2003		Lights to be rectified (Improved and be completely alleviated)	CAC	June 2004	A
		Closeness of the aerobridge power supply cable to number 1 engine position on the A330 and to number two position on the A340 aircrafts while parked at the gate	Feb. 2004	Situation result into, the chances to be sucked into the engines when taxing in or during engine starts for departure	Safe distance is to be maintained and cable aerobridge is to be shielded	CAC	Feb 2004	A
	Hurghada Int'l Airport	Apron lighting is inadequate	Sep. 2002		Apron lighting is to be improved	EAC	March 2004	U
		Runway Marking inadequate	April 2003		Markings are to be improved	EAC	April 2005	A
		Heavy rubber accretion on runway	Sep. 2002		Rubber coats are to be removed	EAC	April 2005	A
	Luxor Int'l airport	Runway surface rough with heavy rubber accretion	Sep. 2002		Rubber deposits are to be removed and RWY Surface to be refurbished	EAC	March 2004	A
		PAPIS/VASIS not available	Sep. 2002			EAC	March 2004	A

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
	Iran							
ASIA/PAC/3, Rec. 4/10 MID/3, Conc.1/6, Rec. 1/3	Mehrabad Int'l Airport	Precision approach lighting of RWY 29L has decreased to 600m due to highway interference	July 2001	Require is for ILS APP has increased to 1200m	Lighting needs to be reinstalled on supports (Under progress)	CAO	May 2004	A
		Apron flood lighting is not adequate	April 2003			CAO	End 2004	A
	Iraq**							
	Israel							
ASIA/PAC/3, Rec. 4/10	Tel Aviv/Ben Gurion Int. Airport	No high speed turn off end of RWYs: 21/03 and RWY 26	Jan. 2003			EDF	June 2004	A
		No taxiways to RWYs 26 and 21, and from 08 and 03	Jan. 2003	For RWYs 26 and 21, taxing is on active RWYS		EDF	March 2004	U
		Using visuals to runway 30 for arrivals and for departures	Feb. 2004		ATC insist on maintaining 4000ft until Past abeam runway threshold then cleared visual for runway . Performance requires stay inside 3.8 DME BGN for safety reasons.	EDF	March 2004	U

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
	Elat Int. Airport	Single runway used as taxiway, two turn-offs at south end (other turn-off is restricted) , Runway width is 30 meters	Jan. 2003	Loop available at end of RWY 03		EDF	March 2004	A
		No approach lighting	Jan. 2003	PAPI (RWY 03) and APAPI (RWY 21)		EDF	March 2004	A
		No taxiway	Jan. 2003			EDF	March 2004	A
		Aprons – limited space that is too close to runway	Jan. 2003			EDF	March 2004	U
		Localizer (LOC) App. and DME plus PAPIS	Jan. 2003	VOR/DME (LOT) available. Unstable LOC App due to ground movement interference (Notamed) <u>Note:</u> Not recommended for use by big jets (wide-body/4 engines)		EDF	June 2004	B

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
	Ovda Int. Airport	Non-Standard taxiways lighting	Jan 2002		Lightings are to be rectifies	IDF	March 2004	A
		No approach lighting on RWY 02R/20L.	July 2000	Usually RWY 02L/20/20R in use (with non-standard PP. lights - SALS and PAPI) – available with VOR App.	App. Lighting to be provided as soon as possible.	IDF	March 2004	A
		No lighted sign with RWY designators	Jan 2002		Sign to be provided	IDF	March 2004	A
		Threshold markings/lighting do not conform to ICAO SARPs.	July 2000		To be rectified	IDF	March 2004	U
		Limited parking space	Jan 2002	One wide-body plus 3 smaller aircraft Note: Recommended for operations with minima not less than alternate minima	Reconsider Apron planning	IDF	June 2004	A
	Syria							
MID/3 RAN Rec. 1/3 ASIA/PAC 3 RAN, Rec.3/1	Damascus int'l Airport	Construction works on taxiways/ramps in DAM	Feb. 2004	Much of these work areas are both unlit and unmarked and clearance for a B744 is marginal		DGCA	May 2004	U

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
ASIA/PAC/3, Rec. 4/10 MID/3, Conc.1 / 4	**United Arab Emirates** Dubai Int'l Airport	(X) Category II operations for Dubai -RWY 12L/30/R has been resumed. Category III is expected to take at least one year	Sep. 2002	Refer to CNS List of Deficiencies for same deficiency	**(X)** Completion of regulatory process, Refer to CNS descriptions on same deficiency	DCA	August 2004	U

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.

(*) Note:1 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.

(**) Note2: The information related to **Afghanistan and Iraq** is not precise.

(X) Note 3: Deficiency related to Aerodrome Operation safety requirements and to be discussed with CNS list of deficiencies for remedial action.

AOP SG/4
Appendix 4B to the Report on Agenda Item

STATES ACTION PLAN FOR ELIMINATION OF AIR NAVIGATION DEFICIENCIES

State:…….. **Date:**……..

Item No	Deficiency	Corrective Action		Remarks*
		Description	Date of completion	

(*) Rationale for non-elimination, Difficulties encountered, other States concerned, etc.

REPORT ON AGENDA ITEM 5: CERTIFICATION OF AERODROMES IMPLEMENTATION FOLLOW UP IN THE MID REGION

5.1 Analysis of a survey on certification of aerodromes implementation status conducted in the MID Region

5.1.1 For better insight of the implementation status in the MID region before mandatory certification of international aerodromes by 27 November 2003, the meeting was informed that a survey on certification of aerodromes implementation status has been conducted in the MID Region, aimed at enhancing appropriate means required if difficulties in one or more area were detected.

5.1.2 The meeting was informed that fourteen MID States have responded to MID Regional Office questionnaire. Survey results, analysis details and summary of observations on the survey are indicated in **Appendix 5A** to the Report on Agenda Item 5.

5.1.3 The meeting was informed that majority of MID States are still in need of intensive professional training for Aerodrome Inspectors and that three States were requesting ICAO expertese for assisting in aerodrome certification implementation.

5.1.4 The meeting noted the information on the workshop on "Aerodrome Inspector Training course" as contained in the report on agenda Item 9. The meeting was informed that the Arabic version of ICAO Doc 9774 is now available and that a related state letter Ref. AN 5/15 – 048 dated 26 January 2004 was circulated to notify concerned States and organizations.

5.1.5 The meeting considered MIDANPIRG/8 Conclusion 8/4 that;

a) MID States be urged to ensure establishment of the necessary regulatory regime to comply with Provisions of Annex 14 Volume I, related ICAO Specifications and guidance material contained in ICAO Manual Doc 9774.

b) MID States be invited to incorporate measures for safety promotion and Incident/Accident prevention at aerodromes as part of Safety Management System in the Aerodrome Manual.

5.2 Certification of Aerodromes Implementation Follow-up in the MID Region

5.2.1 For the purpose of facilitating monitoring, better, identifying areas anticipating difficulties and following up the proper implementation of ICAO SARPs, related to State's implementation plans on certification of aerodromes and safety management systems on Regional Prospective, the meeting was informed that MIDANPIRG/8 had adopted Forms that were developed as a broad indication to follow up and define appropriate actions required if difficulties in one or more area were detected.

5.2.2 The meeting expressed concern on the availability of ICAO guidance material on Safety Management system (SMS) at aerodrome, preparation of Aerodrome Check List and Training of aerodrome inspectors in due time.

5.2.3 Inputs from States on their implementation status of certification of aerodromes, were incorporated, the meeting noted the information contained in **Appendix 5B** to the Report on Agenda Item 5.

5.2.4 The meeting accordingly, formulated the following Draft Conclusion:

DRAFT CONCLUSION 4/3- MANDATORY IMPLEMENTATION OF CERTIFICATION OF INTERNATIONAL AERODROMES

That MID States,

a) that have slow rate of progress or not having started yet the implementation of certification of aerodromes are urged to do so; and to provide information on their implementation plan for Certification of Aerodromes and actions already taken before 15 May 2004.

b) are encouraged to exchange information and experience in implementing certification of aerodromes in the MID region and worldwide; and

c) *seeking assistance to implement their safety programmes may benefit from the ICAO Technical Cooperation Programme if required.*

5.2.5 The meeting noted the information on the preparatory work in progress for the conduct of ICAO Universal Safety Oversight Audit Programme (USOAP). Such preparatory work had focussed initially on the development of the relevant auditing documentation, including the pre-audit questionnaires, audit protocols, auditors' training courses and related guidance material. The meeting was apprised that pre-audit questionnaire; called State Aviation Activity Questionnaire (SAAQ) had already been prepared and dispatched to all Contracting States, also noted information on a memorandum of understanding (MOU) relating to the conduct of audits in the areas of the expansion that has been developed and a sample of which was distributed to all contracting States for information.

5.2.6 The meeting noted the information on a proposal that has been considered by the Council in its 170th Session for presenting to the 35th Session of the Assembly regarding the implementation, for the USOAP, of a systems approach in the conduct of audits starting in 2005, as this approach would increase the effectiveness and efficiency of the Programme and would offer significant economic benefits in the long-term. As a result the expansion of USOAP to Annexes 11, 13 and 14 will not be commenced in 2004 as the auditing of these Annexes will be integrated in the comprehensive audits to be conducted under the systems approach starting in 2005.

5.3 Outcomes of the 2nd workshop on certification of aerodromes (Dubai 22-23 February 2003)

5.3.1 The meeting was briefed on the outcomes of Certification of Aerodromes workshop held in Dubai jointly between the Airports Council International - ACI and ICAO on 22 and 23 February 2003.

AOP SG/4
Appendix 5A to the Report on Agenda Item 5

STATUS OF IMPLEMENTATION OF CERTIFICATION OF AERODROMES AND SMS IN THE MID REGION – 10 September 2003

	General Legislation & Regulation			Certification of Aerodrome Implementation Status (For one Main Int'l Airport)							
STATE	**Legislations**	**Regulation**	**Regulatory Entity**	**Aerodrome Operator Competency**	**Aerodrome Manual**	**Aerodrome Assessment**	**Grant of A. Certificate**	**Promulgation In the AIP**	**SMS**	**No. of Aerodromes reported for MID survey /Number of Int'l Airports (State AIP Refers)**	**REMARKS**
AFGHANISTAN										2	No information available
BAHRAIN	✓	✓	X	P	✓	P	X	X	P	1 out of 1	Request ICAO Guidance material on Aerodrome Inspector Training and State Safety Audit
EGYPT	✓	✓	✓	✓	✓	✓	X	X	P	15	Information were abstracted from Egypt answers to ICAO USOAP Questionnaire
IRAN	✓	✓	✓	✓	✓	✓	X	✓	✓	1 out of 8	Request Standard Format for Airport Manual
IRAQ	X	X	X	X	X	X	X	X	X	2 out of 2	Request ICAO assistance
ISRAEL	✓	✓	P	✓	✓	✓	✓	✓	✓	6 out of 6	
JORDAN	✓	✓	✓	✓	✓	X	X	X	X	3 out of 4	Highly recommend DASS Inspectors Training Programme
KUWAIT	✓	P	P	✓	P	✓	X	X	P	1 out of 1	Request clarification on Int'l Operations to Non Certified Aerodrome after 27 Nov. 2003– Legal aspects
LEBANON	✓	✓	P	X	X	P	X	X	X	1 out of 1	Request ICAO assistance for implementing certification of aerodromes
OMAN	✓	✓	P	P	✓	P	X	X	✓	1 out of 2	Request an ICAO Expert for one year renewable contract to Assist the State by providing

		General Legislation & Regulation			Certification of Aerodrome Implementation Status (For one Main Int'l Airport)							
STATE		**Legislations**	**Regulation**	**Regulatory Entity**	**Aerodrome Operator Competency**	**Aerodrome Manual**	**Aerodrome Assessment**	**Grant of A. Certificate**	**Promulgation In the AIP**	**SMS**	**No. of Aerodromes reported for MID survey /Number of Int'l Airports (State AIP Refers)**	**REMARKS**
												specified services for certification of aerodromes implementation
QATAR		✓	✓	✓	✓	✓	✓	X	X	✓	1 out of 1	
SAUDI ARABIA		✓	✓	P	✓	✓	✓	P	✓	✓	3 out of 4	
SYRIA		✓	X	P	X	X	X	X	X	X	0 out of 3	Have requested ICAO Experts for State assistance in certification of aerodrome aspects
UNITED ARAB EMIRATES		✓	✓	✓	✓	✓	✓	P	P	P	5 out of 6	- Granting certification of all Int'l aerodromes will be ready as of 27 November 2003 - Promulgation in the AIP will be issued on o1 October 2003 with effect as of 27 Nov. 2003.
YEMEN		P	P	P	P	P	P	P	P	P	0 out of 4	
TOTAL	✓	12 **85.8%**	10 **71.4%**	5 **35.7%**	8 **57.2%**	9 **64.3%**	7 **50.0%**	1 **7.2%**	3 **21.4%**	5 **35.7%**		
	P	1 **7.1%**	2 **14.3%**	7 **50.0%**	3 **21.4%**	2 **14.3%**	4 **28.6%**	3 **21.4%**	2 **14.3%**	5 **35.7%**		
	X	1 **7.1%**	2 **14.3%**	2 **14.3%**	3 **21.4%**	3 **21.4%**	3 **21.4%**	10 **71.4%**	9 **64.3%**	4 **28.6%**		

Summary of MID Survey on Certification of Aerodromes Implementation Status on 18 August 2003:

No. Of STATE Replied to MID Survey		% Of States implemented Legislations	% Of States provides Regulation	% Of States have Regulatory Entity	Sample for One Main Int'l Aerodrome						No. of Aerodromes reported for MID survey /Number of Int'l Airports (State AIP Refers)	REMARKS
					% Of States assessed their Aerodrome Operator Competency	% Of States have prepared an Aerodrome Manual	% Of States have performed Aerodrome Assessment	% Of States have Granted an A. Certificate	% Of States have performed Promulgation In the AIP	% Of States have implemented SMS		
12 out of 19	✓	85.8%	71.4%	35.7%	57.2%	64.3%	50.0%	7.2%	21.4%	35.7%	25 out of 60	
	P	7.1%	14.3%	50.0%	21.4%	14.3%	28.6%	21.4%	14.3%	35.7%		
	X	7.1%	14.3%	14.3%	21.4%	21.4%	21.4%	71.4%	64.3%	28.6%		

Legend:

Implemented ✓ In Progress P Not Implemented X

.

CERTIFICATION OF AERODROMES IMPLEMENATION PLAN

UPDATED TIMELINES

TIMELINES:

Global

Regional

Regional

Table 5B -1

MIDDLE EAST - CERTIFICATION OF AERODROMES IMPLEMENTATION TIMELINES FOLLOW-UP

CERTIFICATION OF AERODROMES IMPLEMENTATION							
		2001	2002	2003	2004	2005	
Global	**Legislation**						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	**Formation of Separate Regulatory Entity**						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	**Preparation of the Aerodrome Manual**						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						

Table 5B-2

CERTIFICATION OF AERODROMES IMPLEMENTATION							
		2001	2002	2003	2004	2005	
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	**Aerodrome Operational Performance Assessment**						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	**Issue of an Aerodrome Certificate for Int'l Airports**						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						

Table 5B-3

CERTIFICATION OF AERODROMES IMPLEMENTATION		2001	2002	2003	2004	2005	
SAFETY MANAGEMENT SYSTEM							
Global	Safety Management System						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME							
Global	Universal Safety Oversight Audit Programme						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						

REPORT ON AGENDA ITEM 6: RESULT OF ASSESSMENT STUDY ON BIRD STRIKE HAZARDS TO AIRCRAFT OPERATIONS ON OR IN THE VICINITY OF AERODROMES IN THE MID REGION

6.1 The meeting was informed that ICAO developed a bird strike data collection system with the aid of a group of experts in the field of bird strike to aircraft. This system is known as the ICAO Bird Strike Information System (IBIS); and that it is an important element in accident prevention and is highly supported by airlines, airport operators and experts working to reduce the threat of bird strikes to aircraft.

6.2 The meeting was informed that, guidance material on effective measures for establishing whether or not birds on, or near an aerodrome, constitute a potential hazard to aircraft operations and on methods for discouraging their presence, are given in the ICAO Airport Service Manual Doc 9137 – Part 3 "Bird control and reduction".

6.3 The meeting noted the content of Amendment 5 to Annex 14 Volume I provisions related to Bird Strike Hazard Reduction on, or in the vicinity of airports, which became applicable as of 27 November 2003.

6.4 Due to the fact, that many States do not report bird strikes to ICAO and, as a result, the true extent of the bird strike hazard and of States' efforts to combat bird strikes is not fully known in the MID region, the meeting was informed that MIDANPIRG/8 formulated Conclusion 8/5 which supported the conduct a regional risk assessment study on bird strike hazards to aircraft operations.

6.5 A questionnaire previously prepared by ICAO had been circulated to all MID States surveying their Bird Strike Data Collection, data Dissemination and related State practices. The meeting noted the analysis of the information received from eleven States as contained in **Appendix 6A** to the Report on Agenda Item 6.

6.6 The meeting noted the analysis of a survey conducted by IATA on Bird Strike Hazards at or in the vicinity of airport for the year 2003 in the MID region. The meeting was informed that IATA surveyed all its Member Airlines operating in the airspace of the Middle East on bird hazard strike incidents. The meeting was informed that a number of 35 incidents received from 5 operating members for the year 2003, reporting in 12 airports (including Larnaca, Cyprus) or in the vicinity of those airports. Additionally, Seven Operators did not encounter any bird hazard while operating in the region. The incidents details and summary are at **Appendix 6B** to the Report on Agenda Item 6.

6.7 The summary of IATA survey analysing occurrences of bird strike shows that a high number of incidents were during the month of October and with a high number of incidents taking place during take off phase, the meeting was of the opinion that, there is a need for:

a) State to adopt measures, as necessary, for discouraging the presence on, or in the vicinity of an airport of birds constituting a hazard to aircraft operations;
b) Each airport authority is responsible to take action deemed necessary to implement policies and programme to minimize the bird strike rate at airport; and
c) A very integrated approach should be evolved and developed by the State authority to control Birds at airports.

6.8 The meeting was of the view that good reporting indicates the effectiveness of bird control programme and in some instances, may indicate problems at the site and it is therefore, important that States report all bird strikes to aircraft. Likewise, airlines to report all bird hazard incidents on or near misses at the airport or in the vicinity of that airport. A sample of Bird Strike Reporting Form is contained in **Appendix 6C** to the Report on Agenda Item 6.

6.9 The meeting was informed that ICAO consider the study of bird strike reports is basic to understanding and resolving the problem of bird strikes to aircraft, and that very limited reporting of bird strike data is viewed with concern from the point of view of operational safety and States that are not reporting bird strikes to ICAO are urged to do so.

6.10 The meeting was reminded that According to Annex 15 – "Aeronautical Information Services" - Chapter 8 Pre-flight and post-flight information/data; under 8.1.2.1 Additional current information relating to the aerodrome of departure **shall** be provided concerning presence of birds constituting a potential hazard to aircraft operations, also dissemination of information related to presence of birds observed by aircrews. The meeting was informed that few MID States had published such information in their IAIPs.

6.11 On concluding the presence of bird Strike hazards to aircraft operations in the MID region, and due to the bird immigrating routs interrelating more than one State, a State proposed the establishment of Regional Committee aiming at coordinating efforts to reduce bird strike hazards in the MID region. The proposal could be an efficient tool and the meeting was of the view to decide on it at a further stage.

6.12 The meeting was informed that, in the presence of birds constituting potential hazard to aircraft operations, ICAO could provide special bird strike analysis on a State request.

6.13 The meeting, accordingly, formulated the following Draft Conclusion:

DRAFT CONCLUSION 4/4- STUDY RESULTS ON BIRD STRIKE HAZARD TO AIRCRAFT OPERATIONS SAFETY ON OR IN THE VICINITY OF MID AIRPORTS

That,

a) An integrated approach should be evolved and developed by State authorities to control Birds Hazards at airports.

b) Urge operating agencies to advise concerned States of bird strikes occurring or noticed on any of flight phases (especially in departure from airports).

c) MID States are urged to report to ICAO and publish information on the presence of birds constituting a potential hazard to aircraft operations in their Integrated Aeronautical Information Package (IAIPs).

AOP SG/4
Appendix 6A to the Report on Agenda Item 6

SURVEY RESULTS ON BIRD STRIKE HAZARDS TO AIRCRAFT OPERATIONS ON OR IN THE VICINITY OF AERODROMES IN THE MID REGION

STATE	Part 1 – Bird Strike Data Collection					Part 2 – Bird Strike Data Dissemination					Part 3 – States' Practices						Remarks
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	
	Having in place a national procedure for recording and reporting bird strike to aircraft (Annex 14 Vol. I Par 9.5.1a)	Collecting Data on known bird strikes to aircraft (Annex 14 Vol. I Par 9.5.1b)	Utilizing a standard bird strike reporting format, such as IBIS reporting format	Supplying information on bird strikes to ICAO (Annex 14 Vol. I Par 9.5.2)	Having a national bird strike Committee	Believing that IBIS as world bird strike statistics is adequately meet the goals stated here	Are bird strike statistics distributed to those responsible for airport bird control in the State	Believing that the data reported in the analyses are useful to the end user	Awareness that ICAO provide special bird strike analysis to States upon request	If have requested a special analysis, has the material received met the needs	Having National Policy aimed at reducing bird strikes to aircraft	Having in place a national database on bird strike to aircraft	If Yes to Q12 what is the primary use of this database? Policy Formulating, Analysis, Legislation, Education ,Management Background, Other	Sharing bird strike data with other States collecting similar data	Collecting Data on other forms of wildlife which collide with aircraft on the airport	Should IBIS data collection be expanded to include other wildlife	
AFGHANISTAN																	
CYPRUS*																	
BAHRAIN	✓	✓	✓	✓	✓	✓	✓	✓	✓ (not used)	✓	✓	X		X	X	X	
EGYPT	✓	X	X	X	X	✓	X	✓	X	No request	✓	X		X	X	✓	Yes there is plans to do
IRAN																	
IRAQ	✓	✓	✓	✓	✓	✓	X	✓	✓	No request	X	X		X	X	✓	
ISRAEL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Policy Formulating Analysis and Research	✓	X	X	
JORDAN	X	X	X	X	X	✓	X	✓	X	No request	✓	X		X	X	✓	Yes there is plans
KUWAIT	✓	✓	✓	✓	✓	X	X	✓	X	✓	✓	✓	Background info	X	X	✓	

STATE		Part 1 – Bird Strike Data Collection					Part 2 – Bird Strike Data Dissemination					Part 3 – States' Practices						Remarks
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	
		Having in place a national procedure for recording and reporting bird strike to aircraft (Annex 14 Vol. I Par 9.5.1a)	Collecting Data on known bird strikes to aircraft (Annex 14 Vol. I Par 9.5.1b)	Utilizing a standard bird strike reporting format, such as IBIS reporting format	Supplying information on bird strikes to ICAO (Annex 14 Vol. I Par 9.5.2)	Having a national bird strike Committee	Believing that IBIS as world bird strike statistics is adequately meet the goals stated here	Are bird strike statistics distributed to those responsible for airport bird control in the State	Believing that the data reported in the analyses are useful to the end user	Awareness that ICAO provide special bird strike analysis to States upon request	If have requested a special analysis, has the material received met the needs	Having National Policy aimed at reducing bird strikes to aircraft	Having in place a national database on bird strike to aircraft	If Yes to Q12 what is the primary use of this database? Policy Formulating, Analysis, Legislation, Education ,Management Background, Other	Sharing bird strike data with other States collecting similar data	Collecting Data on other forms of wildlife which collide with aircraft on the airport	Should IBIS data collection be expanded to include other wildlife	
LEBANON		X	✓	X Case by Case	✓	X Have a plan	✓	X	✓	X	No request	✓	X		X	X	✓	Yes prepare coordination Mechanism
LIBYA*																		
OMAN		✓	✓	✓	✓	X	✓	✓	✓	✓ Not used	No request	✓	X		X	✓	✓	
PAKISTAN*		✓	✓	✓	✓	✓	✓	✓	✓	✓	No request	✓	✓	Policy Formulation	X	✓	✓	
QATAR																		
SAUDI ARABIA		✓	✓	✓	✓	X	✓	✓	✓	✓	No request	✓	✓	All	✓	✓	✓	Yes if required
SUDAN*																		
SYRIA																		
UNITED ARAB EMIRATES		✓	✓	✓	✓	X	✓	✓	✓	✓ Not used		X	X		X No Request	✓	✓	No Plans
YEMEN																		
Total of 11 States	✓	9	9	8	9	5	10	6	11	7	3	9	4		2	4	9	
	X	2	2	3	2	6	1	5	0	4	No request	2	7		9	7	2	

Legend:

Yes ✓ NO X States that may report to other PIRGs State*

AOP SG/4
Appendix 6B to the Report on Agenda Item 6

BIRD STRIKE HAZARD INCIDENTS

	Date	Aircraft Type	Event and Cause	Phase	Time / UTC	Altitude / FL
1	06/10/03	A330	Bird strike on Capt's window at 500 feet on approach.	Approach	0552 D	500
2	22/09/03	A330	Take-off aborted at approximately 90kts due to bird strike on the left hand side of the aircraft. Medium Vibration felt from no. 1. Engine ground engineer reported four bent blades on no: 1 engine. All crew and passenger ok. Aircraft taxied back to stand. **Other Information:** Evidence of bird strike. Fan blade # 3,4,13 and 14 replaced. Bird strike inspection carried out.	Take off	0725 D	Approx 90KTS
3	07/02/03	A330	On final approach 29L had a bird strike to upper left nose cowl. **Other Information:** Bird strike inspection carried out as per task 05-51-14-200-801 and 53-15-11-200-801. Bird hit found on the LH upper radome. Area cleaned and inspected. No evidence of damage/delay. (Coin tap test carried out). Radome opened and inspected. Nil abnormalities found. Wind shield area checked - OK. No other evidence of bird hit.	Approach	0627 D	4400
4	27/11/03	A330	Bird strike on base leg landing 30L at night.	Descent	1655 N	3000
5	17/11/03	A330	Bird strike right side number one window at 2500ft in approach for RWY 12L (12NML 00T).	Approach	0055 N	2500
6	08/11/03	A330	At about 130KIAS during take-off roll bird struck aircraft on upper fuselage above Windshield. (Visual and aural confirmation). No abnormal cockpit indications. Reported to ATC. No remains found.	Take off	0456 D	N/A

	Date	Aircraft Type	Event and Cause	Phase	Time / UTC	Altitude / FL
7	30/10/03	A330	During walk around found bird strike evidence on left wing. Heading edge.	Unknown	Night	N/A
8	26/10/03	B777	Multiple bird strike on finals 12L at 1NM. Appeared to be seagulls. No immediate damage apparent and landing continued uneventfully.	Approach	0217 D	340
9	20/10/03	A330	During take-off at rotation, bird strike suspected under radome. During walk around in THR, evidence was found that 3 birds hit with nil damage.	Take off	0444 D	N/A
10	07/08/03	A330	At 150kts at rotate we observed a flock of 15 birds to the right of the nose crossing right to left. Shortly after we felt an impact followed by a "burning duck". After cleaning the aircraft up we observed an N1 vibration indication of 2.3 units on eng.1/ 10.1 units on Eng. 2. After consultation with maintenance and the SMNC a decision was taken to return to Dubai. On arrival the overweight landing checklist was completed, aircraft touched down at 189 tons at <300FPM sink rate. After shutdown significant damage was observed to the left engine N1 fan	Take off	1721 N	10
11	07/07/03	A 330	A small bird struck the left side of fuselage (below Captain window) during take-off. **Other Information:** As per Engineering. Area of fuselage inspected with no evidence of bird strike or damage	Take off	0350 D	0
12	30/06/03	B 777	Small flocks of birds struck at 100'AGL.	Take off	Local 1535 D	100/5000
13	09/05/03	A 330	At 400' momentarily saw a silhouette similar to small bird in T/O lights beam and shortly after heard a thump around lower right hand side of the fuselage. **Other Information:** Tech Log no. ref 285628. RH side fuselage area inspected nil	Take off / Initial Climb	1824	400

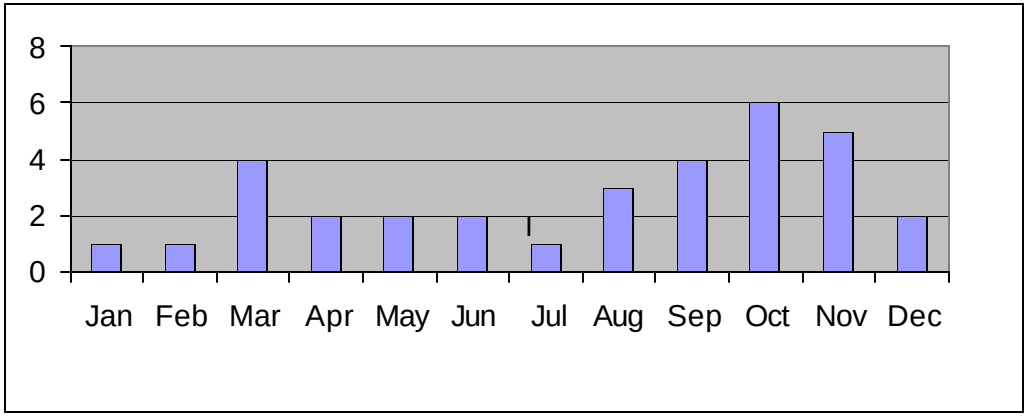
	Date	Aircraft Type	Event and Cause	Phase	Time / UTC	Altitude / FL
			damage found and no evidence of any bird strike noticed MCC informed GF Duty Engineer DOH.			
14	22/03/03	A 330	Small bird struck radome. **Other Information:** No visual evidence found by engineer.	Flare RWY 126	0530 D	Flare
15	10/03/03	A 330	In final approach for runway 30R of 500ft Ground bird crossing (flock of birds) size of seagul) Bird strike random Captain side.	Approach	0252 D	500
16	10/01/03	A 330	Engineer report of bird remains on port wing. Crew were not aware of bird strike on either sector. **Other Information:** DXB ATIS reporting bird activity. Entered in T/log sheet 269234/02. Inspected and no damage noted to L/E of L/H wing slat 3. Bird remains cleaned off.	Unknown	1745 N	N/A
17	31/12/03	A 330	On rotation a/c struck bird. All systems checked OK. Advised OMDB maintenance to carry out inspection.	Take off	1814 N	N/A
18	21/05/03	A 330	Speed 230 hit bird at 5000' just before turn north bound investigated on landing and reported to Engineers. No apparent damage.	Climb	1800	5000
19	08/09/03	B 777	Distinct moderately loud metallic thump heard on lower fuselage aft of radome. Suspect bird strike. No apparent damage, all parameters normal. **Other Information :** Area checked found blood stain at radom L/H side. No dent/damage found. Inspection carried out I.A.W AMM Task 05-51-18-210-801 area cleaned. A/C serviceable.	Climb	1823 N	6000
20	20/09/03	A 330	Encountered bird strike on final 33R RUH, informed maintenance who carried out inspection. No damage found.	Approach	1600 N	4000

	Date	Aircraft Type	Event and Cause	Phase	Time / UTC	Altitude / FL
21	23/04/03	A 330	During approach hit a bird at 4NM final R/W 23R underneath nose. Evidence of bird strike found by engineer on arrival. No damage.	Approach	1313 D	4000
22	07/11/03	A 310	During take-off roll at about 130kts one small bird hit below nose of aircraft. (not visual only thump heard).	Take off	1428 D	N/A
23	14/08/03	A 330	Bird strikes during take-off roll just before V1 on left outer leading edge.	Take off	1013 D	GND
24	29/10/03	B 777	On descent, passing, FL090, 250kias bird strike. First Officer's # 2 window.	Descent	1631 N	090
25	5/03/03	A 310	Just after airborne during right turn, a small bird struck the left hand side of the airplane felt in the cockpit about 2 meters behind windshield	Climb	0552 D	800
26	24/04/03	A 310	During T/O just before v. (149kts) a pigeon sized bird struck the radome L/H side, flight continued to destination without further incident	Take off	0510 D	N/A
27	29/08/03	A 300	Bird struck upper part of f/o windshield at VR	Take off	1910 N	0
28	19/06/03	A 330	Bird struck heard on base leg – checked on ground found struck aircraft in area above radome and below windshield	Approach	1842 N	1500
29	18/03/03	A 321	Bird struck on windshield	Climb	1940 N	7000
30	09/10/03	B737-700	Bird strike on approach Mct. No damage reported.	Approach		
31	09/11/03		Bird strike on take-off Mct. No damage reported.	Take off		

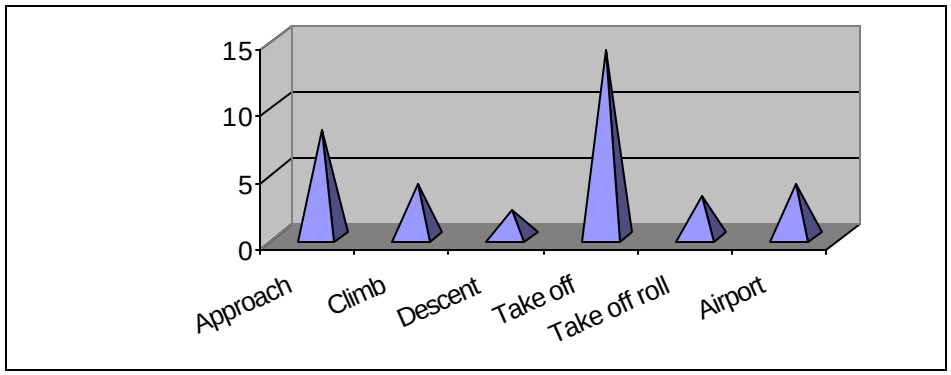
	Date	Aircraft Type	Event and Cause	Phase	Time / UTC	Altitude / FL
32	14/12/03	B737-800	Bird strike on take-off SLL. No damage reported.	Take off		
33	30/09/03	B737-400	Bird strike – cockpit windshield during take off roll from RWY 21 at a speed of 148kt. No damage reported	Take off roll		
34	8/10/03	30	Part hit Fuselage	Run	Night	0
35	19/9/03	30	Part hit Fuselage	Run	Night	0

- **ANALYSIS:**

Incidents throughout 2003 per month



Phase of Flight



- **IN SUMMARY:**

- 19% of the strikes occur in the month of October
- 15% of the strikes occur during daylight hours; while 39% occur during night time and 19% unspecified.
- 25% of the strikes occur during the approach while 39% during take-off and a further 8% during take off roll.

- The analysis of bird strike data not only reveals trends, which can help airport authorities to recognize areas of concern, but also can determine those times of year or day when bird control is needed the most.

Appendix 6C to the Report on Agenda Item 6

BIRD STRIKE REPORTING FORM

Send to:

Operator . . . . . .

Aircraft Make/Model . . . . . .

Engine Make/Model . . . . . .

Aircraft Registration . . . . . .

Date *day . . . . month . . . . . year . . . . . .*

Local time . . . . . .

dawn **G**A day **G** B dusk **G**C night **G**D . . . . . .

Aerodrome Name . . . . . .

Runway Used . . . . . .

Location if En Route . . . . . .

Height AGL . . . . . *ft*

Speed (IAS) . . . . . *kt*

Phase of Flight

parked	**G**A	*en route*	**G**E
taxi	**G**B	*descent*	**G**F
take-off run	**G**C	*approach*	**G**G
climb	**G**D	*landing roll*	**G**H

Part(s) of Aircraft

	Struck	*Damaged*
radome	**G**	**G**
windshield	**G**	**G**
nose (excluding above)	**G**	**G**
engine no. 1	**G**	**G**
2	**G**	**G**
3	**G**	**G**
4	**G**	**G**
propeller	**G**	**G**
wing/rotor	**G**	**G**
fuselage	**G**	**G**
landing gear	**G**	**G**
tail	**G**	**G**
lights	**G**	**G**
antenna	**G**	**G**
pitot/static	**G**	**G**
tail rotor (helicopter)	**G**	**G**
other (specify)	**G**	**G**

Effect on Flight

none	**G**
aborted take-off	**G**
precautionary landing	**G**
forced landing	**G**
vision obscured	**G**
engines shut down	**G**
fire	**G**
other (specify)	**G**

Sky Condition

no cloud	**G**A
some cloud	**G**B
overcast	**G**C

Precipitation

fog	**G**
rain	**G**
snow	**G**

Bird Species* . . . . . .

Number of Birds

	Seen	*Struck*
1	**G**A	**G**A
2-10	**G**B	**G**B
11-100	**G**C	**G**C
more	**G**D	**G**D

Size of Bird

small	**G**S
medium	**G**M
large	**G**L

Pilot Warned of Birds

yes **G**Y no

Remarks *(describe damage, injuries and other pertinent information)* 46/47

.....

.....

.....

.....

Reported by . . . . . .

**Send all bird remains including feather fragments to:*
(Optional)

THIS INFORMATION IS REQUIRED FOR AVIATION SAFETY

AOP SG/4
Report on Agenda Item 7

REPORT ON AGENDA ITEM 7: FOLLOW UP LATEST DEVELOPMENTS IN THE FIELD OF AERODROMES – NEW LARGER AIRCRAFTS (NLA)

7.1 The meeting was reminded that, in 1999, Amendment 3 to Annex 14, Volume I, introduced a new aerodrome reference code letter F, to accommodate aeroplanes with a wing span from 65 m up to but not including 80 m, and outer main gear wheel span from 14 m up to but not including 16 m. and that States planning to receive NLA were required to implement the new code F specifications in developing their aerodromes.

7.2 Recognizing that in order to permit unrestricted operations and enhance aerodrome capacity, the level of aerodrome infrastructure must be at least equal to that specified in Annex14, Volume I if not better, and that some States may have some difficulty in complying with the Annex 14, Volume I requirements at their existing aerodromes before the anticipated entry of NLA into commercial service. In such certain cases, in order to ensure that the required safety levels are met, States should carry out appropriate aeronautical studies to evaluate the suitability of existing facilities and to determine the need for operational procedures, alternate measures, and operating restrictions to meet the safety objectives of Annex 14, Volume I provisions.

7.3 The meeting noted the information that Annex 14, Volume I permit the use of aeronautical studies in a few specific areas, namely taxiway minimum separation distances and penetration of certain obstacle limitation surfaces by existing objects. And that each State which accepts aeronautical studies and other safety studies not referenced in Annex 14, Volume I, and applies the resulting operational procedures, alternative measures and operating restrictions, is responsible for the application of those studies. The *Aerodrome Design Manual* (Doc 9157), Part 2, Chapter 1, paragraphs 1.2.28 to 1.2.65 contain detailed guidance for conducting such aeronautical studies.

7.4 The meeting was informed that ICAO has developed a new Circular with the main intent of bringing together in one document all the relevant issues of concern, with necessary cross references to the appropriate ICAO provisions so that States may benefit from this in their efforts to develop their aerodromes appropriately, for the safe operations of the new larger aeroplanes at existing aerodromes. The meeting was informed that The New ICAO "*Circular on New Larger Aeroplane Operations at Existing Aerodromes",* Draft Version 4.1 (dated 15 March 2004) is now available to States on ICAO-NET website (www.icao.int/icaonet).

7.5 Information was provided to the meeting on the various issues concerning aerodrome dimensions, facilities and services in movement areas which should be considered for accommodating NLA operations at existing aerodromes, the circular provides a comprehensive, but not exhaustive check-list of relevant items. The meeting also noted the broad NLA characteristics and their Influence on the aerodrome dimensions, facilities and services in movement areas, that to be addressed such as; NLA dimensions, landing gear design, engine data, maximum passengers and fuel carrying capacities and flight performance including wake vortex. The circular also draws attention to the need for reconsideration of emergency plans to deal with incidents involving larger aircraft, and consequential aspects of rescue and fire fighting.

7.6 Information on New Larger Aeroplane characteristics Database such as Airbus A340-600, the A380 and the Boeing B777-300 and the B747-Advanced was addressed. (Airbus website www.airbus.com/custmer/technical.asp, Boeing website www.boeing.com/airports refers).

7.7 The meeting was informed that the new circular contains detailed information on the various factors to be considered in conducting an aeronautical study to assess operation of such large aeroplanes at existing aerodromes. And that suitable references to studies conducted by some States have been included which may provide assistance to a State wishing to carry out its own studies, and noted that it may not be appropriate to use the results directly where any or some of the factors are different from those used in these studies.

7.8 The Circular outlines a safety analysis methodology that could be used to assess the operational requirements and infrastructure needs for accommodation of NLA at existing aerodromes; safety analysis that has been developed is divided into four steps:

a) Identification of each infrastructure item to be evaluated
b) Annex 14 requirements
c) Hazard identification and analysis
d) Risk assessment and possible mitigation measures

7.9 Information related to Flight Procedures and Environmental Aspects are also included in the new Circular. Aerodrome operators will need to consider aircraft noise, aircraft emissions, aircraft fuelling, aircraft maintenance, aircraft operations and aerodrome infrastructure. This could include extensions to the obstacle free zone (OFZ) or changes to movement areas, and holding positions to accommodate specific aircraft types.

7.10 While the results of a study may help to identify any safety-related aspects, the meeting was informed that States and aerodrome operators may wish to consider the potential impact of these results on aerodrome capacity and movement rates. At many aerodromes, congestion is a critical issue. Authorities may therefore wish to link the studies to simulations of ground movement traffic flows, including NLA, as a gate-to-runway system, to identify any possible impact of operating an NLA on aerodrome capacity, and to develop trade-off options on a cost/effective basis. Nevertheless, safety should always be given due priority.

7.11 To this end, the meeting was reminded that the responsibility of States and aerodrome operators to ensure safety and efficiency remains unchanged. Any information provided in the new Circular should be evaluated for applicability and appropriateness in the specific aerodrome environment, and every effort must be made to comply with the Annex 14, Volume I provisions. Safety of operations must be the overriding concern whenever it is contemplated to conduct such operations with lesser clearances than those specified in the Annex.

7.12 The meeting was briefed on Article 37 of the Chicago Convention provision that Contracting States undertake, inter alia, to conform with international standards, unless it is found impracticable to fully comply with them. In such a case, immediate notification thereof must be given to the ICAO Council, as provided in Article 38 of the Convention. Furthermore, according to Assembly Resolution A33-14, Appendix D, Associated Practice 3, Contracting States are called upon to notify ICAO all differences from SARPS, i.e. not only from Standards but also from Recommended Practices. While all such notified differences are published by ICAO in Supplements to the relevant Annexes, Contracting States are also requested to publish them (as well as differences from Procedures) in their Aeronautical Information Publications (AIPs), when significant, as required under paragraph 4.1.2 (c) of Annex 15 to the Convention. - *Aeronautical Information Services*

AOP SG/4
Report on Agenda Item 8

REPORT ON AGENDA ITEM 8: AERODROME SAFETY ASPECTS

8.1 Safety of Runways

8.1.1 The meeting was briefed on the definition of Aviation Safety as provided by ICAO Air Navigation commission in its 158th Session, December 2001; and related provision in ICAO Global Aviation Safety Plan (GASP). The meeting noted that the 11th Air Navigation Conference September 2003 had discussed Runway Safety issues and formulated **Rec. 4/5 – Runway Safety Programmes** that States; a) take appropriate actions to improve runway safety worldwide through the implementation of runway safety programmes, and b) collect and share runway incursion incidents in accordance with Annex 13, **Rec. 4/7 – Global Runway Incursion Risk Management** that ICAO; a) urgently progress the development of a formal definition for runway incursion, and b) enhance ADREP reporting to incorporate a common categorization taxonomy of runway incursion severity, error type and/ or contributing factors.

8.1.2 The meeting agree that, protection of a runway from unauthorized entry is essential to the safe and efficient operation of a runway and an aerodrome. The meeting noted the runway incursion definition provided by ICAO Air Navigation Commission on October 2003 as "any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of the aircraft".

8.1.3 Apart from deliberate intrusion on to a runway for unlawful purpose, the meeting was informed on three types of encroachment:

a) Accidental entry to the runway by a vehicle whose driver has lost his way by and somehow entered the manoeuvring area *"Accidental entry"*;

b) Mistaken entry resulting in an unauthorized entry to the runway by an aircraft or vehicle cleared to move on the manoeuvring area *"Mistaken route"*; and

c) Misunderstood clearance resulting in an entry to the runway by an aircraft or vehicle whose operator believes, mistakenly, that the necessary clearance has been received *"Misunderstanding clearance"*.

8.1.4 While Air Navigation system component involved could be Aerodrome Operator – Management & Personnel, Aircraft Operators and or Airlines and Flight Crew and or Air Traffic Services – Air Traffic Controllers, the meeting agree that the basic principle of runway protection must be the use of proven and safe procedures with all traffic conforming to recognized rules. All personnel must be fully conversant with these rules and the appropriate authorities should establish a monitoring system that maintains the highest standards possible.

8.1.5 The meeting noted the information on the primary method of protection that must be the provision of sufficient visual information to pilots and drivers that are approaching an active runway in order that they can conform with the recognized procedures. Noted also that the visual information can be supported by more sophisticated non-visual electronic detection equipment where traffic density and airfield complexity increase the risk of possible infringement of the runway. The meeting was also informed that an Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual is considered by ICAO to be published in 2004.

8.1.6 The meeting was briefed on; Annex 14, Volume I, Provisions related to runway safety, guidance material related to runway safety in ICAO Manuals were listed and Visual Aids Panel (VAP) recommendations (formulated in its 14th meeting (2002).

8.1.7 The meeting was of the view that; reducing and eliminating aerodrome deficiencies through compliance with Annex 14, Volume I SARPs could be one of the prevention measures, and that in order to achieve a high level of runway safety, aerodrome operators and responsible authorities must ensure that:

a) the movement area is fenced or otherwise protected against unauthorized entry;

b) all entry points to the movement area are controlled;

c) there is an adequate level of knowledge, competence and discipline among those in charge of authorized traffic on the movement area;

d) road systems are adequately and appropriately signposted, marked and lighted;

e) an active runway is clearly and unmistakably marked as such to surface traffic;

f) area traffic conforms to recognized RTF procedures; and

g) where visibility, aerodrome complexity and traffic density demand, provision is made for non-visual electronic protection equipment such as surface movement radar (SMR).

8.2 Control of Obstacles at and around Aerodromes

8.2.1 In an effort aiming at the uniform application of ICAO specification for the control of obstacles at and around aerodromes by States, the meeting noted the information on the rationales behind the ICAO two sets of criteria for assessing the significance of any existing or proposed object within the aerodrome boundary in the vicinity of the aerodrome and defining the airspace requirements; The first of these comprises the obstacle limitation surfaces particular to a runway and its intended use specified in Annex 14 — *Aerodromes*, Volume I. The second set of criteria comprises the surfaces described in the *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS), Volume II — *Construction of Visual and Instrument Flight Procedures.*

8.2.2 The meeting also noted that National Governments generally have the basic authority and primary responsibility to establish national criteria for the limitation of obstacle and to provide guidance and assistance to those directly concerned with control of obstacles. These criteria should be compatible with those in Annex 14, Chapter 4, by adopting zoning regulations to limit heights of buildings and trees, purchase of easements and purchase of property.

8.2.3 The meeting was apprised on the fact that natural features and manmade constructions inside and outside an aerodrome boundary may considerably influence its effective utilization. When differences arise between and conflict of interest arises between property owners and airport operators. If such cannot be resolve, it may be necessary for the national authority charged with approving aircraft operating procedures to establish restrictions limiting operations in the interest of safety. These may result in limitation on the distances available for take-off and landing and on the range of meteorological conditions in which take-off and landing can be undertaken and reduction of authorized aircraft masses and possibly restriction of certain aircraft types. These actions could seriously affect orderly and efficient air transportation to an airport and adversely affect the economy of the communities served by the airport.

8.2.4 The meeting was of the opinion that, obstacle limitation surfaces should be enacted in local zoning laws or ordinances or as part of a national planning consultation scheme

and that the surfaces established should allow not only for existing operations but also for the ultimate envisaged for each aerodrome. Therefore, to minimize future penetrations of obstacle limitation surfaces, the meeting was of the view that local bodies should cooperate closely with Civil Aviation Authorities (CAAs)/ Aerodrome Operators to ensure that the measures taken provide the greatest possible degree of safety and efficiency for aircraft operation, the maximum economic benefits to neighbouring communities and the least possible interference with the rights of property owners

8.2.5 The meeting was of the opinion that ultimate responsibility for limitation and control of obstacles must, in practice rest with CAAs/Airport Operators.

8.2.6 In view of the potentially important operational considerations, The meeting was of the view that authorities might consider it desirable to adopt measures to ensure that they have advanced notice of any proposals to erect tall structures.

8.2.7 The meeting noted the information on ICAO specifications for denoting obstacle, that are impractical to eliminate, contained in Annex 14, Chapter 6 and the Aerodrome Design Manual – Part 4, Visual Aids.

8.2.8 Information on shielding principle concerns was presented by Egypt. Practices of some MID States related to shielding were highlighted.

8.2.9 The meeting was informed that Control of obstacles in the vicinity of aerodromes is, therefore, a matter of interest and concern to national governments, local communities, property owners and CAAs/Airport Operators and that a high degree of cooperation among government and local authorities, airport operators and property owners is required to control obstacles and to provide a safe environment for efficient operation of aircraft at airports.

8.2.10 Accordingly, the meeting formulated the following Draft Conclusion:

DRAFT CONCLUSION 4/5- CONTROL OF OBSTACLES AT AND AROUND AERODROMES

That, MID States are urged to:

a) comply with ICAO Annex 14 and associated documents (relevant Annexes, PANS-OPS and Guidance Manuals…etc) governing the control of obstacles at and around aerodromes;

b) apprise national authorities of the importance of coordinating with CAAs/Airport Operators, the control of construction hieghts at and around airports for safe operations of aircraft as per ICAO specifications and national regulations; and

c) *extend every national efforts to develop necessary measures including legislations to enforce its implementation*.

REPORT ON AGENDA ITEM 9: FUTURE WORK PROGRAM

AOP Sub-Group Work Programme

9.1 The meeting review its next Work Programme and decided on its updates as contained in **Appendix 9A** to the Report on Agenda Item 9.

Human Resources Development (HRD)

9.2 The meeting was informed that the ICAO timelines for implementation of Aerodromes Certification and Safety Management system requirements, which includes aerodrome safety and efficiency depends on mainly two areas, namely, the adequacy and efficacy of the services, facilities and procedures, and the operational capability of the aerodrome operators. The second factor heavily depends on the necessary human resources development, which includes training, dissemination and exchange of information, and development of expertise. While sufficient information is available on the modern equipment and technology from various sources, the HRD is a matter, which the individual States have to address. ICAO has also given high priority to this subject.

9.3 While States may have their own programs for the human resources development, the ICAO Secretariat can assist the States by way of conducting workshops and seminars and extending assistance under the ICAO Technical Cooperation Program.

9.4 The meeting considered the various areas where such seminars/workshops would be useful for the region to enhance aerodrome operational safety and efficiency. After considerable discussion, the meeting agreed that "Aerodrome Inspectors Training" would be the most demanding issue and would be suitable topic for a workshop in the near future. The Need for this training workshop was also supported by MIDANPIRG/8 Conclusion 8/8 that;

a) Civil Aviation Training Centers in the MID region be invited to promote Training Courses for State/Service Providers Aerodrome inspectors and Safety Auditors.

b) ICAO be requested to consider as urgent, training guidance in human resource development related to States' aerodrome inspectors and aerodrome safety management systems.

9.5 The meeting was informed that ICAO is in the process of coordinating the organizing of a workshop on Aerodrome Inspector Training (5 to 6 days) in the MID Region, tentatively scheduled for June 2004. The course would be of practical training workshop and have to be attended by State's Aerodrome Inspectors/Instructors having a strong knowledge and background on Annex 14 and associated ICAO Specifications. The total number of participants attending the workshop should not exceed 25 to 30 in total, as from the perspective of getting the maximum benefit of the workshop, details will be contained in the invitation letter to be circulated.

9.6 In an effort to seek information from States regarding difficulties encountered during the implementation of specific Human Factors-related SARPs; The meeting was informed that a Questionnaire attached to ICAO State Letter AN 12/1.1.5-04/7 dated 16 January 2004 was circulated to all contracting States on *"Status of implementation of Standards and Recommended Practices concerning Human Factors"* Action required: was to complete and return the questionnaire to Montreal by 16 April 2004, this information will assist ICAO to define activities, including the development of guidance materials aiming at assisting States in the implementation of Human Factors-related SARPs covering aerodromes amongst other Air Navigation disciplines.

9.7 The meeting was informed that due to the heavy schedule of the MID Regional Office, the workshop on “Safety of aircraft operations at the movement area” would be postponed to year 2005, dates to be advised.

Date and Venue of the AOP SG/5 meeting and its Provisional Agenda

9.8 A tentative date of 6 - 8 June 2005 was proposed by secretariat for the AOP SG/5 meeting subject to verification after MIDANPIRG/9. The meeting had no objection to the dates, and was of the opinion that the venue would be ICAO Regional Office in Cairo unless a MID State wished to host the meeting.

9.9 The meeting agreed to the Provisional Agenda for the AOP SG/5, as in **Appendix 9B** to the Report on Agenda Item 9**.**

AOP SG/4
Appendix 9A to the Report on Agenda Item 9

TERMS OF REFERENCE, WORK PROGRAMME OF AOP SUB-GROUP

TERMS OF REFERENCE

Paying particular attention to the safety and efficiency of aerodrome operations, the AOP Sub-Group shall be responsible for MIDANPIRG to:

a) Monitor developments in the field of Aerodrome Operations in the MID Region, including the implementation of ICAO world-wide and regional provisions, changes to aircraft operations, new operational requirements and/or technological development, and make proposals to meet the operational requirements of the MID Region related to these developments;

b) Identify current and anticipated capacity and implementation deficiencies at international aerodromes in the MID Region and their causes through the continuous review of "Basic requirements for facilities and services at international aerodromes", Tables AOP-1 of Basic ANP and FASID and Table CNS 3 of FASID of the MID Region, and

c) Monitor operational safety and efficiency of the aerodromes in the Region, identify the associated deficiencies and suggest steps for their resolution, in Particular critical areas with priority to:

- Aerodrome navigational facilities
- Obstacles at /around aerodromes
- Pavement Surface Conditions
- Safety of aircraft operation on the movement area
- Runway incursion
- Aerodrome maintenance
- Bird Hazard Reduction and Control
- Secondary Power Supply
- Rescue and Fire Fighting Services
- Alternate Aerodromes
- Removal of disabled aircraft
- Safety Management System at Aerodrome

Work Programme

No.	Task Description	Deliverables	Priority	Target Date
1	Planning and implementation of required facilities and services at international aerodrome	- Conduct of regular Regional Consultation for the basic requirements for facilities and services at international aerodromes (Tables AOP 1 OF MID Basic ANP and FASID and Table CNS 3 of FASID refer). In this regard, carry out a regular review of the BORPC and suggest any modifications required. Review the MID Basic ANP and FASID on a regular basis and update the Tables as required.	A	Continuous
		- Identify deficiencies relevant to required facilities and services at international aerodromes in accordance with uniform methodology for identification, assessment and reporting of air navigation deficiencies and single definition of a "Deficiency", approved by ICAO Council on 30 November 2001.	A	Continuous
2	Aerodrome Emergency Plan	- Analysis of implementation of relevant ICAO provisions in the region, and proposal of local and/or regional remedial action	A	Continuous
3	Aerodrome Operational Safety issues in particular critical areas with priority to: 1) Aerodrome navigation facilities 2) Obstacles at/around aerodromes (*) 3) Pavement Surface Conditions 4) Safety of aircraft operation on the movement area 5) Runway incursion 6) Aerodrome maintenance 7) Bird Hazard Reduction and control 8) Secondary Power Supply 9) Rescue and Fire Fighting Services 10) Alternate Aerodromes, in particular for En-Route 11) Removal of disabled aircraft 12) Safety Management System at Aerodrome	- Based on outcome of priority A Tasks, Identify from the above list those items which merit further consideration within MID Region and propose action plan including target dates.	A	Continuous

No.	Task Description	Deliverables	Priority	Target Date
4	Latest Developments	- The introduction of New Large type Aircraft	A	Continuous
		- Advanced Surface Movement Guidance and Control Systems (ASMGCS)	B	
		- CNS/ATM systems and its impact on aerodrome facilities and services	B	
		- Other technological developments related to aerodrome; suggest appropriate steps to be taken by States to keep up with these developments	B	

Note: Priority

A *High Priority tasks, on which work should be speeded up*

B *Less Priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A tasks*

(*) AOP SG has to stress on the importance of identifying obstacles at and around Aerodrome.

COMPOSITION

MID Provider States and International Organizations concerned, Chairperson and Vice-Chairperson are designated by AOP Sub-Group.

AOP SG/4
Appendix 9B to the Report on Agenda Item 9

Provisional Agenda Items for

AOP SG/5 Meeting

Agenda Item 1	Adoption of the Provisional Agenda
Agenda Item 2	Review MIDANPIRG Actions on the AOP SG/4 report
Agenda Item 3	Review and update Tables AOP1 and CNS 3 of MID FASID
Agenda Item 4	Monitoring and Follow up Deficiencies in the AOP field in the MID region
Agenda Item 5	Certification of Aerodromes and Safety Management System implementation follow-up in the MID region
Agenda Item 6	Follow up latest development in the AOP field (New Larger Aircrafts – NLA)
Agenda Item 7	Aerodrome Safety Aspects
Agenda Item 8	Future Work Programme
Agenda Item 9	Any other business

REPORT ON AGENDA ITEM 10: ANY OTHER BUSINESS

MID States AOP Focal points

10.1 In order for the MID Regional Office to be able to contact, coordinate and follow up the implementation of ICAO regulations and MID Air Navigation Plans, Facilities and Services related to Aerodrome design and Operations with States and service providers, the meeting was informed that the MID Regional Office had requested MID States to nominate their Focal Points in the AOP field. The meeting noted that replies were received from eleven States as indicated at **Appendix 10A** to the Report on Agenda Item 10.

10.2 The meeting requested States that have not yet provided their nominations, to do so during the meeting. **Appendix 10A** to the Report on Agenda Item 10 lists the details of MID States Focal Points in the AOP Field.

Note on Notification of Differences to Annex 14, Volume I

10.3 Under this Agenda Item the meeting noted the guidance information on determination and reporting of differences than ICAO Standards and Recommended Practices (SARPs). The primary purpose of reporting of differences is to promote safety and efficiency in air navigation by ensuring that governmental and other agencies, including operators, concerned with international civil aviation are made aware of all national rules and practices in so far as they differ from those prescribed in the ICAO Standards and Recommended practices.

10.4 The meeting urged MID States having differences between their national regulations and practices and the Standards and Recommended Practices contained in the Annex 14 Volume I, their Amendments and associated SARPs thereto, to notify ICAO of the differences, in accordance with Article 38 of Chicago Convention on International Civil Aviation.

10.5 In addition, differences are to be published through State' AIPs when the notification of such difference between the related ICAO SARPs and national regulation and practices is important to the safety of air navigation. The meeting formulated the following Draft Conclusion:

DRAFT CONCLUSION 4/6- NOTIFICATION OF DIFFERENCES TO ANNEX 14 VOLUME I

That, MID States is urged to:

a) notify ICAO of any differences between their national regulations and practices and the Standards and Recommended Practices contained in Annex 14 Volume I and any amendments thereto, and

b) publish air navigation safety related differences through their AIPs.

AOP SG/4
Appendix 10A to the Report on Agenda Item 10

MID REGION STATES AOP FOCAL POINTS

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* MID States that are not MIDANPIRG Provider States.

AOP SG/4
Attachment A to the Report

FOURTH MEETING OF THE AERODROME OPERATIONAL PLANNING SUB-GROUP

(Cairo, 23 – 25 February 2004)

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