



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**REPORT OF THE SECOND MEETING OF
THE AERODROME OPERATIONAL PLANNING
SUB-GROUP**

AOP SG/2

(Cairo, 30 July - 2 August 2001)

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

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontier or boundaries.

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History of the Meeting

PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Second Meeting of the MIDANPIRG Aerodrome Operational Planning Sub-Group (AOP SG/2), was held at ICAO Middle East Regional Office, Cairo from 30 July 2 August 2001.

2. OPENING

2.1 Mr. A. Zerhouni, ICAO Regional Director, warmly welcomed all the delegates to Cairo and, gave a brief background of the parent body, MIDANPIRG and its role in the regional air navigation development. He further stated that the MIDANPIRG/4 established this AOP Sub-Group and the MIDANPIRG/5 formulated its TOR and assigned certain tasks. AOP Sub-Group did not meet before MIDANPIRG/6 (September 2000). The first meeting of AOP SG/1 was held in Cairo, 13-16 November 2000. A consolidated list of draft decisions and conclusions is to be presented to MIDANPIRG/7. He also brought to the attention of the meeting the various issues to be addressed by the Sub-Group. He wished the meeting every success in its deliberations.

2.2 Mr. Khodaverdi, Chairperson of AOP SG delivered a brief address drawing the attention on the important subject of Aerodrome Certification and who to deal with possible expansion of Universal Safety Over Sight Programme to Aerodromes.

3. ATTENDANCE

3.1 The meeting was attended by a total of twenty-six participants, which included delegates from ten States and one International Organization. The list of participants is at page 4 - 9.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was chaired by Mr. Davood Khodaverdi, General Director of Airport Affairs, Islamic Republic of Iran. Mrs. Nawal A. HADY, Regional Officer, Aerodromes and Ground Aids from the ICAO Middle East Cairo Office, was Secretary of the meeting. The meeting was also assisted by Mr. M. Traore, Regional Officer (CNS) from the ICAO Middle East Office.

4.2 Mr M. Khonji ICAO MID Regional Deputy Director also supported and assisted the meeting by giving brief advice whenever it was necessary.

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 update revision of the TOR and Work Programme of AOP Sub Group

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Agenda Item 2:	Review BORPC and the MID Basic ANP and FASID for Facilities and Services at International Aerodromes
Agenda Item 3:	Review the list of Shortcoming and Deficiencies in the AOP field
Agenda Item 4:	Follow Latest Developments in AOP field
Agenda Item 5:	Aviation Security and Safety Aspects related to AOP field
Agenda Item 6:	Future Works Programme
Agenda Item 7:	Any other business

7. CONCLUSION 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 in the form of draft conclusions, draft decisions and decisions with the following significance:

- a) **Draft Conclusions**
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) **Draft Decisions** deal with matters of concern only to the MIDANPIRG and its contributory bodies
- c) **Decisions** where necessary the AOP/SG could make Decisions which deal with matters of concern only to itself, or where no further action is required by the MIDANPIRG or already authorized by MIDANPIRG.

8. LIST OF DRAFT CONCLUSIONS AND DECISIONS

DRAFT DECISION 2/1	REVISED TOR AND WORK PROGRAM
DRAFT CONCLUSION 2/2	REVISED BORPC
DRAFT CONCLUSION 2/3	REVISED BASIC ANP AND FASID TABLES AOP-1
DRAFT CONCLUSION 2/4	REVIEW OF TABLES CNS 3 OF FASID
DRAFT CONCLUSION 2/5	UPDATED LIST OF SHORTCOMINGS AND DEFICIENCIES IN AOP FIELD
DRAFT CONCLUSION 2/6	CERTIFICATION OF AERODROMES
CONCLUSION 2/7	POSSIBLE IMPROVMENTS TO CAPACITY MANAGEMENT OF AIRPORT S AND AIRSPACE SHOULD NOT DEGRAD AVIATION SAFETY REQUIRMENTS

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CONCLUSION 2/8	AVIATION SECURITY ISSUES TO BE CONSIDERED AND MONITORED SPECIFICALLY IN THE AREA OF AERODROME PLANNING, DESIGN AND OPERATION
CONCLUSION 2/9	SAFETY ASPECTS TO BE CONSIDERED AND MONITORED WITH PRIORITY IN MID REGION AOP
DRAFT CONCLUSION 2/10	SEMINAR/WORKSHOP ON AERODROME CERTIFICATION
DRAFT Conclusion 2/11	LASER EMITTERS AND FLIGHT OPERATIONS SAFETY

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AOP SG/2
Report on Agenda Item 1

PART II - REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND UPDATE REVISION OF THE TOR AND WORKING PROGRAMME OF AOP SUB- GROUP

1.1 The Secretariat presented the Proposed Agenda for the Second Meeting of the Sub-Group that was discussed and adopted by the meeting as shown in para. 6 of the History of the Meeting.

1.2 The meeting noted that the MIDANPIRG/4 Decision 4/61 established this AOP SG. Pursuant to this Decision and based on comments received in reply to a regional consultation MIDANPIRG/5 defined the Preliminary Terms of Reference of the Sub-Group (Decision 5/31).

1.3 The meeting noted Terms of Reference and work programme by AOP SG/1 that made some changes in the Preliminary Terms of Reference and work programme of the Sub-Group. The meeting also noted the updated revision of AOP SG TOR and Work programme presented by the Secretariat, noted duly changes, (i.e. priorities, deliverables, Presentation with reference to MIDANPIRG/5).

1.4 The Terms of Reference and work programme of the Sub-Group were accordingly modified for presentation to and approval by MIDANPIRG/7. The Revised Terms of Reference and work programme is at **Appendix 1A**. The following draft Decision was developed:

DRAFT DECISION 2/1- REVISED TOR AND WORK PROGRAMME

The Terms of References and work program of the AOP Sub-Group are revised as given in **Appendix 1A** to the report.

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 Appendix 1A to the Report on Agenda Item 1

APPENDIX 1A

**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 short-falls at international aerodromes in the MID Region and their causes through the
 -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 shortcomings and deficiencies and suggest steps for their resolution, in Particular critical areas with priority to:
 - Aerodrome navigational facilities
 - Obstacles at /around aerodromes
 - Pavement Surface Conditions
 - Aerodrome maintenance
 - Bird Hazard Reduction and Control
 - Safety of aircraft operation on the movement area
 - Secondary Power Supply
 - Rescue and Fire Fighting Services
 - Alternate Aerodromes
 - Removal of disabled aircraft

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 refers). In this regard, carry out a regular review of the BORPC	A	Continuous

No.	Task Description	Deliverables	Priority	Target Date
		<p>and suggest any modifications required. Review the MID Basic ANP and FASID on a regular basis and update the Tables as required.</p> <ul style="list-style-type: none"> - Identify shortcomings and deficiencies relevant to required facilities and services at international aerodromes. (AOP Sub-Group should propose any changes felt necessary to the format of the Uniform Methodology). 	A	Continuous
2	Aerodrome Emergency Plan	<ul style="list-style-type: none"> - Analysis of implementation of relevant ICAO provisions in the region, and proposal of local and/or regional remedial action. 	A	Continuous
3	<p>Aerodrome Operational Safety issues in particular critical areas with priority to:</p> <ol style="list-style-type: none"> 1) Aerodrome navigation facilities 2) Obstacles at / around aerodromes (*) 3) Pavement Surface Conditions 4) Aerodrome maintenance 5) Bird Hazard Reduction and control 6) Safety of aircraft operation on the movement area 7) Secondary Power Supply 8) Rescue and Fire Fighting Services 9) Alternate Aerodromes, in particular for En-Route 10) Removal of disabled aircraft 	<ul style="list-style-type: none"> - 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 	B	Continuous
4	Latest Developments	<ul style="list-style-type: none"> - The possible introduction of New Large type Aircraft. - Advanced Surface Movement Guidance and Control Systems (ASMGCS) - CNS/ATM systems and its impact on aerodrome facilities and services - Other technological developments related to aerodrome; suggest appropriate steps to be taken by States to keep up with these developments. 	B	Continuous

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*

(*) Since non-precision approach based on GNSS will be in use in the near future in the MID Region, AOP SG has to stress on the importance of identifying obstacles at and around Aerodrome.

COMPOSITION:

Provider States and International Organizations concerned. Iran (Chairperson), Bahrain (Vice chairperson).

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Report on Agenda Item 2

REPORT ON AGENDA ITEM 2: REVIEW BORPC AND THE MID BASIC ANP AND FASID FOR FACILITIES AND SERVICES AT INTERNATIONAL AERODROMES

REVIEW BORPC

2.1 The meeting noted that the Statement of Basic Operational Requirements and Planning Criteria (BORPC), in addition to the traffic forecast and ICAO Standards and Recommended Practices (SARPs), should be the basis for the planning of air navigation facilities and services.

2.2 The meeting also noted that the current BORPC was recently modified and approved by the Air Navigation Commission for use in all regions except European region.

2.3 The meeting reviewed the BORPC and considered that no further additions / modifications are required at this stage.

2.4 Accordingly, the meeting developed the following draft Conclusion:

DRAFT CONCLUSION 2/2- REVISED BORPC

That, the revised BORPC in **Appendix 2A** to the Report is updated and no further additions / modifications are required at this stage.

REVIEW MID BASIC ANP AND FASID AOP 1 TABLES

2.5 The meeting noted that, on 26 February 1997, the ICAO Council decided that the regional

2.6 The meeting was reminded that the Air Navigation Plan (ANP), which will now contain 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, 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.

2.7 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), International Scheduled Air Transport, Alternate Use (AS) and International Non-schedule Air Transport , Alternate Use (ANS).

2.8 The FASID Table AOP gives the Facilities and Services to be provided at these aerodromes. The Physical Characteristics of the Runway, Taxiway and Apron are decided based on the Traffic Forecasts and the largest aeroplane 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, which will be produced by the ICAO AIS/MAP section in Montreal on the basis of the information in the corresponding tables.

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Report on Agenda Item 2

2.9 In accordance with the decision of the President of ICAO Council, the provision of facilities and services for Cairo FIR is to be reflected in the basic ANPs and FASIDs of both the Middle East and the AFI Regions due to the fact that Egypt is situated at the boundary of MID and AFI regions. AOP 1 tables in ANP/ FASID were amended to include Egypt data.

2.10 Those States which have not finalized updating their **AOP-1 tables** in ANP/FASID are requested to send their revision to MID office as soon as possible but not later than 9 August 2001, before the AOP SG/2 final report issue.

2.11 The meeting noted the last updated tables that was based on additional information from States and, as decided by the MIDANPIRG/6, were presented and reviewed by the meeting of the ANP/FASID Task Force held in February 2001. The meeting also noted that the two documents as a whole including all parts were processed for approval by the competent authority following the ICAO established procedure.

2.12 The meeting reviewed the Draft Tables AOP-1 of Basic ANP and FASID presented by the Secretariat and made changes/corrections as required. The meeting agreed on the revised Tables in **Appendices 2B & 2C** to Agenda Item 2 of this Report

2.13 Accordingly, the meeting formulated the following Conclusions:

DRAFT CONCLUSION 2/3- REVIEW OF TABLES AOP 1 IN BASIC ANP AND FASID

That, the Tables AOP 1 of MID Basic ANP and FASID in **Appendices 2B & 2C** to the Report are revised and updated.

REVIEW MID FASID CNS3 - TABLES

2.14 In accordance with the TOR of the Sub-Group, the meeting is to identify current and anticipated capacity and implementation of short-falls at international aerodromes in the MID Region and facilities and services at

shortcomings and deficiencies. It was, however, noted that Doc 9708 ANP Middle East Region, had replaced Doc 8700. Further, the MID Basic ANP and FASID are expected to soon replace the DOC 9708. Therefore, the meeting reviewed the concerned draft MID FASID Table CNS 3.

2.15 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 of such facilities were shown in FASID Table CNS 3. The requirements of collocation/aligning the DME with VOR/ILS are given in FASID Table CNS 3.

2.14 Those States that have not finalized updating their CNS3 tables in ANP/FASID were requested to send their revision to MID office as soon as possible but not later than 9 August 2001, before the issue of the AOP SG/2 final report.

2.16 The meeting reviewed the FASID Table CNS 3 - that had been presented and reviewed by the ANP/FASID Task Force meeting - in relation to the facilities shown in FASID Table AOP 1 and made appropriate changes. The modified FASID Table CNS 3 is at **Appendix 2D** to the Report on Agenda Item 2.

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2.17 The meeting developed the following Conclusion:

DRAFT CONCLUSION 2/4- REVIEW OF TABLES CNS 3 OF FASID IN RELATION TO AERODROME FACILITIES AND SERVICES

That, the Tables CNS 3 of FASID in relation to aerodrome facilities and services in **Appendix 2D** to the Report are revised and updated.

AOP SG/2
Report on Agenda Item 3

REPORT ON AGENDA ITEM 3: SHORTCOMINGS AND DEFICIENCIES IN AOP FIELD

3.1 The meeting was presented with the revised methodology for the identification, assessment and reporting of air navigation shortcomings and deficiencies approved by the ICAO Council on 23 June 1998 for use in ICAO regions. The meeting was also informed that this methodology has been adopted by MIDANPIRG/5 for use in this region.

3.2 The meeting noted the following valid definitions of shortcoming and deficiency:

provided in accordance with a regional air navigation plan is considered to be a shortcoming. A situation where an existing facility or service is partially unserviceable, incomplete or not operated in accordance with appropriate ICAO specifications and procedures is considered to be a deficiency. The net effect of either a shortcoming or a deficiency is a negative impact on safety, regularity and/or efficiency of

3.3 The meeting was informed that a unified definition is under consideration by ICAO but not yet adopted.

3.4 The list of shortcomings and deficiencies had been circulated to States for their input and updating, however, no information was received from some States. Some information was also available from the users. Accordingly, a list of shortcomings and 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 the list of shortcoming and deficiencies.

3.5 The meeting emphasized the need of all concerned, the States/providers and the users, namely, IATA and IFALPA, to extend their cooperation in this exercise so that effective solutions can be suggested for the resolution of the shortcomings and deficiencies in the region. In this regard the meeting Adopted the list of shortcomings and deficiencies in the AOP field given in the Appendix 3-A to Report on Agenda Item 3 of this Report, and the meeting formulated the following Draft Conclusion:

DRAFT CONCLUSION 2/5- UPDATED LIST OF SHORTCOMINGS AND DEFICIENCIES IN AOP FIELD

That,

- i) The list of shortcomings and deficiencies in the AOP field in Appendix 3A to the Report be adopted. The Secretariat is requested to monitor the progress in their resolution and report to the Sub-Group/MIDANPIRG.
- ii) States in the region are requested to provide information to the ICAO MID Regional Office on the actions taken by them to resolve or remove any shortcomings and deficiencies noted by them and/or users in their own air navigation facilities and services in particular critical area to aerodrome operational safety issues.
- iii) IATA and IFALPA, as users of the air navigation facilities and services in the region, are requested to inform, the States concerned and the ICAO Regional Office of any shortcomings and deficiencies noted by them, so that suitable actions can be taken to resolve them.

AOP SG/2
Report on Agenda Item 4

REPORT ON AGENDA ITEM 4- LATEST DEVELOPMENTS IN THE AOP FIELD

I. Certification of Aerodromes

4.1 The meeting noted the proposed amendment 4 to Annex 14 Vol. I, that envisages inclusion of a new section 1.3 that would introduce the requirement for aerodromes to be certified. It was proposed that aerodromes used for international operations shall be certified under appropriate regulatory framework. A Recommended Practice would cover other aerodromes in the interest of safety. It also includes provisions on the establishment of a safety management system at aerodromes. This requirement would facilitate the endeavour by States to ensure that the aerodrome operator (be it a government-owned aerodrome or a corporatized or privatized entity) is obliged to provide adequate and safe facilities and services.

4.2 The meeting was informed that, A State letter ref. AN 4/1.2.18-01/36 dated 6 April 2001 was circulated to all States by ICAO HQ:

- Informing Contracted States that Amendment 4 to the International Standard and Recommended Practices, Aerodromes Aerodrome Design and Operations (Annex 14, Volume I to the Convention on International Civil Aviation) was adopted by ICAO council on 12 March 2001.
- Notification of disapproval of any part of Amendment 4 by states before 16 July 2001.
- Request for information - before 1 October 2001 - the provisions of the whole Annex 14, Volume I including Amendment 4 on existing Differences on 1Nov. 2001 between the national regulations or practices of state government and the provisions of the whole Annex 14, Volume I including Amendment 4 and of any further differences that may arise, and State Compliance with the provisions of the whole Annex 14, Volume I including Amendment 4, before 1 Oct. 2001.

The State Letter with all the attachments is available on ICAO website www.icao.int/icaonet and can be accessed using the access code assigned to the States.

4.3 The meeting was advised that a manual on certification of aerodromes had been developed by the Secretariat based on input from some States who have such practices and is intended to facilitate States in establishing similar regulatory procedures. It contains details of an aerodrome certification regulatory system, model regulations needed for certifying an aerodrome, and the procedures that may be used by State regulatory authority.

4.4 The section of the manual dealing with the aerodrome regulatory system discusses the need for certifying an aerodrome, the need for basic aviation legislation to be available to empower the appropriate regulatory body to carry out the regulatory functions, and it identifies the areas for regulations. The manual also contains model regulations to assist States in developing their own regulations if such regulations are not already in place. It also covers the period of validity of the certificate, the obligations of an aerodrome operator, the preparation and maintenance of an aerodrome (operations) manual, establishment of a safety management system and safety and security aspects of authorizing personnel to access the air side areas, etc.

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Report on Agenda Item 4

4.5 Procedures of certification of aerodromes have also been included in the manual. They cover the processing of applications, the minimum staff requirements, and assessment of the capability of the aerodrome operator to ensure safety of operations, including control of movement of vehicles and personnel, management of wild life hazards at an aerodrome, handling of hazardous material, etc. A brief organizational structure for such a regulatory body is also shown for adoption as appropriate by a State. Similarly, sample forms for use by a State is also included.

4.6 The meeting also was informed that as part of certification process, an applicant wishing to operate an aerodrome is required to submit a formal application to the State Civil Aviation Administration for grant of certificate. This application should be accompanied by an aerodrome manual containing all the conspicuous details of the facilities and services that would be available at the aerodrome.

4.7 It was noted that the Aerodrome Manual also include details of the safety management system (SMS) policy and by means of which the operator intends to ensure the safety of operations. This safety policy include: an organizational chart that shows the lines of responsibility, the means by which the operator will ensure that all fixed base operators, ground handling agencies and others are aware of safety policy and of the need to adhere to it, the risk mitigating measures, procedures for handling emergencies, etc.

DRAFT CONCLUSION 2/6- CERTIFICATION OF AERODROMES

That States in the region are,

- i) Urged to establish the necessary legislation and regulatory procedures needed for the certification of aerodromes with a view to enhance aerodrome operational safety and efficiency.
- ii) Reply to ICAO HQ state letter ref. AN 4/1.2.18-01/36 dated 6 April 2001, before 1 October 2001

II. POSSIBLE IMPROVEMENTS TO CAPACITY MANAGEMENT OF AIRPORTS WITHOUT CONFLICTING OR DEGRADING SAFETY REQUIREMENTS

4.8 Implementation of Airport Capacity projects would increase Airport Capacity, improve airport efficiency and reduce aircraft delays. Technical feasibility of Airport Capacity projects should not be in conflict with safety requirements as a first priority.

4.9 The meeting noted Capacity constraints at airports and in airspace that becoming an increasing challenge to the continued growth of air transport. With air traffic that expected to grow significantly in the years ahead (approximately 5.5% per annum for passenger-kilometres and 6.5 % per annum for freight tonne-kilometre Ref. ICAO publication, Outlook for Air Transport to the year 2010 - circular 281), it is becoming increasingly important to improve the process of Managing Capacity at airports that face severe constraints. Infrastructure improvement expansion is clearly the best solution, but not always feasible.

4.10 The meeting also noted that Airport Capacity is a combination of runway, movement area and terminal building capacity and is defined as the maximum numbers of Aircraft operations that can be performed safely in an hour, and Delay is defined as the time between a constrained and an unconstrained aircraft operation. These delays occur because of simultaneous demands on the same facility. Aircraft Traffic Demand at an airport for a particular hour is the sum of the number of desiring to land at, and depart from, the airport during that hour, and once it is estimated that hourly airport capacity

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will be reached in the near future, prompt and careful investigation of the runway/movement/terminal area capacity will be required to determine whether the delays are due to runway congestion, airspace conflicts, ATC facilities, weather or a combination of these and other factors, and what remedial action will be needed.

4.11 Noting options that could be recommended to increase airport capacity, improve airport efficiency and reduce aircraft delays at an airport, that are categorized under the following headings, these improvements may be implemented either independently, alternately or in combination and in all cases levels of safety as per relevant ICAO SARPS are to be considered:

- Airfield Improvements (dependent or independent parallel runways, extension of taxiways, construction of rapid exit taxiways, building holding apron, increase terminal building areas)
- Facilities and Equipment Improvements (providing, upgrading Instrument Landing Systems,
- Air traffic Control Operational Improvements (using new technology and procedures, etc)
- Airport User Improvements (extensive coordination and cooperation between carriers and airport operators to perform: Uniformly Distribute scheduled commercial operations within the hour, reduced runway occupancy time through pilot and/or controller performance,

4.12 The meeting was informed that despite considerable efforts, however, there remain physical and increasing, environmental limitations to the development of new or expanded infrastructure as well as significant funding issues that must be fully resolved.

4.13 The meeting emphasized the need for further consideration by states to insure that possible improvements to capacity management of airports should not degrade safety requirements. In this regard the meeting formulated the following draft conclusion:

CONCLUSION 2/7- IMPLEMENTING POSSIBLE IMPROVEMENTS TO CAPACITY MANAGEMENT OF AIRPORTS AND AIRSPACE SHOULD NOT DEGRADE SAFETY REQUIREMENTS

That,

- i) States should consider and maintain safety requirements - as per relevant ICAO SARPS and PANS when implementing possible improvements to capacity management for airports and airspace; and
- ii) In order to maintain aerodrome operational regularity, Airports improving capacity measures verses safety requirements should be monitored.

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REPORT ON AGENDA ITEM 5: AVIATION SECURITY AND SAFETY ASPECTS RELATED TO MID REGION AOP

5.1 Noting that Annex 14, Volume I specifications have generally formed the basis not only for planning and design of aerodromes, but also for assessing the adequacy of an aerodrome for handling anticipated operations. Relevant technical manuals provide guidance and information of International SARPS and PANS, the implementation of which is desired to facilitate.

5.2 In accordance to AOP SG TOR and Work Programme, the meeting was advised to note the following aviation and safety aspects for further consideration within MID Region.

AVIATION SECURITY

5.3 The meeting noted that at each airport a basic level of security is required to safeguard international civil aviation operations against acts of unlawful interference, and these measures and procedures required to be determined at the earliest stage in Airport Planning or Design, consultation with airport security authority is essential.

5.4 In accordance with Annexes 17 and 18 and Airport Planning Manual (Doc 9184), Part 1 Master Planning; for security to be effective, a system approach is required to describe the airport design stages. It should be recognized that the airport design is relatively inflexible once the structures are completed and should the security requirements become greater in the future, it may be difficult, if not impossible, to modify the buildings and structures at a reasonable cost.

5.5 The meeting noted that Security requirement of the operational areas is a first priority to be provided. In any case, separation should be ensured between public and operational area particularly runways, taxiways, aprons, passenger terminal buildings, airport service roads located on the airside and fencing. Care must be taken to ensure that the provision of fencing does not conflict with the operational requirements of the airport; access points should be kept to the minimum and should be guarded. In addition, other facilities and services vital to air navigation which may not be located on the airside, such as air traffic services, radio navigation aids, petroleum storage area, water and electrical power supplies, will also need to be protected. The airport design must provide for an airport emergency, operations centre and a security services centre.

5.6 Noting the information provided by the secretariat, the meeting adopted the following draft conclusion:

CONCLUSION 2/8- AVIATION SECURITY ISSUES TO BE CONSIDERED IN AERODROME PLANNING, DESIGN AND OPERATION

That, aviation security requirements should be considered, specifically in the area of aerodrome planning, design and operation, maintained and monitored.

Priority Safety Aspects Related To Mid Region Aerodromes**I. Aerodrome Emergency Planning**

5.7 The meeting noted that Aerodrome emergency planning is the process of preparing an aerodrome to cope with an emergency occurring at the aerodrome or its vicinity. The objective of airport emergency planning is to minimize the effects of an emergency, particularly in respect of saving lives, properties and maintaining aircraft operation. The airport emergency plan sets forth the procedures/instructions for co-coordinating/ensuring the prompt response of different airport agencies (or services) and those agencies in the surrounding community that could be of assistance in responding to the emergency.

5.8 The meeting also noted that to be operationally sound, a comprehensive airport emergency plan must give consideration to:

- Preplanning BEFORE an emergency;
- Operations DURING the emergency; and
- Support, assessment and documentation AFTER the emergency.

5.9 The meeting also noted that examples of emergencies are: aircraft emergencies, sabotage including bomb threats, unlawfully seized aircraft, dangerous goods occurrences, building fires and natural disasters, and that examples of agencies involved are:

- On the aerodrome: Air traffic control unit, rescue and fire fighting services, aerodrome administration, medical and ambulance services, aircraft operator, security services and police.
- Off the aerodrome: Fire departments, police, medical and ambulance services, hospitals, mental health agencies, military and harbour patrol or coast guard and any others who may be needed.

5.10 The aerodrome emergency plan document should include at least the following: types of emergencies, agencies involved in the plan, responsibility and role of each agency, the operation centre, the command post for each type of emergency, information on names and telephone numbers to be contacted in case of a particular emergency, and a grid map of the aerodrome and its immediate vicinity.

5.11 The meeting also noted that the aerodrome emergency plan must contain procedures for periodic testing of the adequacy of the plan and for reviewing the results in order to improve its effectiveness. The plan is to be tested by conducting:

- A full scale aerodrome emergency exercise at intervals not exceeding two years, to ensure the adequacy of the plan to cope with different types of emergencies, and
- Partial emergency exercises in the intervening year to ensure that the responses to individual participating agencies and components of the plane such as the communications system are adequate, and that any deficiencies found during the full-scale aerodrome emergency exercise have been corrected.
- Tabletop exercise at least once each six months except during that six month period when a full-scale exercise is held.

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II. Rescue and Fire Fighting Services

5.12 The meeting noted that the principle objective of a rescue and fire fighting service is to save lives. The provision of means of dealing with an aircraft accident or incident occurring at, or in the immediate vicinity of, an aerodrome assumes primary importance because it is within this area that there are the greatest opportunities of saving lives. This must assume at all times the possibility of, and for, extinguishing a fire which may occur either immediately following an aircraft accident or incident, or at any time during rescue operations.

5.13 The meeting also noted that the most important factors bearing on effective rescue in a survivable aircraft accident are: the training received, the effectiveness of the equipment and speed with which personnel and equipment designated for rescue and fire fighting purposes can be put into use. The level of protection provided at an aerodrome for rescue and fire fighting has to be appropriate to the aerodrome category that is based on the longest aeroplanes normally using the aerodrome and their fuselage width.

5.14 Guidance on categorizing aerodromes for rescue and fire fighting purposes and on providing rescue and fire fighting equipment and services as well as personnel training is given in attachment A, Section 16 of Annex 14 Volume I, and more technical details regarding; extinguishing agents, rescue equipment, response time, fire stations, communication and alerting systems and number of rescue and fire fighting vehicles are given in ICAO Airport Services Manual Doc 9137Part 1: Rescue and Fire Fighting.

III. OBSTACLE LIMITATIONS AROUND AERODROMES

5.15 The meeting noted that obstacles limitation surfaces around aerodromes define the airspace around aerodromes to be maintained free of obstacles so as to permit the intended aeroplane operations at the aerodromes to be conducted safely. To be effective, they should therefore be enacted in local zoning laws or ordinances or as part of a national planning consultation scheme.

5.16 The meeting also noted that natural features and man-made constructions inside and outside of an aerodrome boundary might considerably influence its effective utilization. These may result in limitations on the distances available for aircraft operations during take off and landing and on the range of meteorological conditions in which operations can be under taken. For these reasons airspace around aerodrome is to be maintained free from obstacles so as to permit the intended aeroplane operations at the aerodrome to be conducted safely to prevent the aerodromes from becoming unusable by the growth of obstacles around them. This is achieved by establishing a series of obstacle limitation surfaces that define the limits to which objects may project into the airspace.

5.17 The meeting also noted that certain area of the local airspace must be regarded as an integral parts of the aerodrome environment. The degree of limitations of obstacles in these areas is important to the safe and efficient use of the aerodromes, as are the more obvious physical requirements of runways and their associated strips. The requirements for obstacle limitation surfaces are specified on the basis of the intended use of a runway and type of approach intended to be applied for each use.

5.18 The meeting noted that the surfaces established should allow not only for existing operations but also for the ultimate development envisaged for each aerodrome. There may also be a need to restrict obstacles in areas other than those covered by Annex 14 if operational minima calculated using the PANS-OPS criteria are not to be increased, there by limiting aerodrome utilization, keeping in mind that non-precision approach based on GNSS is coming soon into practice.

IV. Implementation of guidelines and procedures for surface movement guidance and control systems (SMGCS) at main International Airport

5.19 Surface Movement Guidance and Control System (SMGC S) consists of the provision of facilities, information and advice necessary to enable the pilots of aircraft or the drivers of ground vehicles the measures necessary to prevent collisions and to ensure that the traffic flows smoothly and freely. Another important safety function of an SMGC system is to provide assistance to rescue and fire fighting vehicles in locating and proceeding to the site of an accident on the movement area.

5.20 The meeting also noted that In the simplest case, i.e. in good visibility and in light traffic conditions, this objective may be achieved by a system of visual aids and a set of aerodrome traffic rules requiring pilots and vehicle drivers to watch out and give way in accordance with specified procedures. In more complex and/or heavy traffic, a more elaborate system will be required. Under poor visibility conditions this may require a means of electronic surveillance to assure air traffic control personnel that an operational runway is indeed clear. It should be emphasized that an SMGC system should be designed so as to maintain regularity of movement under varying operational conditions.

5.21 The meeting noted that an essential safety function of a SMGC system is to safeguard against unauthorized or inadvertent entry onto operational runways. All the different components of the system, aid in accomplishing this aim. However, The aerodrome authority should ensure that there is appropriate consultation and co-ordination during planning of the SMGC system with the appropriate other branches concerned, including aerodrome engineering, the air traffic control unit, communications and operations specialists, operators, pilots and, where appropriate, the military, to ascertain and confirm the requirements of the surface movement guidance and control system.

5.22 The meeting noted that the following requirements is fundamental to any SMGC system and should be provided at all aerodromes:

- Markings: Runway centre lines, Taxiway centre lines, Runway-holding position, Taxiway intersection, Apron, and Restricted use area.
- Lighting: Runway edge, Taxiway edge, Obstacle lights, and Restricted use areas
- Signs: mandatory signs, e.g. Runway-holding position, NO ENTRY, STOP and Information signs, e.g. location and destination
- Others: Aerodrome charts, Aerodrome control service, signalling lamp and Radiotelephony equipment.

5.23 For future consideration the meeting focused on the fact that Failure to provide a SMGC system appropriate to the demands placed on an aerodrome will lead to a restricted movement rate. Complex systems are not required and are uneconomical at aerodromes where visibility and traffic density will not present a problem for the ground movement of aircraft and vehicles. Surface movement guidance and control systems should be developed with a modular concept in mind so that components can be added when traffic requirements justify such expansion. Financial considerations play an important part in the selection of a system: it should, however, be borne in mind that the selection of components in a system and their location, in the light of planned future development, while initially more expensive can, in the long term, lead to the more advantageous use of financial resources. It should further be borne in mind that technical research will continue in this field and new components will be developed which may either complement or replace existing SMGC system components.

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5.24 Guidance on operational requirements of SMGCS, operational conditions, basic equipment requirements and basic procedural/administration requirements are given in ICAO Manual of Surface Movement Guidance and control Systems (SMGCS) Doc 9476.

5.25 Noting the information provided by the secretariat, the meeting adopted the following draft conclusion:

CONCLUSION 2/9- SAFETY ASPECTS TO BE CONSIDERED WITH PRIORITY IN MID REGION

That, Aerodrome Operational Safety Aspects according to their priorities should be considered and monitored.

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REPORT ON AGENDA ITEM 6: FUTURE WORK PROGRAM

HUMAN RESOURCES DEVELOPMENT (HRD)

6.1 The meeting noted that the ICAO safety oversight program might be expanded soon, subject to availability of adequate resources, to include aerodromes. 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 a high priority to this subject and a HRD manual may be developed soon.

6.2 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.

6.3 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 discuss workshop and/or seminar in the near future. Other topics such as, Aerodrome Emergency Planning, Surface Movement Guidance and Control Systems, Planning and commissioning of new aerodromes, could be considered at a later stage.

6.4 The meeting agreed that since the requirement of aerodrome certification will soon be included in Annex 14 Volume I, ICAO will be requested to plan a workshop or Seminar on this subject in mid year 2002. States were also requested to actively participate in this workshop or Seminar by presenting case studies and/or their current practices. The meeting formulated the following Conclusion:

DRAFT CONCLUSION 2/10- SEMINAR OR WORKSHOP ON AERODROME CERTIFICATION

2002. States in the region are urged to actively participate in the seminar/workshop by sharing their experience, presenting case studies and /or current practices.

DATE AND VENUE OF THE AOP SG/3 MEETING AND ITS PROVISIONAL AGENDA

6.5 A tentative date was proposed by secretariat for the AOP SG/3 meeting that could be scheduled from 16-19 September 2002. This date was not confirmed and would depend on the ICAO MID Regional Office schedule of meeting and workload for year 2002. The meeting was of the opinion that the venue would be Cairo unless a MID State wishes to host this meeting.

6.6 The meeting was also presented with a Provisional Agenda for the AOP SG/3, as shown below.

Agenda Item 1	Adoption of AOP SG/3 provisional agenda Items
Agenda Item 2	Review MIDANPIRG/7 Actions on the AOP SG/1,2 reports

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Agenda Item 3	Review AOP-1 tables of Basic ANP/FASID and the associated Table CNS 3
Agenda Item 4	Follow up List of Shortcomings and Deficiencies in the AOP field
Agenda Item 5	Aerodrome Safety Aspects
Agenda Item 6	Latest Developments in AOP field
Agenda Item 7	Human Resources Development
Agenda Item 9	Future Works Program
Agenda Item 10	Any other business

6.7 The meeting was of the opinion that a provisional Agenda should be formulated at a later stage, at a time when the AOP SG/3 meeting date has been confirmed.

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Report on Agenda Item 7

REPORT ON AGENDA ITEM 7: ANY OTHER BUSINESS

LASER EMITTERS AND FLIGHT OPERATIONS SAFETY

The meeting was informed/noted that;

7.1 The use of laser beams for entertainment and promotional purposes is increasing in all parts of the world. Laser beams have the potential to detrimentally affect flight safety by distracting or blinding pilots and there are several such reports from various locations throughout the world. No international provisions or guidance material exist concerning the use of laser emitters.

7.2 Based on IFALPA request in Feb. 1996, A survey by ICAO had shown that several Contracting States see a need for provisions concerning protection of flight operations against the threat of laser emitters used for commercial promotion, entertainment and various other purposes, often in the vicinity of international airports.

7.3 Air Navigation Commission carried out a preliminary review of a proposal for amendment of chapter 5 of Annex 14 Volume 1 Aerodrome Design and Operations and Chapter 2 of Annex 11 Air Traffic Services, envisaged for applicability in 2003.

7.4 A state letter ref. AN 5/19.3-01/56 dated 15 June 2001 was sent by ICAO HQ to all Contracting States and Users for comments on this proposal to be received before 30 September 2001. The proposed Amendment was developed in order to protect flight operations against the hazardous effects of laser emitters.

7.5 The meeting noted proposed ICAO Recommendations for Protected Flight Zones that should be established around aerodromes as follows:

- A Laser-Beam Free Flight Zone (LFFZ) to an extend of 600 m AGL
- A Laser-Beam Critical Flight Zone (LCFZ) to an extend of 2400 m AGL
- A Laser-Beam Sensitive Flight Zone (LSFZ) to an extend be determined by local aerodrome operations

7.6 The meeting was informed that, the amendment will be supported by a manual on laser emitters and flight safety containing detailed information about the physics of lasers and biohazards they cause as well as guidance on how to protect flight operations against them. The manual is scheduled for distribution in 2002.

7.7 Accordingly, the following Decision was formulated:

DRAFT CONCLUSION 2/11- LASER EMITTERS AND FLIGHT OPERATIONS SAFETY

That, MID states are encouraged to respond to ICAO HQ State Letter (ref. AN 5/19.3-01/56 dated 15 June 2001) for protection of flight operations against the threat of laser emitters used for commercial promotion before, 30 September 2001.

7.8 There was no other point raised under this item. The Chairperson thanked the delegates for their useful contributions and the Secretariat for all the support provided for the success of the meeting.

- END -