



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**REPORT OF THE FOURTH MEETING OF THE  
SECONDARY SURVEILLANCE RADAR CODES  
ALLOCATION STUDY GROUP**

**(SSRCA SG/4)**

*(Cairo, Egypt, 14-15 September 2011)*

The views expressed in this Report should be taken as those of the SSRCA SG/4 and not of the Organization. This Report will, however, be submitted to the MIDANPIRG and any formal action taken will be published in due course as a Supplement to the Report.

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

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.

## TABLE OF CONTENTS

	<b>Page</b>
<b>PART I - HISTORY OF THE MEETING</b>	
1. Place and Duration .....	1
2. Opening .....	1
3. Attendance.....	1
4. Officers and Secretariat .....	1
5. Language .....	1
6. Agenda .....	1
7. Conclusion and Decisions – Definition.....	2
8. List of Conclusions and Decisions .....	2
 <b>PART II – REPORT ON AGENDA ITEMS</b>	
Report on Agenda Item 1 .....	1-1
Report on Agenda Item 2 .....	2-1
Appendix 2A	
Report on Agenda Item 3 .....	3-1/3-5
Appendices 3A – 3I	
Report on Agenda Item 4 .....	4-1
Report on Agenda Item 5. ....	5-1
 List of Participants .....	 Attachment A

-----

SSRCA SG/4  
History of the Meeting

---

## **PART I – HISTORY OF THE MEETING**

### **1. PLACE AND DURATION**

1.1 The Fourth Meeting of the Secondary Surveillance Radar Codes Allocation Study Group (SSRCA SG) was held at the ICAO Middle East Regional Office, Cairo, Egypt, 14-15 March 2011.

### **2. OPENING**

2.1 The meeting was opened by Mr. Mohamed R. M. Khonji, ICAO Regional Director, Middle East Regional Office. In his opening remarks, Mr. Khonji welcomed all delegates to Cairo and to the meeting itself. He gave a brief history on the establishment and the work done by the Study Group. Mr. Khonji wished all participants a fruitful deliberations and successful meeting.

### **3. ATTENDANCE**

3.1 The meeting was attended by a total of 18 participants from six (6) States (Egypt, Lebanon, Oman, Saudi Arabia, Syria and United Arab Emirates). The list of participants is at **Attachment A** to the Report.

### **4. OFFICERS AND SECRETARIAT**

4.1 The meeting elected Mr. Abdullah Al-Hashmi, Director ATM, General Civil Aviation Authority of the United Arab Emirates, as the Rapporteur of the SSRCA Study Group. Mr. Saud Humaid Al-Adhoobi, Regional Officer ATM/SAR was the Secretary of the meeting. Mr. Mohamed R. M. Khonji, ICAO Regional Director from the ICAO Middle East Office supported the meeting.

### **5. LANGUAGE**

5.1 The discussions were conducted in the English language and 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 a Rapporteur                                     |
| Agenda Item 2: | Follow up on MIDANPIRG and other meetings Conclusions and Decisions relevant to SSR Code Allocation |
| Agenda Item 3: | Review the MID Region SSR Code Allocation   |
| Agenda Item 4: | Future Work Program   |
| Agenda Item 5: | Any other business  |

SSRCA SG/4  
History of the Meeting

---

**7. CONCLUSIONS AND DECISIONS – DEFINITION**

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

- a) **Conclusions** deal with matters that, according to the Group’s terms of reference, merit directly the attention of States, or on which further action will be initiated by the Secretary in accordance with established procedures; and
- b) **Decisions** relate solely to matters dealing with the internal working arrangements of the Group and its Sub-Groups

**8. LIST OF CONCLUSIONS AND DECISIONS**

- DRAFT CONCLUSION 4/1: MID STRATEGY ON SSR CODE ALLOCATION ISSUES*
- DRAFT CONCLUSION 4/2: STRATEGY ON SSR CODE ALLOCATION ISSUES*
- DRAFT CONCLUSION 4/3: THE DEVELOPMENT OF MID REGIONAL SECONDARY RADAR (SSR) CODE ALLOCATION LIST*
- DRAFT DECISION 4/4: PROPOSAL FOR AMENDMENT TO THE MID FASID ANP (DOC 9708) RELATED TO SSR CODES*
- DRAFT DECISION 4/5: DISSOLVE THE SSRCA SG*

-----

SSRCA SG/4  
Report on Agenda Item 1

---

**PART II: REPORT ON AGENDA ITEMS**

**REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF RAPPORTEUR**

1.1 The meeting adopted the provisional agenda, as presented.

1.2 The meeting was informed that Mr. Hasan Karam from UAE, who has previously been elected as Rapporteur for the SSR Code Allocation Study Group, (SSRCA SG) will not be participating in SSRCA SG meetings due to administrative changes in the United Arab Emirates (UAE).

1.3 In light of the above, the meeting called for the election of a new Rapporteur, where the representative from Egypt nominated Mr. Abdullah Al-Hashmi, Director ATM, GCAA, UAE. The nomination was supported by Oman, and Mr. Abdullah Al-Hashmi was unanimously elected as the Rapporteur for the SSRCA SG.

1.4 In accepting the election, Mr. Abdullah Al-Hashmi thanked the participants for their confidence in him, and assured them that he will do his best to serve the Group in order to achieve its mandates.

-----

SSRCA SG/4  
Report on Agenda Item 2

---

**REPORT ON AGENDA ITEM 2: FOLLOW-UP ON MIDANPIRG AND OTHER MEETINGS  
CONCLUSIONS AND DECISIONS RELEVANT TO SSR CODE  
ALLOCATION**

2.1 The meeting noted that in accordance with the ICAO Business Plan and the requirements for performance monitoring of the MIDANPIRG Conclusions/Decisions and associated follow-up action plan the MIDANPIRG Conclusions/Decisions, should be formulated with clear tasks, specific deliverables and defined target dates. Accordingly, those statements without requirement for specific follow-up activities should be reflected in the report and should not be formulated in the form of Conclusion or Decision.

2.2 The meeting recalled that it has been agreed by MIDANPIRG that each subsidiary body review the Conclusions and Decisions related to its terms of reference and decide whether to maintain or replace them by updated ones, in order not to have too many Conclusions and Decisions, in order to avoid the status of which are ongoing.

2.3 Based on the above, the meeting reviewed and noted the follow-up actions taken by concerned parties as at **Appendix 2A** to the Report on Agenda Item 2.

-----

SSRCA SG/4  
Appendix 2A to the Report on Agenda Item 2

**MIDANPIRG/12 and other meetings Conclusions and Decision pertinent to the work of the SSRCA Study Group  
for consideration by the SSRCA SG/4 meeting**

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONC. 12/2: INCREASING THE EFFICIENCY OF THE MIDANPIRG SUBSIDIARY BODIES</b></p> <p>That, with a view to maintain the continuity in the activity of the MIDANPIRG subsidiary bodies and increase their efficiency:</p> <p>a) States be invited to nominate for each MIDANPIRG subsidiary body Experts/Specialists as Members of the body concerned to fully contribute to the work of this body; and</p> <p>b) the specialists nominated for membership in a MIDANPIRG subsidiary body, act as focal points within their Civil Aviation Administration for all issues and follow-up activities related to the Work Programme of that body.</p>	Implementation of the Conclusion	ICAO States	State Letter Nomination of Experts/Specialist	January 2011	Ongoing  SL Ref.: ME 3/56 - 11/041 dated 7 March 2011  4 States replied
<p><b>CONC. 12/20: FDPS SSRCA REQUIRED FUNCTIONALITY</b></p> <p>That, MID States be encouraged to consider the upgrade of their FDPSs to include the directional assignment capability in conjunction with ICAO New Flight Plan (INFPL) upgrade</p>	Implement the Conclusion	States	Upgrade of FDPS	November 2012	Ongoing
<p><b>CONC. 12/21: MID STRATEGY ON SSR CODE ALLOCATION ISSUES</b></p> <p>That, MID States adopt the MID strategy in order to improve the MID SSR Code Allocation System as at <b>Appendix 5.2H</b> to the Report on Agenda Item 5.2.</p>	Implement the Conclusion	SSRCA SG	SSRCA SG/4 Report	September 2011	Ongoing  SL AN 6/17 – 10/430 Dated 14 December 2010

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>DEC. 12/49: REVIEW OF THE MID AIR NAVIGATION PLAN (ANP)</b></p> <p>That, in support to ICAO efforts to improve regional ANPs, the MIDANPIRG subsidiary bodies:</p> <ul style="list-style-type: none"> <li>a) carry out a complete review of the MID Basic ANP and FASID parts related to their Terms of Reference (TOR) and Work Programme;</li> <li>b) develop revised draft structure and content of the Basic ANP in order to reconcile it with the ATM Operational Concept, the Global Plan provisions and the performance based approach;</li> <li>c) identify the need for and development of those FASID Tables necessary to support the implementation of a performance-based global air navigation systems; and</li> <li>d) report progress to MIDANPIRG/13.</li> </ul>	<p>Implement the Decision</p>	<p>ICAO States Users</p>	<p>New structure, format &amp; content of ANP/FASID</p>	<p>2012</p>	<p>Ongoing</p>

-----

SSRCA SG/4  
Report on Agenda Item 3

---

**REPORT ON AGENDA ITEM 3: REVIEW THE MID SSR CODE ALLOCATION REQUIREMENTS**

3.1 The meeting recalled that when considering the Originating Region Code Assignment Method (ORCAM), the SSRCA SG agreed in principle on three Participating Areas (PAs) for the MID Region. However, it was agreed that more data regarding, inter alia, MID Region traffic patterns and volume, Flight Data Processing Systems' (FDPS) capabilities, and requirements in adjacent ICAO Regions, was necessary in order to reach a decision on the number of the PAs and codes allocated to each PA.

3.2 The meeting noted that MIDANPIRG/12 was apprised of State letter dated 28 March 2010 calling upon States to provide FDPS capabilities. In this regard, MIDANPIRG/12 further noted that ten (10) MID States replied to the FPDS questionnaire. The initial analysis of the recorded responses demonstrated a large variety of ATS capabilities.

3.3 Based on the above and from the replies received it was evident that FDPS's do not require upgrades to satisfactorily perform the functions according to the PA requirement. However, the use of directional assignment will require the upgrade of FDPS. Accordingly, the meeting urged MID States to upgrade their FDPSs to include the directional assignment capability in conjunction with the ICAO New Flight Plan format (INFPL) upgrade.

3.4 The meeting recalled that based on the deliberations and the knowledge gained during the INFPL Workshop 4-6 July 2010 and considering the outcome of the workshop which recognized that the INFPL implementation is massive, MIDANPIRG/12 agreed to the following Conclusion:

*CONCLUSION 12/20: FDPS SSRCA REQUIRED FUNCTIONALITY*

*That, MID States be encouraged to consider the upgrade of their FDPSs to include the directional assignment capability in conjunction with ICAO New Flight Plan (INFPL) upgrade.*

3.5 The meeting also noted that MIDANPIRG/12 was informed that the Gulf area is an area with considerable military activity, carrier-based aircraft on high seas of a variety of warships with air defence systems. Code changes may in stressed situations be construed by air defence units as an indication of hostile intents and increase the risk of military action against civil aircraft.

3.6 The meeting further noted that MIDANPIRG/12 meeting urged MID States to identify and address inefficiencies in the current ORCAM structure before adopting an alternate structure in order to overcome the SSR code shortage. MIDANPIRG/12 meeting had been advised that the SSR Assignment Log for assessing SSR code shortage problems in order to provide a better documented case study had been circulated to States.

3.7 Based on the above, the meeting was informed that only one State sent an SSR Assignment log for assessing SSR code shortage problems as at **Appendix 3A** to the Report on Agenda Item 3. The data sent was not sufficient to indicate the shortage problems that the log was required to achieve. Accordingly, the meeting agreed that there are no SSR Code shortage problems in the MID Region.

SSRCA SG/4  
Report on Agenda Item 3

---

3.8 The meeting was informed that MIDANPIRG/12 meeting was apprised on the proposal containing immediate short term measures to address code shortage issues as follows:

- transfer 1200 series Domestic SSR code from the Emirates and Bahrain FIR's to Jeddah FIR; and
- in coordination with EUROCONTROL consider exchanging the Tel Aviv FIR Transit SSR code series 5100 or 6400 with the SSR "D" 20 or SSR "D" 36 series of Tehran FIR *that are geographically adequately separated*. The released "T" series from Tel-Aviv FIR is to be returned to the ICAO MID Regional Office for re-allocation.

3.9 The meeting was further informed that MIDAPIRG/12 noted that the MID Regional Office had sent a Sate Letter addressing the transfer of the 1200 SSR Code series from Bahrain to Saudi Arabia. A reply from Bahrain was received objecting to the release of 1200 SSR Code series as they have been allocated to the Bahrain Defence Force (Military).

3.10 The meeting recalled that Afghanistan's accreditation and the Air Navigation Plan (ANP) have been transferred to the Asia Pacific Region (APAC) since 15 November 2008. The meeting further noted that Israel's accreditation and the Air Navigation Plan (ANP) have been transferred to the European Region (EUR/NAT) since 13 January 2011. In which all references to Afghanistan and Israel are to be removed from the MID BASIC ANP and FASID, (Doc 9708).

3.11 The meeting noted that MIDANPIRG/12 agreed to the MID Region strategy for the allocation of SSR codes in the MID Region. Accordingly, the meeting had through review of the Strategy and was of the view to amend same as at **Appendix 3B** to the Report on Agenda Item 3 and agreed to the following Draft Conclusion:

***DRAFT CONCLUSION 4/1: MID STRATEGY ON SSR CODE ALLOCATION  
ISSUES***

*That, the revised MID Region Strategy for the improvement of SSR Code Allocation System be adopted as at **Appendix 3B** to the Report on Agenda Item 3.*

3.12 The meeting recalled that the SSRCA SG/3 meeting reviewed delineation of PAs and Code Allocation for the MID Region as at **Appendix 3C** to the Report on Agenda Item 3, and was unable to reach a consensus on any of the following options:

- a) Option 1 divides the MID Regions SSR Code allocation in two Participating Areas (PA's) allowing more SSR Codes to the MID Regional ORCAM system. The two (PA's) are in a North/South divisional Areas, having the following States in (PA -1) (Amman, Beirut, Baghdad, Damascus, Tehran and Tel Aviv) and (PA-2) (Bahrain, Cairo, Emirates, Jeddah, Kuwait, Muscat and Sana'a). The meeting may wish to note that the division allows for East/West traffic flow, however this will require coordination procedures to be established between the Emirates, Muscat and Tehran for specific ATS routes namely A791 East bound (IMLOT – JI) and R462 (DENDA – JI) for the retention of SSR Codes by Tehran until traffic passes the (FIR) boundary and enters the Karachi (FIR), this is to avoid loss of traffic Identity and enhance safety and efficiency.

SSRCA SG/4  
Report on Agenda Item 3

---

- b) Option 2 divides the MID Regions SSR Code allocation in two Participating Areas (PA's) for consideration by the study group. The two (PA's) are in an East /West flow, having the following States in (PA -1) (Bahrain, Baghdad, Emirates, Kuwait, Muscat and Tehran) and (PA-2) (Amman, Beirut, Cairo, Damascus, Jeddah, Sana'a and Tel Aviv). The meeting may wish to note that the division is more favorable for the predominant East/West traffic flow.
- c) Option 3 divides the MID Regions SSR Code allocation in three (3) Participating Areas (PA's) allowing more SSR Codes to the MID Regional ORCAM system. The three (PA's) are in an East /West flow, having the following States in (PA -1) (Bahrain, Emirates, Muscat and Tehran), (PA-2) (Amman, Cairo, Jeddah, and Sana'a) and (PA – 3) (Baghdad, Beirut, Damascus, Kuwait and Tel Aviv). The meeting may wish to note that the division is more favourable for the predominant East/West traffic flow;
- d) Option 4 divides the MID Regions SSR Code allocation in three Participating Areas (PA's) for consideration by the Study Group. The three (PA's) are in an East /West flow, one (1) is to the North and the other two (2) are to the South having the following States in (PA -1) (Baghdad, Beirut, Damascus, Tehran and Tel Aviv, (PA – 2) ( Amman, Cairo, Jeddah and Sana'a) and (PA -3) (Bahrain, Emirates, Kuwait and Muscat). The meeting may wish to note that PA – 1 favoured by the EUR/NAT Region however similar actions should be taken as in Option 1 with regard to the Emirates, Oman and Tehran.

3.13 The meeting recalled that EUROCONTROL had planned to present to the SSRCA SG/3 meeting the results of the study of MID Regional traffic patterns for the month of June 2009. However, they were unable to attend the meeting due to closure of the EUR airspace. The meeting was unable to conduct full analysis of traffic volume and pattern within the MID Region; hence no decision has been taken on the establishment of PAs within MID Region.

3.14 Based on the above, the meeting noted that the study results of the MID Regional traffic patterns for the month of June 2009 as formulated by EUROCONTROL were sent to the ICAO MID Regional Office with the following recommendations:-

- a) the results of the study does not require an immediate split to the MID PA into multiple ones for the short and medium term;
- b) should there be a need to split the MID PA arise for the medium and long term then a not more than two PA systems should be implemented; and
- c) the recommended PA should be as in option 1 from the options presented during the SSRCA SG/3 meeting provided that coordination procedures be established between the Emirates, Muscat and Tehran FIR's for ATS route A791 for traffic proceeding Eastbound only from (IMLOT – JI) and R462 (DENDA – JI) in order for Tehran to retain the SSR Codes that have been assigned by the Emirates and Muscat FIR's on the traffic specified on these routes until such traffic has crossed the Tehran (FIR) boundary and entered the Karachi (FIR), this is to avoid loss of traffic Identity and enhance safety and efficiency.

SSRCA SG/4  
Report on Agenda Item 3

---

3.15 Based on the above study results, the meeting was of the view that there is no need to split the MID Region into three Participating Areas (PAs); and accordingly the meeting agreed to the following Draft Conclusion:

**DRAFT CONCLUSION 4/2: STRATEGY ON SSR CODE ALLOCATION ISSUES**

*That;*

- a) *the result of the study conducted by the ICAO MID Regional Office and EUROCONTROL showed that there is no justification for an immediate split of the MID SSR Participating Area (PA) into multiple PA's for the short and medium term;*
- b) *MID States adopt a single PA to the Originating Region Code Assignment Method (ORCAM); and*
- c) *expedite the implementation of Mode S and/or ADS-B Surveillance to cater for the SSRCA long term measures for MID Region SSR code allocation*

3.16 The meeting noted that the ICAO MID Regional Office developed the criteria used to determine the required number of SSR Codes in the MID Region as at **Appendix 3D** to the Report on Agenda Item 3, in which the guidelines shown in the criteria were drawn up based on the requirements of ORCAM, which was adopted by MIDANPIRG/12 when it endorsed the MID Strategy on SSR Code Allocation Issues. In order to assist States in determining the number of SSR codes that they require to meet duly justified operational requirements, the meeting was of the view that the guidelines are also in consistence with the provisions of PANS ATM (Doc 4444) Chapter 8 paragraph 8.5.2.

3.17 The meeting further noted that a questionnaire was developed concerning the number of SSR Codes required and FDPS functionalities as at **Appendix 3E** to the Report on Agenda Item 3, that was circulated to States under SL AN 6/17 – 10/430 dated 14 December 2010. A follow-up SL AN 6/17 – 11/146 dated 8 June 2011 was also sent.

3.18 The meeting noted that only 7 States (Bahrain, Egypt, Iran, Iraq, Jordan, Oman and Saudi Arabia) provided the replies to the questionnaire that were analyzed by the ICAO MID Regional Office as at **Appendix 3F** to the Report on Agenda Item 3.

3.19 Based on the above the meeting developed a MID SSR Code Management Plan (MID CMP) document as at **Appendix 3G** to the Report on Agenda Item 3. The document contains guide lines on the use and management of SSR Codes that will allow States to manage the SSR Code Allocations and provide input suggestions on the best use and management of the SSR Codes within the MID Region according to the requirements of the ORCAM.

3.20 The meeting had a debate on the SSR Codes requirement for Saudi Arabia where it was noted that during Haj season Saudi Arabia handles approximately 1200 movements a day, and it was explained that all these movements will require a maximum of 3 code blocks, and these would be required on temporary basis during the Haj season only.

3.21 Based on the above, the meeting developed a request form for a temporary assignment of SSR Codes required for seasons and intensive Military exercise requirements without the need for an Amendment proposal to the ANP FASID as at **Appendix 3H** to the Report on Agenda Item 3, since the document will be maintained by ICAO MID Regional Office under the ATM/SAR/AIS SG body.

SSRCA SG/4  
Report on Agenda Item 3

---

3.22 The meeting noted that the CMP does not have the final SSR Code Allocation List. Accordingly, the meeting agreed to the following Draft Conclusion:

**DRAFT CONCLUSION 4/3:**      **THE DEVELOPMENT OF MID REGIONAL  
SECONDARY SURVEILLANCE RADAR (SSR)  
CODE ALLOCATION LIST**

*That, ICAO MID Regional Office:*

- a) in coordination with MID States and EUROCONTROL develop an SSR Code allocation list for the MID Region;*
- b) present to the ATM/SAR/AIS SG with the SSR Code allocation list for review;  
and*
- c) insert the SSR code Allocation list in the CMP.*

3.23 Based on the above, the meeting developed a proposal for amendment (PfA) of the ANP FASID as at **Appendix 3I** to the Report on Agenda Item 3 and agreed to the following Draft Decision:

**DRAFT DECISION 4/4:**      **PROPOSAL FOR AMENDMENT TO THE MID  
FASID ANP (DOC 9708) RELATED TO SSR  
CODES**

*That, the ICAO MID Regional Office develops and circulate a Proposal for Amendment of the MID FASID as at **Appendix 3I** to the Report on Agenda Item 3, as per published procedures.*

-----

### SSR Assignment Log - FIR

Date	ATD/ATO	SSR entry time	Callsign	ADEP	ADES	Next FIR	Next+1 FIR	SSR	Remark
26/10/10		8:00	UAE782	DNMM	OMDB			2751	
		0:00	BPA3109	HKMO	LIMC			2744	
		11:23	CRL888	FMEE	LFML			2754	
		1:23	ISS2844	LIRF	FIMP			2340	
		23:45	SWR293	HKJK	LSZH			2364	
		23:14	DLH591	HSSS	EDDF			2774	
		23:05	DLH599	HAAB	EDDF			2746	
		21:00	KLM543	HAAB	EHAM			2743	
		2:59	DAH8058	DABC	OEJN			2755	
		9:00	DAH8060	DAAG	OEJN			2347	
		0:32	THY677	HAAB	LTBA			2754	
		2:14	THY608	HKJK	LTBA			2360	
		23:57	ETH710	HAAB	EGLL			2744	
		0:16	ETH3712	HAAB	HECA			1750	
		0:40	ETH701	EGLL	HAAB			2346	
		2:06	ETH503	LIRF	HAAB			2352	
		2:00	ETH3716	HAAB	HECA			1673	
		9:20	ETH706	HAAB	EDDF			2760	
		1:39	ETH702	HAAB	LIRF			2775	
		7:22	HLR406	HSSS	HELX			2202	
		0:12	KQA102	HKJK	EGLL			2752	
		23:30	KQA112	HKJK	LFPG			2363	
		3:19	KQA320	HSSS	HECA			2300	
		8:25	KQA116	HKJK	EMAM			2300	
		9:31	LSS202	HLLT	HECA			1670	
		1:45	MSR3001	DGAA	OEMA			2773	
		3:45	MSR848	GMMN	HECA			1622	
		12:08	MSR830	HLLT	HECA			1622	
		10:20	MSR836	HLLB	HECA			4042	
		7:08	MSR3119	GUCY	OEMA			2357	
		17:54	MSR856	HSSS	HECA			2271	

### SSR Assignment Log - FIR

		14:09	MON3693	HKMO	HELX			3305	
		2:14	MSR840	FAJS	HECA			1634	
		1:36	MSR834	HHAS	HECA			1651	
		2:49	MSR854	HSSS	HECA			2145	
		8:45	TFL462	HKMO	HEGN			3322	
		11:05	NOS121	HKMO	HELX			3317	
		0:12	THY41	FAJS	LTBA			2365	
		2:57	BMA996	HSSS	OLBA			2367	
		0:21	SMJ597F	HSSS	EBLG			2350	
		0:41	RJA711	HSSS	OJAI			2354	
		23:43	AFR3579	FMEE	LFPO			3313	
		0:20	UAE782	DNMM	OMDB			2760	
		0:44	BAW47	EGLL	HTDA			2357	
		0:00	ETH705	LFPG	HAAB			2745	
		0:27	REU772	FMEE	LFPG			2347	
		22:00	TAR5001	DTTA	OEMA			2360	
		23:28	SVA376	GMMN	OEJN			2367	
		21:55	LBT4172	DTMB	OEJN			2750	
		22:30	QTR553	HLLT	OTBD			2353	
		21:50	LAA272	HLLT	OMDB			2777	
		23:23	MSR844	DTTA	HECA			1626	
		23:57	ETH702	HAAB	LIRF			2762	
		0:11	MEA572	DNKN	OLBA			2361	
		0:26	DAH8070	DAAG	OEJN			2343	
		16:45	MSR879	HECA	DNKN			2721	
		0:03	RAM1016	GMMX	OEMA			2377	
		1:25	MAU34	FIMP	LFPG			2350	
		0:30	GRL888	LFBO	FMEE			2776	
		17:28	QTR595	DNMM	OTBD			2375	
		16:27	QTR567	DAAG	OTBD			2341	
		16:30	DAH8062	DAAG	OEJN			2356	
		17:31	MSR754	LEMD	HECA			1624	
		17:10	UAE784	DNMM	OMDB			2775	

### SSR Assignment Log - FIR

		17:47	ISS2845	FIMP	LIRF			2763	
		16:00	KNE8005	GOOY	OEMA			2757	
		16:05	RAM1614	GMMX	OEJN			2761	
		12:34	LBT4246	DTTJ	OEJN			2361	
		13:30	LAA284	HLLB	OJAI			2753	
		11:30	GRL888	FMEE	LFML			2745	
		16:59	MSR876	DNMM	HECA			1640	
		19:20	MSR3003	DGAA	OEMA			2751	
		22:05	TAR5001	DTTA	OEMA			2360	
		22:45	REU975	FMEE	LFPG			2362	
		20:00	MAC503	GMMN	HEBA			3336	
		22:55	CRL958	LFLL	FIMP			2372	
		22:10	UAE788	DGAA	OMDB			2366	
		23:32	UAE798	GOOY	OMDB			2370	
		0:27	REU772	FMEE	LFPG			2347	
		1:52	AAW411	HSSS	HLLT			2342	
		16:37	SUD102	HSSS	HECA			2265	
		10:39	MSR858	HSSS	HECA			2231	
		11:33	JDI10A	HKJK	EPWA			2762	
		11:36	RAM272	GMMN	HECA			1647	
27/10/10		19:46	SNR403	HSSS	HECA			2554	
		0:15	SMJ597F	HSSS	EBLG			2350	
		3:18	SOO8776	HKJK	EHAM			2355	
		8:36	NGL2165	DRRN	OEJN			2346	
		14:27	BPA3259	HKMO	LIPE			2356	
		11:45	SVA5321	GMAD	OEMA			2360	
		23:59	SWR293	HKJK	LSZH			2360	
		22:20	SVA372	GMMN	OEJN			2367	
		21:34	TAR713	DTTA	OEJN			2345	
		10:15	MSX501	HKJK	HECA			1625	
		14:31	MEA572	DNMM	OLBA			2365	
		15:59	RB6610	HSSS	HEBA			2543	

### SSR Assignment Log - FIR

		17:23	SVA5375	DABB	OEMA			2343	
		0:39	RJA711	HSSS	OJAI			2354	
		16:52	SUD102	HSSS	HECA			2537	
		4:12	SUD150	HSSS	OJAI			2374	
		20:22	CRL976	LFLL	FMEE			2741	
		5:20	MPH088	HKJK	EHAM			2763	
		22:49	PMH084	HKJK	EHAM			2777	
		21:28	JAV7253	DGAA	OLBA			2340	
		14:32	KNE8007	GOOY	OEMA			2752	
		17:02	CFG763	EDDF	FMMI			2765	
		10:13	CFG265	HKMO	EDDF			2367	
		12:38	LBT4318	DTMB	OEJN			2755	
		11:48	LBT4248	DTTJ	OEJN			2743	
		16:24	QTR593	DNMM	OTBD			2753	
		15:52	QTR551	HLLT	OTBD			2770	
		16:14	QTR567	DAAG	OTBD			2376	
		17:14	UAE142	LEMD	OMDB			2761	
		17:52	UAE784	DNMM	OMDB			2363	
		13:56	UAE262	SBGR	OMDB			2347	
		23:47	UAE798	GOOY	OMDB			2774	
		23:44	AFR3580	LFPO	FMEE			2762	
		23:43	AFR3579	FMEE	LFPO			2372	
		11:09	AFR3593	FIMP	LFPG			2747	
		8:29	LAA260	OLLM	OEMA			2351	
		18:39	LAA202	HLLT	HECA			1672	
		18:12	LAA274	HLLB	OMDB			2366	
		20:21	LAA262	HLLM	OEMA			2350	
		6:39	LAA208	HLLB	OEAX			2325	
		1:13	REU772	FMEE	LFPG			2347	
		2:04	REU945	FMEE	LFML			2376	
		21:10	REU974	LFPG	FMEE			2740	
		18:48	REU946	LFML	FMEE			2374	
		6:44	5AUAB	HLLM	HSSS			2741	

### SSR Assignment Log - FIR

		23:27	THY602	HUEN	LTBA			2747	
		0:26	THY681	HSSS	LTBA			2770	
		0:21	THY41	FAJS	LTBA			2365	
		0:29	THY677	HAAB	LTBA			2365	
		23:33	ETH704	HAAB	LFPG			2750	
		22:45	ETH452	HSSS	HECA			2600	
		0:12	ETH500	HAAB	LIRF			2351	
		2:28	ETH503	LIRF	HAAB			2375	
		1:51	ETH703	LIRF	HAAB			3317	
		1:56	ETH707	EDDF	HAAB			2506	
		0:48	ETH3712	HAAB	HECA			1750	
		0:56	ETH710	HAAB	EGLL			2744	
		0:45	ETH702	HAAB	LIRF			2762	
		0:56	ETH705	LFPG	HAAB			2745	
		5:23	ETH3714	HAAB	HECA			1772	
		15:43	DAH8072	DABC	OEJN			2754	
		17:28	DAH8076	DAAG	OEJN			2742	
		12:47	DAH4038	DAAG	HECA			1654	
		20:58	DAH8078	DAOO	OEJN			2341	
		8:27	AAW650	HLLT	OMDB			2345	
		9:56	AAW430	HLLT	HECA			1673	
		21:24	RAM256	GMMN	HECA			1651	
		22:22	RAM250	GMMN	OEJN			4436	
		0:03	RAM1016	GMMX	OEMA			2377	
		22:27	KLM562	HUEN	EHAM			2766	
		22:30	KLM566	HKJK	EHAM			2756	
		12:31	KLM565	EHAM	HKJK			2353	
		17:39	DLH590	EDDF	HSSS			2375	
		22:43	DLH591	HSSS	EDDF			2751	
		12:41	DLH598	EDDF	HAAB			2774	
		19:07	MAU45	LFPG	FIMP			2757	
		2:04	MAU34	FIMP	LFPG			2757	
		13:26	MAU46	FIMP	EGLL			2742	

## SSR Assignment Log - FIR

		18:59	KQA320	HSSS	HECA			2566	
		23:20	KQA117	EHAM	HKJK			2773	
		23:30	KQA102	HKJK	EGLL			2752	
		7:58	KQA116	HKJK	EHAM			2756	
		12:48	KQA113	LFPG	HKJK			2370	
		10:14	EGY1932	H SOB	HECA			3317	
		18:35	MSR860	HSSS	HECA			2562	
		18:39	MSR754	LEMD	HECA			1641	
		16:55	MSR855	AFIL	HESN			3327	
		14:07	MSR858	HSSS	HECA			2532	
		15:09	MSR846	DAAG	HECA			1645	
		21:47	MSR856	HSSS	HECA			2577	
		3:30	MSR852	HAAB	HECA			1674	
		3:40	MSR878	DNAA	HECA			1611	
		3:40	MSR3121	GUCY	OEMA			2757	
		3:34	MSR854	HSSS	HECA			2366	
		3:15	MSR882	DGAA	HECA			1677	
		4:24	MSR838	HUEN	HECA			1646	
		12:15	MSR836	HLLB	HECA			1643	
		13:39	MSR3005	DGAA	OEMA			2746	
		7:20	MSR842	HTDA	HECA			1636	
28/10/10		3:05	RJA711	HSSS	OJAI			2761	
		3:00	BMA914	HAAB	OJAI			2371	
		0:08	KLM569	HTDA	EHAM			2743	
		0:14	GEC8297	HKJK	EDDF			2755	
		0:10	BEL453	HKJK	EBBR			2746	
		7:16	TAR813	DTTA	HECA			1665	
		1:00	MAU57	EGLL	FIMP			2752	
		2:40	THY608	HKJK	LTBA			2742	
		0:33	THY681	HSSS	LTBA			2361	
		5:09	RAM1018	GMFO	OEMA			2374	
		4:06	RAM1310	GQNN	OEMA			2757	

### SSR Assignment Log - FIR

		0:01	SWR293	HKJK	LSZH			2360	
		0:10	SYR396	HSSS	OSDI			2767	
		4:43	SVA5417	GMAD	OEMA			2363	
		0:15	SVA5357	DAUU	OEMA			2377	
		0:00	DAH8082	DABC	OEJN			2356	
		20:10	CRL902	LFPO	FMEE			2773	
		0:30	KLM566	HKJK	EHAM			2766	
		21:13	KLM543	HAAB	EHAM			2750	
		23:44	AFR3579	HAAB	LFPO			3326	
		22:38	AFR3580	LFPO	FMEE			2372	
		23:45	UAE798	GOOY	OMDB			2774	
		23:40	UAE782	DNMM	OMDB			2347	
		1:00	MAV34	FIMP	LFPG			2770	
		4:14	UAE9952	HKJK	EHAM			2753	
		21:14	UAE788	DGAA	OMDB			2777	
		2:05	ETH703	LIRF	HAAB			2362	
		23:26	ETH710	HAAB	EGLL			2362	
		0:20	ETH702	HAAB	LIRF			2370	
		21:44	ETH500	HAAB	LIRF			2756	
		21:03	ETH3716	HAAB	HECA			1676	
		1:50	REU771	LFPG	FMEE			2376	
		21:36	REU974	LFPG	FMEE			2762	
		21:35	REU975	FMEE	LFEG			2747	
		11:15	LAA282	HLLT	OJAI			4005	
		1:30	MSR834	HHAS	HECA			1643	
		1:40	MSR840	FAJS	HECA			1616	
		3:00	MSR854	HSSS	HECA			1663	
		3:00	MSR882	DGAA	HECA			1654	
		3:00	MSR852	HAAB	HECA			1613	
		0:01	MSR3123	GVCY	OEMA			2760	
		4:30	MSR3007	DGAA	OEMA			2344	
		1:30	MSR834	HHAS	HECA			1643	
		11:19	MSR836	HLLB	HECA			4043	

### SSR Assignment Log - FIR

29/10/10		0:50	NGL2169	DRRN	OEJN			2774
		1:26	QNK1307	DNSO	OEJN			2366
		15:07	MPH087	EHAM	HSSS			2356
		11:56	SUD102	HSSS	HECA			3224
		19:10	IWD9147	LEMD	HESN			3326
		10:56	RBG618	HSSS	HEBA			3156
		0:09	VPBEK	DNAA	LCLK			2755
		16:00	QTR567	DAAG	OTBD			2746
		3:37	RJA711	HSSS	OJAI			2741
		2:59	BMA996	HSSS	OLBA			2374
		0:15	CRL911	FMEE	LFPO			2776
		23:36	ETD610	GMMN	OMAA			2760
		22:25	N774XJ	GMMX	HECA			1607
		22:07	QTR553	HLLT	OTBD			2344
		3:08	MEA572	DIAP	OLBA			2346
		20:48	AAW410	HLLT	HSSS			2346
		16:11	LAA210	HLLT	HEAX			3333
		18:49	VSJ697	HAAB	HECA			3324
		20:08	JAV7253	DGAA	OLBA			2374
		20:15	JYRYA	HLGD	OJAM			2775
		15:15	LBT4122	DTMB	OEJN			2770
		19:49	REU972	LFLL	FMEE			2763
		21:38	REU974	LFPG	FMEE			2351
		15:11	RAM1022	GMFF	OEMA			2754
		15:22	RAM272	GMMN	HECA			1640
		20:49	RAM1642	GMMN	OEJN			2361
		20:44	LAA262	HLLB	OEMA			2352
		23:28	LAA272	HLLT	OMDB			2744
		23:30	DAH8106	DAAG	OEJN			4252
		1:05	DAH8094	DAAG	OEJN			2765
		6:15	DAH8096	DABC	OEJN			2350
		0:32	THY41	FAJS	LTBA			2357

### SSR Assignment Log - FIR

		0:49	THY681	HSSS	LTBA			2362	
		3:48	THY608	HKJK	LTBA			2361	
		8:18	KQA116	HKJK	EHAM			2764	
		18:40	KQA320	HSSS	HECA			7136	
		17:58	MSR860	HSSS	HECA			1275	
		20:00	MSR3125	GUCY	OEMA			2742	
		23:14	MSR844	DTTA	HECA			1665	
		2:21	MSR840	FAJS	HECA			1624	
		10:27	MSR858	HSSS	HECA			3145	
		17:59	MSR3127	GUCY	OEMA			2343	
		4:35	MSR838	HUEN	HECA			1632	
		7:13	MSR842	HTDA	HECA			1630	
		3:24	MSR882	DGAA	HECA			1637	
		17:04	MSR876	DNMM	HECA			1663	
		18:05	MSR856	HSSS	HECA			7115	
		3:18	MSR854	HSSS	HECA			2053	
		18:23	MSR754	LEMD	HECA			1630	
		3:19	MSR848	GMMN	HECA			1666	
		21:42	MSR832	HLLT	HECA			1664	
		0:07	ETH702	HAAB	LIRF			2360	
		10:16	ETH704	HAAB	LFPG			2747	
		0:02	ETH705	LFPG	HAAB			2752	
		0:20	ETH710	HAAB	EGLL			2370	
		2:26	ETH3710	HAAB	HECA			1540	
		1:20	ETH3716	HAAB	HECA			1140	
		3:15	ETH503	LIRF	HAAB			2753	
		21:53	ETH500	HAAB	LIRF			2350	
		20:52	MAU53	EGLL	FIMP			2341	
		0:38	MAU42	FIMP	EGLL			2770	
		10:43	MAU48	FIMP	EDDF			2365	
		19:24	AFR3588	LFPO	FMEE			2363	
		18:47	AFR3592	LFPG	FIMP			2354	
		10:47	AFR3593	FIMP	LFPG			2777	

### SSR Assignment Log - FIR

		22:13	SVA370	GMMN	OEJN			2771	
		21:45	SVA5553	DAAG	OEMA			2362	
		3:14	SVA020	KJFG	OEJN			2757	
		7:17	SVA5551	DAAG	OEMA			2364	
		15:21	TAR5017	DTTA	OEMA			2743	
		2:06	TAR5013	DTTA	OEMA			2363	
		5:43	TAR5015	DTTZ	OEMA			2775	
		23:41	UAE142	LEMD	OMDB			2356	
		22:05	UAE788	DGAA	OMDB			2353	
		18:00	UAE752	GMMN	OMDB			2765	
		0:19	UAE782	DNMM	OMDB			2743	
		17:50	UAE784	DNMM	OMDB			2376	
		15:19	UAE748	DTTA	OMDB			6166	
		16:00	LBT4254	DTTJ	OEJN			2745	
		20:47	DAH8102	DAOO	OEJN			2755	
30/10/10		14:35	ADB380F	HSSS	EDDP			2337	
		18:50	CRL910	LFPO	FMEE			2370	
		19:10	KHH100	HSSS	HECA			1660	
		19:38	REU946	LFML	FMEE			2745	
		8:22	AAW650	HLLT	OMDB			2773	
		8:14	VIZ2373	HDAM	LTBU			2361	
		8:45	KQA116	HKJK	EHAM			2757	
		10:01	DAH8108	DABB	OEJN			2746	
		12:39	DLH598	EDDF	HAAB			2742	
		2:50	MSR848	GMMN	HECA			1672	
		10:13	MSR858	HSSS	HECA			1604	
		18:35	MSR856	HSSS	HECA			1675	
		11:55	MSR830	HLLT	HECA			1602	
		12:41	MSR3129	GUCU	OEMA			1241	
		14:17	MSR846	DAAG	HECA			1661	
		10:40	MSR836	HLLB	HECA			1615	
		19:46	MEA572	DIAP	OLBA			2357	

### SSR Assignment Log - FIR

		10:15	AFR3593	FIMP	LFPG			2743	
		18:07	AFR3592	LFPG	FIMP			2774	
		11:10	AFR3589	FMEE	LFPO			2754	
		13:00	MAU5034	FIMP	LFPG			2364	
		12:45	MAU46	FIMP	EGLL			2351	
		12:50	SUR403	HSSS	HECA			3321	
		17:52	UAE784	DENMM	OMDB			2347	
		16:38	SVA150	HSSS	OJAE			2372	
		12:34	RAM1024	GMMN	OEJN			2762	
		10:22	VPBGS	HLLM	HECA			1642	
		16:20	SVA104	HSPN	HECA			1634	
		11:27	CFG265	HKMO	EDDF			2745	
		17:17	CFG314	EDDF	FIMP			2754	
		12:12	LAA284	HLLB	OJAI			2362	
		9:47	LAA202	HLLT	HECA			1620	
		13:11	KLM543	EHAM	HSSS			2764	
		12:36	QTR084	KJFK	OTBD			2740	
		12:45	QTR66	LEBL	OTBD			2353	
		13:04	SAV5657	DAAG	OEMA			23252	
		8:30	SVA561	GMME	OEMA			2740	
		11:55	SVA5681	DANC	OEMA			2763	
		11:36	RJA6671	HUEN	OJAM			2772	
		12:55	ETD612	GMMN	OMAA			2767	
		15:00	KNE8013	GOOU	OEMA			2365	
31/10/10		3:26	MSR852	HAAB	HECA			1607	
		2:31	MSR840	FAJS	HECA			1665	
		2:59	MSR854	HSSS	HECA			3520	
		2:00	ETH710	HAAB	EGLL			2770	
		23:37	ETH704	HAAB	LFPG			2353	
		2:22	ETH703	LIRF	HAAB			2745	
		0:04	ETH705	LFPG	HAAB			2766	
		23:53	ETH702	HAAB	LIRF			2752	

### SSR Assignment Log - FIR

		2:30	UAE9952	HKJK	EHAM			2354	
		3:07	BMA514	HAAB	OJAI			2753	
		2:24	HBJSI	FIMP	LSGG			2761	
		15:56	RAM258	GMMN	HECA			1676	
		23:45	KQA117	EHAM	HKJK			2772	
		23:40	REU975	FMEE	LFPG			23545	
		23:57	REU945	FMEE	LFML			2343	
		16:00	DAH8118	DABB	OEJN			2342	
		16:07	QTR551	HLLT	OTBD			2377	
		16:10	UAE048	DTTA	OMDB			2360	
		16:25	QTR567	DAAG	OTBD			2353	
		16:01	RJA146	HLLT	OJAI			2366	
		15:38	RJA110	LEMD	OJAI			2755	
		13:08	ETH501	LIRF	HAAB			2341	
		7:17	MSR842	HTDA	HECA			1610	
		19:56	TAR5035	DTTX	OEJN			2340	
		18:30	MSR856	HSSS	HECA			3664	
		18:54	SUD102	HSSS	HECA			3663	
		19:03	KQD320	HSSS	HECA			3671	
		19:23	MAU45	LFPG	FIMP			2741	
		19:23	AFR3592	LFPG	FIMP			2745	
		22:00	CRL910	LFPO	FMEE			2362	
		22:11	ETH500	HAAB	LIRF			2757	
		23:22	SVW28AF	FSIA	HESN			3322	
		22:37	UAE788	DEAA	OMDB			2371	
		21:34	ISS3810	LIMC	FIMP			2370	
		23:53	ETH702	HAAB	LIRF			2753	
		15:31	N23M	LFJR	OMDB			2750	
1/11/10		1:35	THY41	FAJS	LTBA			2764	
		0:30	AFR3580	LFPO	FMEE			2767	
		2:36	ETH703	LIRF	HAAB			2755	
		6:34	N137WR	FTTJ	HECA			1614	

### SSR Assignment Log - FIR

		23:20	ETH704	HAAB	LFPG			2340	
		23:29	REU975	FMEE	LFPG			2347	
		0:35	CRL957	FIMP	LFML			2757	
		23:00	UAE788	DGAA	OMDB			2754	
		20:00	DAH8130	DA00	OEJN			2365	
		20:10	LAA262	HLLB	OEMA			2751	
		22:39	AAW652	HLLT	OMDB			2741	
		1:30	RAM250	GMMN	OEJN			2374	
		22:30	MSR832	HLLT	HECA			1606	
		22:40	TAR5009	DTTJ	OEMA			2375	
		23:00	SVA378	GMMN	OERK			2771	
		23:00	LAA210	HLLT	HEAX			3324	
		23:00	DLH599	HAAB	EDDF			2370	
		22:45	TFL462	HKMO	HEGN			3312	
		23:57	ETH702	HAAB	LIRF			2357	
		16:12	SUD102	HSSS	HECA			4121	
		16:54	MEA4078	HSSS	LFLX			2762	
		16:04	AMV1651	LEVG	HELX			1622	
		15:45	KNE8017	GOOY	OEMA			2740	
		11:16	AFR3593	FIMP	LFPG			2370	
		16:12	AFR6864	DNMM	HECA			1662	
		16:05	MSR876	DNMM	HECA			1650	
		17:48	MSR856	HSSS	HECA			4133	
		17:17	UAE784	DNMM	OMDB			2367	
		4:00	RJA711	HSSS	OJAI			2374	
		0:45	UAE798	GOOY	OMDB			2775	
		0:00	ETH702	HAAB	LIRF			2754	
		0:40	UAE782	DNMM	OMDB			2747	
		0:23	CRL956	LFML	FIMP			2346	
		0:01	KQA117	EHAM	HKJK			2772	
		3:50	MSR878	DNAA	HECA			1627	
		5:00	MAU7034	FIMP	LFPG			2342	
		3:00	MSR854	HSSS	HECA			3737	

### SSR Assignment Log - FIR

		0:30	AFR3580	LFPO	FMEE			2767	

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

**REVISED MID STRATEGY FOR SSR CODE ALLOCATION ISSUES**

**1) Medium Term Until 2020**

- a) transmission of EST and ABI be deferred until necessary – and no more than 30 minutes prior to ETO for the applicable COP;
- b) “Super-domestic” code allocation be introduced through bilateral measures (LOAs) where necessary to make use of Domestic codes to supplement Transit codes;
- c) codes be assigned in a manner ensuring earliest availability, hereunder direction-of-flight dependent assignment, rather than using cycling in numerical order;
- d) the MID Region adopt the approach of “code sharing” between FIRs that are geographically adequately disparate and where directional assignment of SSR codes makes “code sharing” practical;
- e) the MID Region consider multiple ORCAM Participating Areas (PA); the number of PAs to be optimized based on studies of Regional traffic patterns and volume data, as well as coordination with adjacent ICAO Regions
- f) the ICAO MID Regional Office take action to obtain necessary data and documentation from States and other ICAO Regions for the Study Group to reach firm conclusions; and
- g) in order to facilitate an effective analysis of the traffic statistics required for decision on PAs, MID FIRs provide traffic data in accordance with the format provided by the MID Regional Office.

**2) Long Term**

- a) States implement Mode S surveillance systems making use of the 24-bit address code capability of aircraft transponders;
- b) States consider implementation of ADS-B surveillance systems with 24-bit address code capability; and
- c) the MID FASID be updated with a view to implement use of 24-bit address codes in ATC systems to the widest extent possible.
- d) consider the setup of a centralized SSR Code Allocation System

-----

SSRCA SG/4  
Appendix 3C to the Report on Agenda Item 3

**CURRENT ORCAM SYSTEM**

Code Clave	A M M A N	B A G H D A N	B A H R A I N	B E I R U T	C A I R O	D A M A S C U S	E M I R A T E S	J E D D A H	K A B U L	K U W A I T	M U S C A T	S A N A A	T E H R A N	T E L A V I V
0000														
0001-0077														
0100-0177								D	*					
0200-0277								D			*	*		
0300-0377								*			*	*		
0400-0477	D		*	*	*	*	D	*			*	*	*	*
0500-0577	-	-	-	-	-	-	T	-	-	-	-	-	-	-
0600-0677	-	-	-	-	-	-	-	-	-	T	-	-	-	-
0700-0777	T	-	-	-	-	-	-	-	-	-	-	-	-	-
1000-1077	-	T	-	-	-	-	-	-	-	-	-	-	-	-
1101-1107	-	-	-	-	-	-	-	-	-	-	-	-	T	-
1200-1277		*	D		*		D	*		*	*	*	*	
1300-1377			*		*		D	*			*		*	
1400-1477	*	*	*		D		D	*		D			*	*
1500-1577	D	*	*	*		*	*	*	*	*	*		D	*
1600-1677	*	*	D		D		*	*		*	*	*	*	*
1700-1777	-	-	-	-	-	-	T	-	-	-	-	-	-	-
2001-2077		*	*				*		*	*	*		D	
2100-2177	-	-	T	-	-	-	-	-	-	-	-	-	-	-
2200-2277	-	-	T	-	-	-	-	-	-	-	-	-	-	-
2300-2377	-	-	-	-	T	-	-	-	-	-	-	-	-	-
2400-2477	D		*		*		D	*			*		*	
2500-2577	-	-	-	T	-	-	-	-	-	-	-	-	-	-
2600-2677	-	-	T	-	-	-	-	-	-	-	-	-	-	-
2700-2777	-	-	-	-	T	-	-	-	-	-	-	-	-	-
3000-3077	-	-	-	-	-	T	-	-	-	-	-	-	-	-
3100-3177	-	-	-	-	-	-	-	T	-	-	-	-	-	-
3200-3277	*	*	*	*	*	*	*	*	*	*	*	D	D	D
3300-3377	*				D		D	*			*	*		*
3400-3477	*	D	*		*	*	D	*		*	*		*	
3500-3577	-	-	-	-	-	-	-	T	-	-	-	-	-	-
3600-3677		*	*				*		*	*	*		D	
3700-3777	-	-	-	-	-	-	T	-	-	-	-	-	-	-
4000-4077	-	-	-	-	-	-	-	-	-	-	T	-	-	-
4100-4177	-	-	-	-	-	-	-	-	-	-	-	-	T	-
4200-4277	*	*	*	*	*	*	*	*	*	*	*		D	D
4300-4377	*	*	*	D	*	*	*	D		*	*	*		*
4400-4477	*	*	D		D		*	*		*	*	*	*	*
4500-4577	*	*	*		*		*	D			*	*		*

SSRCA SG/4-REPORT  
**APPENDIX 3C**

3C-2

Code Clave	A M M A N	B A G H D A D	B A H R A I N	B E I R U T	C A I R O	D A M A S C U S	E M I R A T E S	J E D D A H	K A B U L	K U W A I T	M U S C A T	S A N A A	T E H R A N	T E L A V I V
4600-4677	*	*	*	*	*	D	*	D		*	*	*		*
4700-4777	*		*		D		*	*			D	*	*	*
5000-5077								D	*					
5100-5177	-	-	-	-	-	-	-	-	-	-	-	-	-	T
5200-5277	*	*	*		*		*	D			*	*		*
5300-5377		*	D				*	*	D	*	*	*	*	
5400-5477		*	D				*	*		*	*	*	*	
5500-5577								D						
5600-5677								D						
5700-5777	-	-	-	-	-	T	-	-	-	-	-	-	-	-
6000-6077	-	-	-	-	-	-	T	-	-	-	-	-	-	-
6100-6177	-	-	-	-	-	-	-	T	-	-	-	-	-	-
6200-6277	-	-	-	-	-	-	T	-	-	-	-	-	-	-
6300-6377		*	*				*	D	*	*	*		D	
6400-6477	-	-	-	-	-	-	-	-	-	-	-	-	-	T
6500-6577			*				*	*			D	*	*	
6600-6677	-	-	-	-	-	-	-	-	-	-	T	-	-	-
6700-6777	-	-	-	-	-	-	-	-	-	-	-	-	T	-
7001-7077	-	-	-	-	-	-	-	-	-	-	-	T	-	-
<del>7100-7177</del>	-	-	-	-	-	-	-	-	T	-	-	-	-	-
7200-7277									*		*		*	
7300-7377			*				*	*			D	*	*	
7400-7477	*	D	*			*		*		*	*		*	
7500														
7600 XX														
7700														

- T Whole series for transit use
- Transit code retained
- \* Not available for domestic use
- D Domestic use
- XX 7601-7612 Red Cross/humanitarian

OPTION 1

PA – 1		B	B	D		⌘
Code	A	A	E	A	T	⌘
Clave	M	G	I	M	H	⌘
	A	H	R	S	R	⌘
	N	A	U	C	A	⌘
		D	T	U	N	⌘
0000						
0001-0077						
0100-0177						
0200-0277						
0300-0377						
0400-0477	D		*	*	*	*
0500-0577						
0600-0677						
0700-0777	T	-	-	-	-	-
1000-1077	-	T	-	-	-	-
1101-1107	-	-	-	-	T	-
1200-1277						
1300-1377						
1400-1477						
1500-1577	D	*	*	*	D	*
1600-1677						
1700-1777						
2001-2077		*			D	
2100-2177						
2200-2277						
2300-2377						
2400-2477	D				*	
2500-2577	-	-	T	-	-	-
2600-2677						
2700-2777						
3000-3077	-	-	-	T	-	-
3100-3177						
3200-3277	*	*	*	*	D	D
3300-3377						
3400-3477	*	D		*	*	
3500-3577						
3600-3677		*			D	
3700-3777						
4000-4077						
4100-4177	-	-	-	-	T	-
4200-4277	*	*	*	*	D	D
4300-4377	*	*	D	*		*
4400-4477						
4500-4577						

PA – 2	B		E				
Code	A	C	I	J	K	M	S
Clave	H	A	R	E	U	U	A
	R	I	A	D	S	S	N
	A	R	T	A	C	A	A
	I	O	E	H	A	T	A
0000							
0001-0077							
0100-0177				D			
0200-0277				D		*	*
0300-0377				*		*	*
0400-0477	*	*	D	*		*	*
0500-0577	-	-	T	-	-	-	-
0600-0677	-	-	-	-	T	-	-
0700-0777	-	-	-	-	-	-	-
1000-1077	-	-	-	-	-	-	-
1101-1107	-	-	-	-	-	-	-
1200-1277	D	*	D	*	*	*	*
1300-1377	*	*	D	*		*	
1400-1477	*	D	D	*	D		
1500-1577	*		*	*	*	*	
1600-1677	D	D	*	*	*	*	*
1700-1777	-	-	T	-	-	-	-
2001-2077	*		*		*	*	
2100-2177	T	-	-	-	-	-	-
2200-2277	T	-	-	-	-	-	-
2300-2377	-	T	-	-	-	-	-
2400-2477	*	*	D	*		*	
2500-2577	-	-	-	-	-	-	-
2600-2677	T	-	-	-	-	-	-
2700-2777	-	T	-	-	-	-	-
3000-3077	-	-	-	-	-	-	-
3100-3177	-	-	-	T	-	-	-
3200-3277	*	*	*	*	*	*	D
3300-3377		D	D	*		*	*
3400-3477	*	*	D	*	*	*	
3500-3577	-	-	-	T	-	-	-
3600-3677	*		*		*	*	
3700-3777	-	-	T	-	-	-	-
4000-4077	-	-	-	-	-	T	-
4100-4177	-	-	-	-	-	-	-
4200-4277	*	*	*	*	*	*	
4300-4377	*	*	*	D	*	*	*
4400-4477	D	D	*	*	*	*	*
4500-4577	*	*	*	D		*	*

SSRCA SG/4-REPORT  
**APPENDIX 3C**

3C-4

PA – 1		B		D		⌘
Code	A	A	B	A	T	⌘
Clave	M	H	E	M	H	⌘
	A	A	I	C	R	⌘
	N	D	R	U	A	⌘
			T	S	N	⌘
4600-4677	*	*	*	D		*
4700-4777						
5000-5077						
5100-5177	-	-	-	-	-	T
5200-5277						
5300-5377		*			*	
5400-5477						
5500-5577						
5600-5677						
5700-5777	-	-	-	T	-	-
6000-6077						
6100-6177						
6200-6277						
6300-6377		*			D	
6400-6477	-	-	-	-	-	T
6500-6577						
6600-6677						
6700-6777	-	-	-	-	T	-
7001-7077						
7100-7177	-	-	-	-	-	-
7200-7277						
7300-7377						
7400-7477	*	D		*	*	
7500						
7600 XX						
7700						

PA – 2			E				
Code	B		I	J	K	M	
Clave	H	C	R	E	U	U	S
	A	A	A	D	W	S	A
	I	I	T	A	A	C	N
	N	R	E	H	I	A	A
		O	S		T	T	A
4600-4677	*	*	*	D	*	*	*
4700-4777	*	D	*	*		D	*
5000-5077				D			
5100-5177	-	-	-	-	-	-	-
5200-5277	*	*	*	D		*	*
5300-5377	D		*	*	*	*	*
5400-5477	D		*	*	*	*	*
5500-5577				D			
5600-5677				D			
5700-5777	-	-	-	-	-	-	-
6000-6077	-	-	T	-	-	-	-
6100-6177	-	-	-	T	-	-	-
6200-6277	-	-	T	-	-	-	-
6300-6377	*		*	D	*	*	
6400-6477	-	-	-	-	-	-	-
6500-6577	*		*	*		D	*
6600-6677	-	-	-	-	-	T	-
6700-6777	-	-	-	-	-	-	-
7001-7077	-	-	-	-	-	-	T
7100-7177	-	-	-	-	-	-	-
7200-7277						*	
7300-7377	*		*	*		D	*
7400-7477	*			*	*	*	
7500							
7600 XX							
7700							

- T Whole series for transit use
- Transit code retained
- \* Not available for domestic use
- D Domestic use
- XX 7601-7612 Red Cross/humanitarian

3C-5

OPTION 2

PA - 1 Code Clave	B A H R A I N	B A G H A D	E M I R A T E S	K U W A I T	M U S C A T	T E H R A N
0000						
0001-0077						
0100-0177				*		
0200-0277				*		
0300-0377						
0400-0477	*	*	D	*	*	*
0500-0577	-	-	T		-	-
0600-0677				T		
0700-0777				-		
1000-1077	-	T	-		-	-
1101-1107	-	-	-		-	T
1200-1277	D	*	D		*	*
1300-1377	*	*	D		*	*
1400-1477	*	*	D	D	*	*
1500-1577	*	*	*	*	*	D
1600-1677	D	*	*	*	*	*
1700-1777	-	-	T		-	-
2001-2077	*	*	*		*	D
2100-2177	T	-	-		-	-
2200-2277	T	-	-		-	-
2300-2377				-		
2400-2477	*	*	D	*	*	*
2500-2577				-		
2600-2677	T	-	-		-	-
2700-2777				-		
3000-3077				-		
3100-3177				-		
3200-3277	*	*	*	*	*	D
3300-3377	*	*	D	*	*	*
3400-3477	*	D	D		*	*
3500-3577				-		
3600-3677	*	*	*		*	D
3700-3777	-	-	T		-	-
4000-4077	-	-	-		T	-
4100-4177	-	-	-		-	T
4200-4277	*	*	*	*	*	D
4300-4377				*		
4400-4477	D	*	*	*	*	*
4500-4577				*		

PA - 2 Code Clave	A M M A N	B E I R U T	C A I R O	D A M A S C U S	J E D D A H	S A N A A	T E L A V I Y
0000							
0001-0077							
0100-0177	*	*	*	*	D		*
0200-0277	*	*	*	*	D		*
0300-0377							
0400-0477	D	*	*	*	*	*	*
0500-0577						-	
0600-0677	-	-	-	-	-		-
0700-0777	T	-	-	-	-		-
1000-1077						-	
1101-1107						-	
1200-1277						*	
1300-1377						*	
1400-1477	*	*	D	*	*	*	*
1500-1577	D	*	*	*	*		*
1600-1677	*	*	D	*	*	*	*
1700-1777						-	
2001-2077						*	
2100-2177						-	
2200-2277						-	
2300-2377	-	-	T	-	-		-
2400-2477	D	*	*	*	*	*	*
2500-2577	-	T	-	-	-		-
2600-2677						-	
2700-2777	-	-	T	-	-		-
3000-3077	-	-	-	T	-		-
3100-3177	-	-	-	-	T		-
3200-3277	*	*	*	*	*	D	D
3300-3377	*	*	D	*	*	*	*
3400-3477						*	
3500-3577	-	-	-	-	T		-
3600-3677						*	
3700-3777						-	
4000-4077						-	
4100-4177						-	
4200-4277	*	*	*	*	*	*	D
4300-4377	*	D	*	*	D		*
4400-4477	*	*	D	*	*	*	*
4500-4577	*	*	*	*	D		*

SSRCA SG/4-REPORT  
**APPENDIX 3C**

3C-6

PA – 1 Code Clave	B A R A I N	B A H A D A D	E M I R A T E S	K U W A I T	M U S C A T	T E H R A N
4600-4677				*		
4700-4777	*	*	*	*	D	*
5000-5077				*		
5100-5177				-		
5200-5277				*		
5300-5377	D	*	*		*	*
5400-5477	D	*	*		*	*
5500-5577						
5600-5677						
5700-5777				-		
6000-6077	-	-	T		-	-
6100-6177				-		
6200-6277	-	-	T		-	-
6300-6377	*	*	*	*	*	D
6400-6477				-		
6500-6577	*		*		D	*
6600-6677	-	-	-		T	-
6700-6777	-	-	-		-	T
7001-7077	-	-	-		-	-
7100-7177	-	-	-		-	-
7200-7277						
7300-7377	*		*		D	*
7400-7477	*	D			*	*
7500						
7600 XX						
7700						

PA – 2 Code Clave	A M M A N	B E I R U T	C A I R O	D A M A S C U S	J E R U S A L E M	S A N A A	Ⓣ E L A V I V
4600-4677	*	*	*	D	D		*
4700-4777	*	*	D	*	*	*	*
5000-5077	*	*	*	*	D		*
5100-5177	-	-	-	-	-		T
5200-5277	*	*	*	*	D		*
5300-5377						*	
5400-5477						*	
5500-5577					D		
5600-5677					D		
5700-5777	-	-	-	T	-		-
6000-6077						-	
6100-6177	-	-	-	-	T		-
6200-6277						-	
6300-6377					D		
6400-6477	-	-	-	-	-		T
6500-6577						*	
6600-6677						-	
6700-6777						-	
7001-7077						T	
7100-7177						-	
7200-7277							
7300-7377						*	
7400-7477							
7500							
7600 XX							
7700							

- T Whole series for transit use
- Transit code retained
- \* Not available for domestic use
- D Domestic use
- XX 7601-7612 Red Cross/humanitarian

3C-7

OPTION 3

PA – 1 Code Clave	B A H R A I N	E M I R A T E S	M U S C A T	T E H R A N
0000				
0001-0077				
0100-0177				
0200-0277			*	
0300-0377			*	
0400-0477	*	D	*	*
0500-0577	-	T	-	
0600-0677	-	-	-	
0700-0777	-	-	-	-
1000-1077	-	-	-	-
1101-1107	-	-	-	T
1200-1277	D	D	*	
1300-1377	*	D	*	
1400-1477	*	D		
1500-1577	*	*	*	D
1600-1677	D	*	*	
1700-1777	-	T	-	
2001-2077	*	*	*	D
2100-2177	T	-	-	
2200-2277	T	-	-	
2300-2377	-	-	-	
2400-2477	*	D	*	*
2500-2577	-	-	-	-
2600-2677	T	-	-	
2700-2777	-	-	-	
3000-3077	-	-	-	-
3100-3177	-	-	-	
3200-3277	*	*	*	D
3300-3377		D	*	
3400-3477	*	D	*	*
3500-3577	-	-	-	
3600-3677	*	*	*	D
3700-3777	-	T	-	
4000-4077	-	-	T	
4100-4177	-	-	-	T
4200-4277	*	*	*	D
4300-4377	*	*	*	
4400-4477	D	*	*	
4500-4577	*	*	*	

PA – 2 Code Clave	A M M A N	C A I R O	J E D D A H	S A N A A
0000				
0001-0077				
0100-0177			D	
0200-0277			D	*
0300-0377			*	*
0400-0477	D	*	*	*
0500-0577			-	-
0600-0677		-	-	-
0700-0777	T	-	-	-
1000-1077	-		-	-
1101-1107	-		-	-
1200-1277			*	*
1300-1377			*	
1400-1477		D	*	
1500-1577	D		*	
1600-1677		D	*	*
1700-1777			-	-
2001-2077				
2100-2177			-	-
2200-2277			-	-
2300-2377		T	-	-
2400-2477	D	*	*	
2500-2577	-	-	-	-
2600-2677			-	-
2700-2777		T	-	-
3000-3077	-	-	-	-
3100-3177		-	T	-
3200-3277	*	*	*	D
3300-3377		D	*	*
3400-3477	*		*	
3500-3577		-	T	-
3600-3677				
3700-3777			-	-
4000-4077			-	-
4100-4177	-		-	-
4200-4277	*	*	*	
4300-4377	*	*	D	*
4400-4477		D	*	*
4500-4577		*	D	*

PA – 3 Code Clave	B A G H D A D	B E I R U T	D A M A S C U S	K U W A I T	Პ Რ Ს Ტ Უ
0000					
0001-0077					
0100-0177					
0200-0277					
0300-0377					
0400-0477		*	*		*
0500-0577				-	
0600-0677				T	
0700-0777	-	-	-	-	-
1000-1077	T	-	-	-	-
1101-1107	-	-	-	-	-
1200-1277				*	
1300-1377					
1400-1477				D	
1500-1577	*	*	*	*	*
1600-1677				*	
1700-1777				-	
2001-2077	*			*	
2100-2177				-	
2200-2277				-	
2300-2377				-	
2400-2477					
2500-2577	-	T	-	-	-
2600-2677				-	
2700-2777				-	
3000-3077	-	-	T	-	-
3100-3177				-	
3200-3277	*	*	*	*	D
3300-3377					
3400-3477	D		*	*	
3500-3577				-	
3600-3677	*			*	
3700-3777				-	
4000-4077				-	
4100-4177	-	-	-	-	-
4200-4277	*	*	*	*	D
4300-4377	*	D	*	*	*
4400-4477				*	
4500-4577					

SSRCA SG/4-REPORT  
APPENDIX 3C

PA – 1	B	E	M	T
Code	A	I	U	E
Clave	H	R	S	H
	R	A	C	R
	A	T	A	A
	I	E	T	N
	N	S		
4600-4677				
4700-4777	*	*	D	*
5000-5077				
5100-5177				
5200-5277	*	*	*	
5300-5377	D	*	*	*
5400-5477	D	*	*	
5500-5577				
5600-5677				
5700-5777				
6000-6077	-	T	-	-
6100-6177				
6200-6277	-	T	-	-
6300-6377	*	*	*	D
6400-6477				
6500-6577	*	*	D	
6600-6677	-	-	T	-
6700-6777	-	-	-	T
7001-7077			-	
7100-7177	-	-	-	-
7200-7277			*	
7300-7377	*	*	D	
7400-7477				
7500				
7600 XX				
7700				

PA – 2	A	C	J	S
Code	M	A	E	A
Clave	M	I	D	N
	A	R	A	A
	N	O	H	A
4600-4677	*	*	D	*
4700-4777		D	*	*
5000-5077			D	
5100-5177	-	-	-	-
5200-5277		*	D	*
5300-5377			*	*
5400-5477			*	*
5500-5577			D	
5600-5677			D	
5700-5777				
6000-6077				
6100-6177	-	-	T	-
6200-6277				
6300-6377			D	
6400-6477				
6500-6577				
6600-6677				
6700-6777				
7001-7077		-	-	T
7100-7177				
7200-7277				
7300-7377				
7400-7477				
7500				
7600 XX		T		
7700				

PA – 3	B		D		
Code	A	B	A	K	E
Clave	G	E	M	U	L
	H	I	A	W	A
	D	R	S	A	Ψ
	A	U	C	I	Ψ
	D	T	U	T	Ψ
4600-4677	*	*	D	*	*
4700-4777					
5000-5077					
5100-5177	-	-	-	-	T
5200-5277					
5300-5377					
5400-5477					
5500-5577					
5600-5677					
5700-5777	-	-	T	-	-
6000-6077					
6100-6177					
6200-6277					
6300-6377					
6400-6477	-	-	-	-	T
6500-6577					
6600-6677					
6700-6777					
7001-7077					
7100-7177					
7200-7277					
7300-7377					
7400-7477	D				
7500					
7600 XX					
7700					

- T Whole series for transit use
- Transit code retained
- \* Not available for domestic use
- D Domestic use
- XX 7601-7612 Cross/humanitarian

3C-9

OPTION 4

PA – 1 Code Clave	B A G H D A D	B E I R U T	D A M A S C U S	T E H R A N	⌘ ⌘ ⌘ ⌘ ⌘ ⌘
0000					
0001-0077					
0100-0177					
0200-0277					
0300-0377					
0400-0477		*	*	*	*
0500-0577					
0600-0677					
0700-0777	-	-	-	-	-
1000-1077	T	-	-	-	-
1101-1107	-	-	-	T	-
1200-1277					
1300-1377					
1400-1477					
1500-1577	*	*	*	D	*
1600-1677					
1700-1777					
2001-2077	*			D	
2100-2177					
2200-2277					
2300-2377					
2400-2477				*	
2500-2577	-	T	-	-	-
2600-2677					
2700-2777					
3000-3077	-	-	T	-	-
3100-3177					
3200-3277	*	*	*	D	D
3300-3377					
3400-3477	D		*	*	
3500-3577					
3600-3677	*			D	
3700-3777					
4000-4077					
4100-4177	-	-	-	T	-
4200-4277	*	*	*	D	D
4300-4377	*	D	*		*
4400-4477					
4500-4577					

PA – 2 Code Clave	A M M A N	C A I R O	J E D D A H	S A N A A
0000				
0001-0077				
0100-0177			D	
0200-0277			D	*
0300-0377			*	*
0400-0477	D	*	*	*
0500-0577			-	-
0600-0677		-	-	-
0700-0777	T	-	-	-
1000-1077	-		-	-
1101-1107	-		-	-
1200-1277			*	*
1300-1377			*	
1400-1477		D	*	
1500-1577	D		*	
1600-1677		D	*	*
1700-1777			-	-
2001-2077				
2100-2177			-	-
2200-2277			-	-
2300-2377		T	-	-
2400-2477	D	*	*	
2500-2577	-	-	-	-
2600-2677			-	-
2700-2777		T	-	-
3000-3077	-	-	-	-
3100-3177		-	T	-
3200-3277	*	*	*	D
3300-3377		D	*	*
3400-3477	*		*	
3500-3577		-	T	-
3600-3677				
3700-3777			-	-
4000-4077			-	-
4100-4177	-		-	-
4200-4277	*	*	*	
4300-4377	*	*	D	*
4400-4477		D	*	*
4500-4577		*	D	*

PA – 3 Code Clave	B A H R A I N	E M I R A T E S	K U W A I T	M U S C A T
0000				
0001-0077				
0100-0177				
0200-0277				*
0300-0377				*
0400-0477	*	D		*
0500-0577	-	T	-	-
0600-0677	-	-	T	-
0700-0777	-	-	-	-
1000-1077	-	-	-	-
1101-1107	-	-	-	-
1200-1277	D	D	*	*
1300-1377	*	D		*
1400-1477	*	D	D	
1500-1577	*	*	*	*
1600-1677	D	*	*	*
1700-1777	-	T	-	-
2001-2077	*	*	*	*
2100-2177	T	-	-	-
2200-2277	T	-	-	-
2300-2377	-	-	-	-
2400-2477	*	D		*
2500-2577	-	-	-	-
2600-2677	T	-	-	-
2700-2777	-	-	-	-
3000-3077	-	-	-	-
3100-3177	-	-	-	-
3200-3277	*	*	*	*
3300-3377		D		*
3400-3477	*	D	*	*
3500-3577	-	-	-	-
3600-3677	*	*	*	*
3700-3777	-	T	-	-
4000-4077	-	-	-	T
4100-4177	-	-	-	-
4200-4277	*	*	*	*
4300-4377	*	*	*	*
4400-4477	D	*	*	*
4500-4577	*	*		*



SSRCA SG/4

Appendix 3D to the Report on Agenda Item 3

**CRITERIA TO BE USED TO DETERMINE THE REQUIRED NUMBER OF SSR CODES IN THE MID REGION**

The objective of the SSR Code Allocation List is to enhance safety by providing the means to ensure unambiguous correlation between an SSR return and a flight plan. Multiple correlations can lead to mis-identification which in turn can lead to increased risk of interception or of ATC providing erroneous ATC instructions to an aircraft.

The guidelines shown below were drawn up based on the requirements of the Originating Region Code Assignment Method (ORCAM), which was adopted by MIDANPIRG/12 when it endorsed the MID Strategy on SSR Code Allocation Issues, (MIDANPIRG Conclusion 12/21 refers), in order to assist States to determine the number of SSR codes that they require to meet duly justified operational requirements. The guidelines are in consistent with the provisions of PANS ATM (Doc 4444) Chapter 8 paragraph 8.5.2.

**INTERNATIONAL TRANSIT CODES**

**Explanation**

**Remarks**

<p>The number of codes required should be limited to the average number of traffic movements plus 20% to cover peaks.</p>	<p>To determine the number of transit codes each State requires, it is necessary to determine how many aircraft would require a code at any one time. This number can be determined by looking at the mean number, taking account of the retention time (two hrs) plus a suitable buffer for peaks. This is in line with ORCAM and ICAO PANS ATM provisions<sup>1</sup>.</p>
<p>The number of transit codes required should be based on the four following factors:</p> <ol style="list-style-type: none"> <li>1) The mean hourly number of aircraft entering the MID PA; and</li> <li>2) The mean hourly number of international traffic departing all aerodromes within the PA; and</li> <li>3) An allowance shall be made to take account of the two hour recycling value, as agreed in the strategy; and</li> <li>4) The actual number of codes required would then be calculated based on 1), 2) and 3) above and a safety buffer of [<i>parameter value</i>] of codes should be added.</li> </ol>	<p>This is based on the requirements of ORCAM (cf footnote 1)</p>

1 In establishing the number and series of transit codes account is taken of the air traffic flows and main sources of transit traffic in the MID Region and likely trends and can be derived from the total number of aircraft requiring assignment of a specific code during the busiest period of activity of that ATC Unit, taking into account a “protection period” after which any specific code assigned to an aircraft by an ATC Unit is normally available for reuse.

**INTERNATIONAL TRANSIT CODES**

No codes should be permanently assigned to an airframe, to an individual or to a squadron.

No codes should be assigned based on the day of the week.

All codes have to be re-usable within a [*parameter time*] of the aircraft landing or of it leaving the Area of Responsibility (AOR) or the PA.

The first ACC in the MID PA shall assign a transit code if the aircraft will continue beyond the limits of the ACC's boundary. The same code will be retained until the aircraft lands within the MID PA or exits the PA.

If the aircraft lands within the limits of the first ACC, then a domestic code shall be assigned. This permits a faster re-cycling of the codes.

Explanation	Remarks
Example: Aircraft registration xyz (civil or military) would be assigned code 3441. This is against the very principles of ORCAM <sup>2</sup> itself.	
Example: All aircraft operating on Wednesday would be assigned codes from block 3400 whereas Tuesday would get 3100 etc. This is against the very principles of ORCAM <sup>1</sup> itself.	
This is a requirement of ORCAM and of the MID Strategy itself which stipulates two hours.	
This is a requirement of the ORCAM and of the PANS ATM <sup>3</sup> .	

<sup>2</sup> Permanent code assignments and allocations based on the aircraft callsign, control position or any other systematic distinguishing features cannot be accepted because of the wasteful effects on the efficiency in use of codes required.

<sup>3</sup> to reduce pilot/controller workload and the need for communications, the number of code changes required shall be kept to the minimum

<b>DOMESTIC CODES</b>	<b>Explanation</b>	<b>Remarks</b>
<p>The number of codes required should be limited to the average number of traffic movements plus 20% to cover peaks.</p>	<p>To determine the number of transit codes each State requires, it is necessary to determine how many aircraft would require a code at any one time. This number can be determined by looking at the mean number, taking account of the retention time (two hrs) plus a suitable buffer for peaks. This is in line with ORCAM and ICAO PANS ATM provisions<sup>1</sup>.</p>	
<p>The total number of domestic codes shall be based on 75% of all State military aircraft and 50 % of all civil registered aircraft on the State Registry.</p> <p><i>(Note: The 50% assumes an even split between commercial and non-commercial aircraft and takes account of the transit codes)</i></p>	<p>The numbers were chosen based on the ORCAM requirement that operational needs should determine the number of codes available. It is assumed that not more than 75% of all military assets would require an SSR simultaneously. This is considered a very conservative estimate.</p> <p>As for civilian aircraft. Most would be operating on transit codes therefore the 50% would appear a conservative estimate of the number of domestic codes required simultaneously to meet the requirements of the entire aircraft population.</p>	
<p>No codes should be permanently assigned to an airframe, to an individual or to a squadron.</p>	<p>Example: Aircraft registration xyz (civil or military) would be assigned code 3441. This is against the very principles of ORCAM itself<sup>2</sup>.</p>	
<p>No codes should be assigned based on the day of the week.</p>	<p>Example: All aircraft operating on Wednesday would be assigned codes from block 3400 whereas Tuesday would get 3100 etc. This is against the very principles of ORCAM<sup>1</sup> itself<sup>2</sup>.</p>	
<p>All codes have to be re-usable within a [parameter time] of the aircraft landing or of it leaving the Area of Responsibility (AOR) or the PA.</p>	<p>This is a requirement of ORCAM and of the MID Startegy.</p>	

<b>MID REGION COOEPRATIVE CODES</b>	<b>Explanation</b>	<b>Remarks</b>
<p>A pool of codes would be retained by the ICAO MID Regional Office to assist States to accommodate temporary large scale military exercises, for contingencies or for specific requirements made by a State.</p> <p>The codes would be allocated for the duration required and then returned to the MID Regional Office for re-use.</p>	<p>The ICAO MID Regional Office would retain a pool of x numbers of unique SSR codes that it could allocate to a State or a group of States on a temporary basis in order to carry out military exercises or to implement contingency measures. When the exercise or contingency was terminated, the SSR codes would be returned to the ICAO MID Regional Office pool.</p> <p>This is in line with the ORCAM objective of maximizing the efficient use of SSR codes. Rather than freeze a large chunk of codes for occasional use, these codes would be made available a permanent basis subject to some which will be finalized with the States of the Region.</p>	
<p>An underlying objective of the Code Management Plan is NOT to allocate all available codes but only a sufficient number so that States can provide services without any difficulties or risk of duplication. Achieving this objective will permit the Region to meet the expected increase in the demand for codes in the future in a harmonious fashion without causing unnecessary problems.</p>	<p>In accordance with PANS ATM paragraph 8.5.2.3, some codes will be retained by the ICAO MID Regional Office to support humanitarian operations.</p>	

-----

SSRCA SG/4  
Appendix 3E to the Report on Agenda Item 3

**QUESTIONNAIRE CONCERNING THE NUMBER OF SSR CODES  
REQUIRED AND FDPS FUNCTIONALITIES**

The objective of the questionnaire is to assist States and the Secretariat in determining the number of SSR codes that each State requires in order to meet its operational requirements. The questionnaire is based on the strategy approved by MIDANPIRG/12, the provisions of the PANS ATM and the principles of ORCAM.

The questionnaire should be filled in and printed then faxed or emailed to the ICAO MID Regional Office using the address or number shown below. **Return by 14 February 2011**

Name of State:

Date:

Question	Data	Comments
Approximate number of military aircraft (a precise number is not necessary but sufficient information is required to determine the number of domestic codes required?)		
Number of civil aircraft on your national registry?		
Average daily number of international departures from all aerodromes within your State?		
Average daily number of international traffic entering your State from outside the MID PA?		
How many codes would your State require to support its largest military exercise?		
Do humanitarian operations in your State require unique SSR codes? If yes, how many and provide details regarding the requirement?	Yes No	
<b>System Requirements</b>		
Can your FDPS system process all codes in the 75, 76 and 77 blocks?	Yes No	
Can your FDPS system assign codes based on direction of flight?	Yes No	
If your FDPS system cannot assign codes based on direction of flight, do you have plans to upgrade your FDPS to do so and on which date?	Yes No	
Has your State updated its FDPS to re-cycle SSR codes on a two-hourly basis rather than every three hours?	Yes No	



State	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Saudi Arabia	380	336	476	494	200	NO	YES	NO	NO	YES
Syria										
UAE										
Yemen										

- Q1- *Approximate number of military aircraft (a precise number is not necessary but sufficient information is required to determine the number of domestic codes required?)*
- Q2- *Number of civil aircraft on your national registry?*
- Q3 *Average daily number of international departures from all aerodromes within your State?*
- Q4- *Average daily number of international traffic entering your State from outside the MID PA?*
- Q5- *How many codes would your State require to support its largest military exercise?*
- Q6- *Do humanitarian operations in your State require unique SSR codes? If yes, how many and provide details regarding the requirement?*

**System Requirements**

- Q7- *Can your FDPS system process all codes in the 75, 76 and 77 blocks?*
- Q8- *Can your FDPS system assign codes based on direction of flight?*
- Q9- *If your FDPS system cannot assign codes based on direction of flight, do you have plans to upgrade your FDPS to do so and on which date?*
- Q10- *Has your State updated its FDPS to re-cycle SSR codes on a two-hourly basis rather than every three hours?*

-----

# INTERNATIONAL CIVIL AVIATION ORGANIZATION



## MIDDLE EAST SECONDARY SURVEILLANCE RADAR (SSR) CODE MANAGEMENT PLAN

*- First Edition -*

**2011**

THE DESIGNATIONS 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 OF ITS AUTHORITIES, OR CONCERNING THE DELIMITATION OF ITS FRONTIERS OR BOUNDARIES.

**TABLE OF CONTENTS**

1 SCOPE ..... 1  
1.1 Relationship to MID Air Navigation Plan (Doc 9708) ..... 1  
2 DEFINITIONS AND ABBREVIATIONS ..... 2  
2.1 Definitions..... 2  
2.2 Abbreviations..... 3  
3 INTRODUCTION..... 4  
3.1 Objectives of the Middle East SSR Code Management Plan ..... 4  
3.2 General Principles To Meet The Objectives ..... 4  
3.3 Monitoring of the Plan ..... 5  
4 PERMANENT CODE DISTRIBUTION AND CATEGORIES ..... 5  
4.1 Distribution of codes..... 5  
4.2 Special purpose codes..... 6  
4.3 Transit codes ..... 7  
4.4 Domestic codes ..... 7  
5 ORCAM ..... 8  
5.1 OUTLINE OF ORCAM OBJECTIVES ..... 8  
6 ORCAM SYSTEM REQUIREMENTS..... 9  
6.1 Introduction..... 9  
6.2 General System Considerations ..... 9  
6.3 Essential Capabilities for Automated ATC Ground Systems ..... 10  
APPENDIX A - PARTICIPATING AREAS ..... i  
APPENDIX B - GENERAL PROCEDURES FOR SSR CODE ASSIGNMENT ..... ii  
APPENDIX C - IMPLICATIONS FOR AUTOMATION ..... vi  
APPENDIX D - DEVELOPMENT OF AUTOMATED SSR CODE ASSGNEMENT SYSTEMS.... x

## 1 SCOPE

### 1.1 RELATIONSHIP TO MID AIR NAVIGATION PLAN (DOC 9708)

- 1.1.1 The *Middle East Secondary Surveillance Radar Code Management Plan* (MID Doc xx) has been produced on behalf of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG).
- 1.1.2 The purpose of MID Doc xx is to detail the requirements to be met by the States of the ICAO Middle East (MID) Region in order to comply with the provisions of the *Middle East Basic Air Navigation Plan* (MID ANP) (Doc 9708, Volume I) and the *Middle East Facilities and Services Implementation Document* (MID FASID) (Doc 9708, Volume II) as they pertain the management of Secondary Surveillance Radar (SSR) codes in the ICAO MID Region. This document incorporates text that currently comprises **Attachments x** and **y** to the MID FASID along with new material to document the management of the regional SSR Code pool.
- 1.1.3 The technical requirements and associated procedures may also be adopted by States in adjoining ICAO Regions which elect to participate in the Originating Region Code Assignment Methodology (ORCAM) for the management of SSR codes.
- 1.1.4 All references to SSR Codes in MID Doc xx are confined to Mode 3/A. The use and allocation of Mode S Interrogator Codes is covered by Appendix A to the MID FASID.

## 2 DEFINITIONS AND ABBREVIATIONS

### 2.1 DEFINITIONS

Assigned Secondary Surveillance Radar code (ASSR)	The SSR code assigned by an ATS Unit (ATSU) to a departing aircraft or to an aircraft entering the airspace of the ATSU. <i>Note: In cases where the Previous Secondary Surveillance Radar code (PSSR) can be retained, PSSR and ASSR can be the same code</i>
(SSR) Code	The number assigned to a particular multiple pulse reply signal transmitted by a transponder in Mode A or Mode C.
Code allocation	The distribution of SSR Codes to a State, unit or service.
Code assignment	The distribution of SSR codes to aircraft.
Code block	A continuous series of four-digit codes from the same code series.
Code series	A group of 64 four-digit codes having the same first two digits.
Direction of flight	The direction shall be defined as a combination of one or more: a) exit points or receiving Areas of Responsibility (AOR); and b) destinations (defined by the first, the first two, the first three or all four letters of an ICAO location indicator).
Directional assignment	Assignment of an SSR code based on the direction of the flight.
Discrete code	A four-digit code with the last two digits not being "00".
Domestic code	A code allocated to a specific AOR for use by designated ATC unit(s) within that AOR or, subject to certain conditions, across AOR boundaries.
Expectation window	A window of variable size around a 4D position, defined by flight plan information, at which a flight is expected to enter the AOR.
Four-digit code	An SSR identity code containing combinations of A, B, C and D pulses (any reply generated by a 4096-code transponder where the digits fall in the range 0-7).
Geographical correlation	Correlation of a flight with its flight plan using the geographical position of the flight by means of "Expectation Windows" in cases where the SSR code is already in use by one or more other flights within the same AOR.
Mode S Conspicuity Code	In order to maximise SSR code savings through Mode S Elementary Surveillance (ELS), all aircraft identified via the downlinked Aircraft Identification (ACID) use the same SSR code, the Mode S Conspicuity Code A1000.
Octal block	A block of 8 four-digit codes from the Same Series and having the first three digits common. They may be identified by indicating their third digit when referring to the Code Series e.g. Codes 0010-0017 may be referred to as Codes 00(1).
Participating area (PA)	An area of specified dimensions comprising the areas of ATS unit responsibility of one or more States.
Previous Secondary Surveillance Radar code (PSSR)	The SSR code transmitted by an aircraft when entering the airspace of an ATSU or when being transferred by the transferring unit. <i>Note: In cases where the PSSR can be retained, PSSR and ASSR can be the same code.</i>

Simultaneous code use	Assignment of an SSR code, which is already in use within the same AOR, to an aircraft in accordance with procedures which ensure that the two aircraft will be exiting the AOR in opposite or nearly opposite directions.
Retention of an SSR code	Accepting an aircraft from the transferring unit without changing the SSR code. A code can be retained if no other aircraft within the AOR uses the same code and if the retention of the code is in accordance with the Code Allocation List (CAL).
Transit code	A code allocated to a State for a specified ACC for assignment to an aircraft engaged in transit flights within the originating PA or, subject to certain conditions, to specified locations in succeeding PAs.

## 2.2 ABBREVIATIONS

ABI	Advance Boundary Information
ACID	Aircraft Identification
ADEP	Aerodrome of Departure
ADES	Aerodrome of Destination
AOR	Area of Responsibility
ASSR	Assigned Secondary Surveillance Radar code
ATC	Air Traffic Control
ATS	Air Traffic Services
ATSU	Air Traffic Services Unit
CAL	Code Allocation List for the Middle East Region
CMP	Code Management Plan
COD	SSR Code Assignment Message
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group
ELS	Elementary Surveillance
FDPS	Flight Data Processing System
FIR	Flight Information Region
NM	Nautical Mile
ORCAM	Originating Region Code Assignment Method
PA	Participating Area
PSSR	Previous Secondary Surveillance Radar code
RDPS	Radar Data Processing System
SSR	Secondary Surveillance Radar
VSP	Variable System Parameter

### 3 INTRODUCTION

#### 3.1 OBJECTIVES OF THE MIDDLE EAST SSR CODE MANAGEMENT PLAN

- 3.1.1 The Middle East SSR Code Management Plan (MID SSR CMP) has been established to provide States in the ICAO MID Region with means to coordinate the use of SSR codes based on the principles of the Originating Region Code Assignment Method (ORCAM), which provides for the most efficient and economical use of codes.
- 3.1.2 The MID SSR CMP will foster the implementation of ORCAM which will ultimately allow for an assigned discrete code which would, whenever possible, be retained throughout the flight.
- 3.1.3 For the development of automated SSR code assignment systems, reference should be made to Paragraph 6 below.
- 3.1.4 On the basis of the above, a detailed Code Allocation List (CAL) for the MID Region Participating Area (PA) and certain adjacent areas was developed. The CAL is maintained by the ICAO MID Regional Office as a Supplement to MID Doc 9708.
- 3.1.5 The agreed allocation of SSR codes to States and ATS units are documented in Part A of the CAL. The detailed listing of codes serving both transit and domestic purposes is shown in Part B of the CAL. The CAL is at **Attachment x** to the MID FASID, Part IV.

#### 3.2 GENERAL PRINCIPLES TO MEET THE OBJECTIVES

- 3.2.1 The detailed principles governing the use of SSR codes in the MID Region are based on the following general principles which are provided by or are complementary to the worldwide provisions detailed in *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444), Chapter 8:
- a) codes shall be allocated to States in accordance with regional air navigation agreements, taking into account overlapping radar coverage over adjacent airspace;
  - b) codes are allocated to Air Traffic Services Units (ATSU) on the basis of duly justified operational requirements; their number is primarily established by taking into account the number of aircraft to be handled simultaneously and the system capabilities;
  - c) the appropriate ATS authority shall establish a plan and procedures for the allocation of codes to ATSUs;
  - d) the plan and procedures for the allocation of codes to ATSUs shall be compatible with those practised in adjacent States;
  - e) codes shall be assigned to aircraft in accordance with the plan and procedures laid down by the appropriate ATS authority;
  - f) whenever there is a need for individual aircraft identification, each aircraft shall be assigned a discrete code which should, whenever possible, be retained throughout the flight;
  - g) the assignment of a code should preclude the use of this code for any other function within the area of coverage of the same SSR for a prescribed time period; and
  - h) to reduce pilot/controller workload and the need for communications, the number of code changes required shall be kept to the minimum.
- 3.2.2 SSR codes should be used for ATS purposes only.

- 3.2.3 Code allocations are expressed in terms of complete code series or specified parts thereof. In special cases, such requirements may even cover designated discrete codes.
- 3.2.4 Codes intended to be used for transit purposes are allocated to States for use by specified ATSUs within the MID PA. Where provided for in the *Middle East SSR Code Management Plan* and under clearly defined circumstances, such codes may also be designated for use across PA boundaries.
- 3.2.5 Codes intended to be used for domestic purposes are allocated to States for use by specified ATSUs requiring limited geographical protection for such codes. Where provided for in the MID SSR CMP and under clearly defined circumstances, such codes may also be designated for use across national boundaries.

### 3.3 MONITORING OF THE PLAN

- 3.3.1 Provisions regarding the progressive implementation and monitoring of the MID SSR CMP have been agreed by the MIDANPIRG. In this connection, the management of the MID SSR CMP is exercised by the ICAO MID Regional Office. States expecting to introduce or change SSR facilities are requested to advise the ICAO MID Regional Office at least six months in advance, in order to provide sufficient time to carry out any necessary coordination.
- 3.3.2 To be effective, the MID SSR CMP must be kept up to date. While its contents will be reviewed regularly, it is the responsibility of all States to inform the ICAO MID Regional Office promptly of any variations proposed or considered necessary with respect to their code allocations, relevant to ATS infrastructure developments and/or the guidance material provided in the MID SSR CMP.
- 3.3.3 In order to serve their purposes it is imperative that the MID SSR CMP and the CAL are kept up to date. States are therefore required to inform the MID Office of ICAO promptly of any requests for changes, additions or deletions in regard to the use of specific codes, as follows:

#### **ICAO MID Regional Office**

Subject: SSR Code Management  
E-mail:  
icaomid@cairo.icao.int  
Fax: +2 (02) 22674843

## 4 PERMANENT CODE DISTRIBUTION AND CATEGORIES

### 4.1 DISTRIBUTION OF CODES

- 4.1.1 Certain codes are reserved for special purposes on a worldwide scale or have been put in a common pool for use in the MID Region. The remaining code series for use in the ICAO MID Region are divided into two distinct types: transit codes and domestic codes. Both domestic and transit codes may be used as directionally assigned codes beyond their normal application under clearly defined and published circumstances, and appropriately coordinated through ORCAM.
- 4.1.2 The number of codes used for transit purposes has to take account of the extended geographical protection required, in order to reduce to a minimum the chances of confusion between the identities of two different aircraft assigned with the same discrete code. The MIDANPIRG has agreed that the retention time should normally be two hours.

4.1.3 The number of codes used for domestic purposes can be kept relatively small as they may be repeated within the same State or they can be used by other States provided a buffer is established. In some cases, by agreement, they can be used across national boundaries.

4.1.4 Furthermore, the allocation possibilities can be increased significantly by dividing specific code series into smaller contiguous codes. When this method is used for transit flights bilateral agreement may be required.

4.2 SPECIAL PURPOSE CODES

4.2.1 Specific codes in certain series are reserved for special purposes as follows:

---

**Series 00** Code 0000 is available as a general purpose code for domestic use by any of the following States:

**Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.**

---

**Series 10** Code 1000 reserved for use as a conspicuity code for Mode S

**Series 20** Code 2000 shall be used by flight crews in the absence of any Air Traffic Control (ATC) instructions or regional agreements unless the conditions for the use of codes: 7000,7500, 7600 and 7700 apply.

**Series 70** Code 7000 shall be used by flight crews not receiving ATS service in order to improve detection of suitably equipped aircraft in areas specified by States, unless otherwise instructed by ATS.

**Series 75** Code 7500 is reserved for use in the event of unlawful interference.

**Series 76** Code 7600 is reserved for use in the event of radio communications failure.

**Series 77** Code 7700 is reserved for use in the event of emergencies and interception\*. Code 7776 and Code 7777 are reserved for SSR ground transponder monitoring.

**Codes 7601-7612** Are reserved for humanitarian flights.

**Common SSR Code Pool** The following code blocks have been reserved for tactical allocation to States on a temporary basis to support large scale activities:  
To be added

---

4.2.2 Discrete codes in the series 00 are allocated to States for use for domestic purposes. States in the MID Region are generally allocated two octal blocks of four-digit codes per State in such a manner that code duplication is avoided at FIR boundaries. The allocation of octal blocks is shown in the CAL.

\*Note.— The word “interception” in this context does not include intercept and escort service provided, on request, to an aircraft in distress, in accordance with Volumes II and III of the International Aeronautical and Maritime Search and Rescue Manual (Doc 9731).

#### 4.3 TRANSIT CODES

4.3.1 Transit codes are allocated for assignment to transit flights. Aircraft will retain the assigned code within the geographical limits of the MID PA or, in the case of an agreement between States concerned, across the PA boundary.

4.3.2 The allocation of transit codes in the MID Region is based on one PA<sup>1</sup> which has been determined on the basis of the flow of air traffic in the region. It is shown on the Chart at **Appendix A** and includes the following States:

**PA MID** Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.

4.3.3 Transit codes shall be assigned in accordance with the following principles:

- a) when an aircraft enters the MID PA (either on departure or in flight), it will be assigned a discrete code by the first ATSU concerned at a Variable System Parameter (VSP) of not less than 30 minutes prior to activation of the flight entering the MID PA or when departing, upon ATC clearance delivery or at start up, whichever is later;
- b) each aircraft will keep the original code assigned on entering the MID PA for the entire flight within the PA. Appropriate code protection criteria have to be applied in order to avoid duplication by too early reassignment of the same code. Efforts should be made to reduce the “protection period” while retaining adequate protection. It has been agreed that the normal retention value shall be two hours; and
- c) a code change will be required at the time an aircraft crosses the MID PA boundary, unless special provision has been made for retention beyond the PA boundary.

4.3.4 In establishing the number and series of transit codes for both omni-directional and directional application, account is taken of the following factors:

- a) the air traffic flows and main sources of transit traffic in the MID Region and likely trends;
- b) the requirement for code series for a given ATC Unit. This requirement is derived from the total number of aircraft requiring assignment of a specific code during the busiest period of activity of that ATC Unit, taking into account a “protection period” after which any specific code assigned to an aircraft by an ATC Unit is normally available for reuse; and
- c) the assignment of a specific code to an aircraft is ideally made, as late as possible before take-off, normally on start up or upon ATC clearance delivery, whichever is later or, when an aircraft in flight is imminently due to come under control, normally a VSP value of not less than 30 minutes.

4.3.5 The distribution of the available code series for transit purposes is shown in the CAL.

4.3.6 Specific arrangements are required to ensure that no conflicting situations will arise in border areas.

#### 4.4 DOMESTIC CODES

4.4.1 Domestic codes are allocated for use by aircraft remaining within the boundaries of the agreed area of responsibility (AOR) (normally within one State) or, in the case of agreement between States concerned, across agreed AORs. Domestic codes can also be used for transit

---

<sup>1</sup> The actual number of PAs to be established will depend on the results of the Secretariat study.

aircraft entering the MID PA and landing at an aerodrome within the AOR of the ATSU that has assigned the SSR code. The relevant code series for domestic purposes are shown in the CAL.

- 4.4.2 Domestic codes should be used so that utmost economy in the number of codes required is achieved. Domestic codes used for terminal purposes or within specified portions of the airspace (sectors) or across national boundaries will be assured protection in these functions from other uses of the same code through suitable systematic or procedural methods.
- 4.4.3 More detailed information concerning the procedures to be used for SSR code assignment can be found in **Appendix B**.

## 5 ORCAM

### 5.1 OUTLINE OF ORCAM OBJECTIVES

5.1.1 The objectives of ORCAM are:

- a) to ensure safety by uniqueness and continuity;
- b) enhance safety;
- c) reduce workload;
- d) improve system capacity; and
- e) increase efficiency.

5.1.2 Uniqueness and continuity criteria are intended to provide permanent perceptibility and identification of aircraft with a minimum of errors and interruptions.

5.1.3 *Uniqueness*. Depending on system functionality, only one aircraft should respond using a given code in any particular area and at any given time. This provides an unambiguous code/callsign correlation and consequently an easy identification of aircraft.

5.1.4 *Continuity*. A code assigned to an aircraft should, whenever possible, be retained throughout the flight. This secures permanent display of aircraft identification.

5.1.5 The uniqueness and continuity criteria of ORCAM enhance safety by limiting the likelihood of identification errors. They also assist traffic flows since radar identification and all aspects connected with transfers are facilitated. This results in a reduction of workload (radiotelephony, identification monitoring, etc.) and substantially improves the overall system capacity.

5.1.6 In some areas the number of flights could exceed the number of SSR codes available. Some rationalization according to the nature of the flight (short-, medium- or long-haul, domestic, international or transit) and of the capabilities of the system is necessary for the most intensive possible use of codes.

5.1.7 Permanent code assignments and allocations based on the aircraft callsign, control position or any other systematic distinguishing features cannot be accepted because of the wasteful effects on the efficiency in use of codes required.

## 6 ORCAM SYSTEM REQUIREMENTS

### 6.1 INTRODUCTION

- 6.1.1 Middle East States are relying on the extensive use of SSR in automated ATC ground systems to ensure uninterrupted aircraft identification and maintenance of radar/flight plan correlation.
- 6.1.2 They have recognized the common availability of specified capabilities in automated ATC ground systems as being essential for:
- a) participation of individual automated ATC units in a cooperative environment;
  - b) application of a common SSR Code assignment method in accordance with the ICAO principles;
  - c) efficient utilization of codes in automated ATC ground systems.
- 6.1.3 This “Statement of essential common capabilities for automated ATC ground systems in relation to the use of SSR” shown in paragraph 6.3 below, lists the capabilities concerned. It should be used by States as the basis to determine the minimum operational specifications for automated ground systems.

### 6.2 GENERAL SYSTEM CONSIDERATIONS

- 6.2.1 The application of automatic data processing in ATC ground systems allows for great freedom in the definition of system capabilities. This freedom should be exploited to:
- a) provide for all essential capabilities related to the use of SSR in the most simple manner having due regard to operational requirements; and
  - b) enable individual automated ATC ground systems to function as part of an inter-operable environment and to comply with agreed conventions facilitating such cooperation (e.g. principles and basic rules for code assignment, code assignment methods etc.).
- 6.2.2 Individual automated ATC ground systems should, as part of an inter-operable environment, be capable of making the maximum use of codes previously assigned by other units controlling the aircraft concerned; i.e. they should not introduce any code changes or if this is impossible in some circumstances, require only the minimum of changes.
- 6.2.3 Taking into account inter-operability of ATC ground systems within the MID Region with others outside that area and the range of codes which may be utilized under such arrangements, automated ATC ground systems should be capable of performing all system functions related to the use of SSR for any 4-digit identity code.
- 6.2.4 Automated ATC ground systems should be designed to allow the use of a minimum number of codes. The application of sophisticated code correlation methods may reduce the number of codes needed in comparison with those required when simpler methods are used.
- 6.2.5 The processing of SSR data in automated ATC ground systems should be aimed at reducing the need for controller intervention.
- 6.2.6 **Appendix C** and **Appendix D** provide greater detail regarding the implications for automation and the development of automated SSR code assignment systems respectively.

6.3 ESSENTIAL CAPABILITIES FOR AUTOMATED ATC GROUND SYSTEMS

6.3.1 It is essential that automated ATC ground systems be designed to have certain capabilities in common, based on the assumption that:

- a) the maximum use will be made of previously assigned codes;
- b) only where continuing use of previously assigned codes would give rise to ambiguity, new codes will be assigned in accordance with a suitable common SSR code assignment method;
- c) the prime use of codes will be to facilitate automatic identification, automatic tracking and automatic radar/flight plan data correlation; and
- d) the differentiation of aircraft essential for the execution of these functions can be achieved through the use of a single, adequately protected code per aircraft.

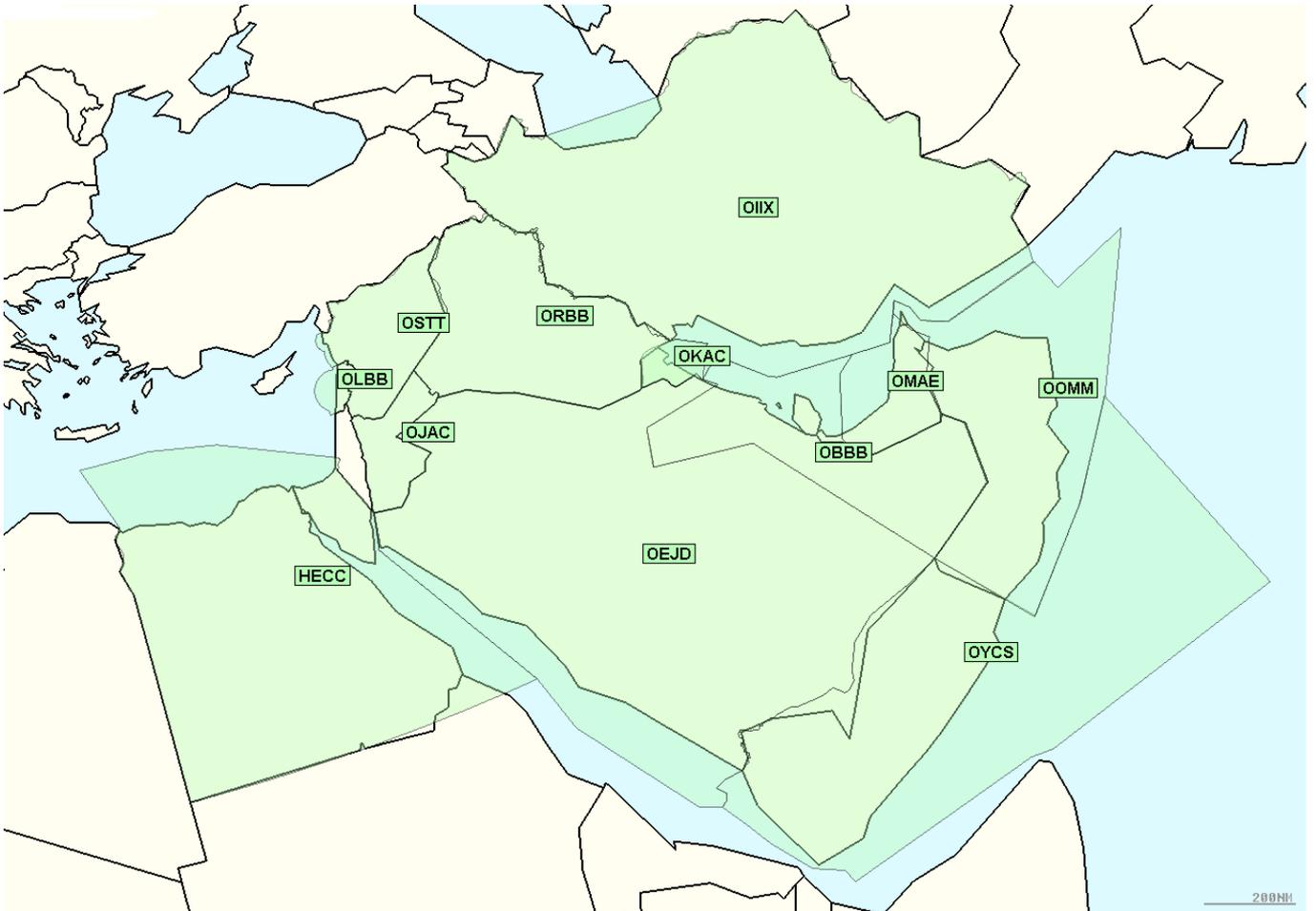
6.3.2 In detail, automated ATC ground systems should be capable of automatic:

- a) **Exchange of codes:** in particular of timely transmission to adjacent centres concerned of information on the code previously assigned to flights to be transferred.
- b) **Assignment of codes:** in all instances where no previous code assignment has been made or where previous assignments are found to be unsuitable.
- c) **Processing of SSR code information, including:**
  - i) initiation of automatic tracking of SSR responses;  
*Note.— This does not exclude tracking on the basis of primary radar returns in areas where adequate primary coverage is available;*
  - ii) determination for each code whether it meets the criteria to be established for unambiguous correlation;
  - iii) recognition of any code duplications affecting correlation;
  - iv) proposing action to controllers to resolve code duplications affecting correlation;
  - v) establishment of initial correlation between real-time radar information and current flight plan information on the basis of decoded SSR replies (including Mode C information). Correlation should be achieved sufficiently in advance of the time at which an aircraft enters the area of responsibility of a centre;
  - vi) maintenance of correlation between real-time radar information and current flight plan information on the basis of decoded SSR replies and/or coincidence of flight plan information (route, heading, altitude) or other distinguishing criteria and radar information;
  - vii) storage of code information until a VSP time at which its activation and protection is desired; and
  - viii) activation of stored information for correlation at a given VSP time and/or within a given airspace.

- d) **Display of information including:**
  - i) presentation in a suitable manner of decoded SSR replies and/or correlated flight plan information;
  - ii) filtering of information to be displayed on the basis of SSR-derived data (Mode A/C); and
  - iii) indication of code duplications.
- e) **Special codes:** immediate recognition of special codes, as specified on a regional or world-wide basis, as well as maintenance of tracking and correlation of aircraft using these codes.
- f) **Recovery from ground system degradation:** in cases of ground system degradation (excluding display component failure) to the extent that essential SSR-derived information is not displayed, automated ATC ground systems should be capable of restoring all essential information within the shortest possible time. Until full serviceability can be restored, the above aim may necessitate suppression of functions of secondary importance.

---

APPENDIX A - PARTICIPATING AREAS



## APPENDIX B - GENERAL PROCEDURES FOR SSR CODE ASSIGNMENT

**B.1 Retention of previous code**

- B.1.1 Every endeavour shall be made to retain the code already assigned to the aircraft. This assumes that the code is known at the time of coordination (either by voice coordination or by transmission of an Air Traffic Services (ATS) Interfacility Data Communications (AIDC) message, or an On-Line Data-Interchange (OLDI) or via the pilot) and input into the system if automated. If a code is not already being used by another aircraft flying in an unprotected area and if the code assigned to the aircraft is acceptable for the flight category<sup>2</sup>, the code shall be retained.

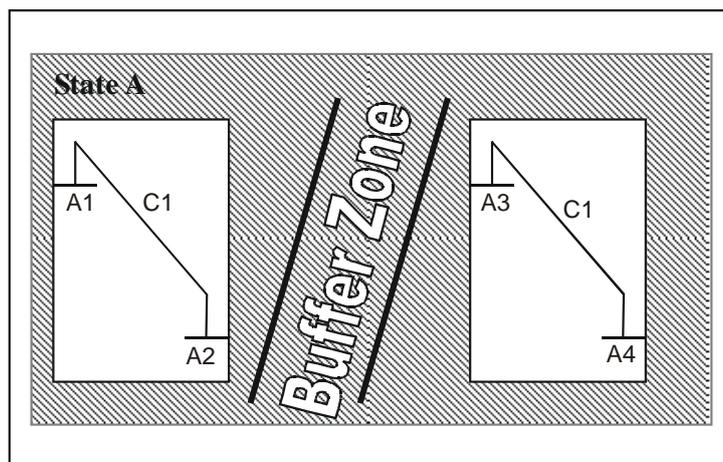
*Note.— This should apply if the aircraft comes from an ATSU belonging to the same PA or a unit in another PA, but it may be retained in an area which has no conflicts with the other units in the area.*

**B.2 Code assignment or re-assignment**

- B.2.1 The following rules will be applied to departing aircraft within the area of the control unit, or to aircraft whose previously assigned code failed to comply with the rules stated in B.1.1 above and consequently could not be retained:

**B.2.2 Where an aircraft remains inside a defined area of the AOR**

Directional assignment of a domestic code - Code C1 can be assigned simultaneously to aircraft A1A2 and A3A4. C1 is protected for zone 1 and zone 2:

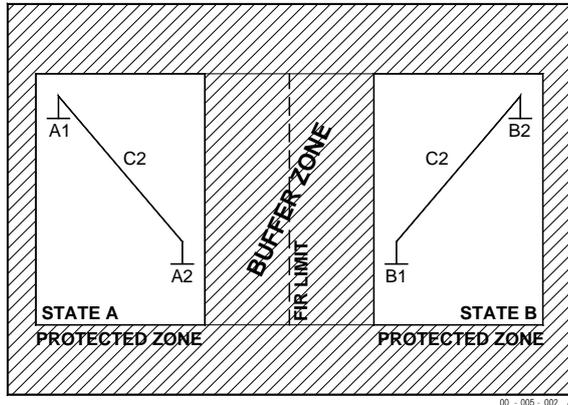


*Note.— Domestic code allocation may be protected by buffer zones of at least 60 NM or separated by another unit. This rule is applicable within States, and also by arrangement between adjacent States. In order to make economic use of this type of allocation the same codes should preferably be disseminated (at most every 120 NM) in different small areas instead of having recourse to allocating codes belonging to an excessive number of different series.*

<sup>2</sup> Flight category refers to transit, domestic or common pool codes.

**B.2.3** Where an aircraft remains inside a State

Code C2 can be assigned simultaneously to aircraft A1A2 and B1B2 from different States A and B. C2 is protected for State A and State B:

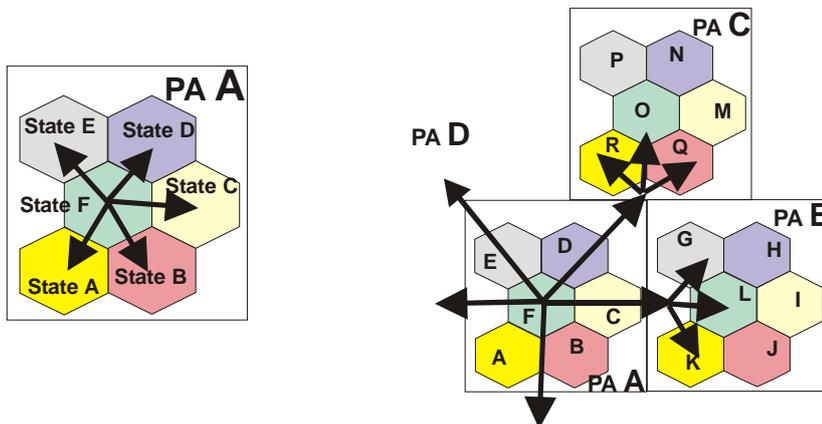


*Note.— Domestic code allocation must be protected by buffer zones. Even more than in the case of B.2.2 above; consultation between adjacent States will be necessary to ensure such protection and rationalize excessive domestic code utilization as far as possible.*

**B.2.4** For an aircraft leaving a State

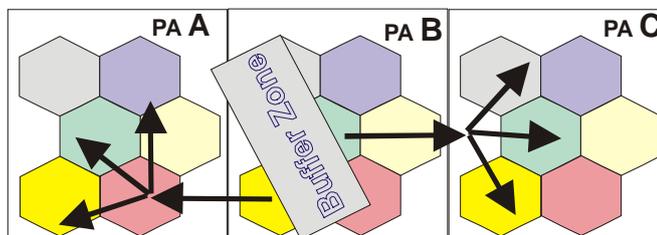
Transit codes are allocated by the Middle East SSR Code Management Plan to the various States for assignment to this flight category. Transit codes should be retained for the remainder of the flight in all States in the same PA and, if possible, other successive PAs, as agreed and reflected in Part B of the CAL. Transit codes received from a previous unit are maintained provided that they satisfy the assignment criteria.

**B.2.4.1** *Omni-directional assignment of a transit code*



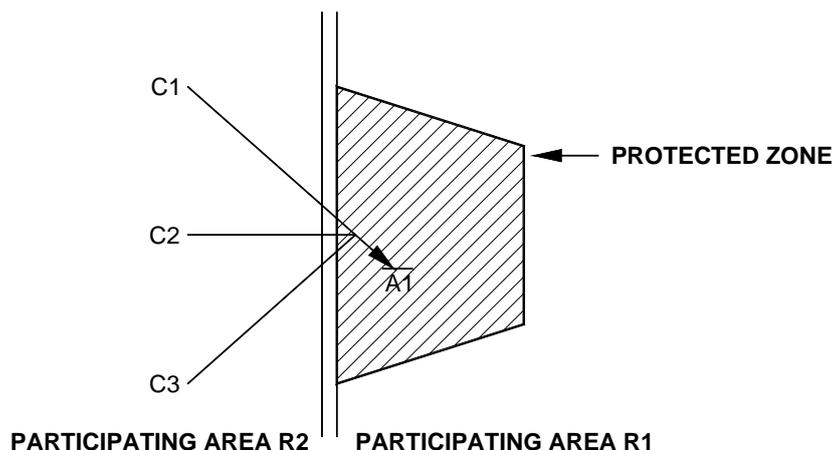
#### B.2.4.2 Directional assignment of a transit code

Allocated by the Middle East SSR Code Management Plan to the various States for assignment to aircraft under specific conditions: to specific destinations in the same PA or in different PAs; to specific directions of aircraft and/or via specific areas. Special attention shall be given in ensuring that when applying directional assignment of a transit code, no code conflict could occur.



#### B.2.4.3 Close to PA border, retention of transit codes of other PA

Codes C1, C2 and C3, which belong to R2 transit series are retained until landing at an airport A1 near the border between the two PAs, which is located in a protection area for the codes in question.



00 - 005 - 005 A

### B.3 Code occupancy times

B.3.1 In order to ensure uniqueness of the code in the systems concerned by an aircraft, the ICAO MID Regional Office based its calculations on a “protection period” of approximately two hours, when establishing the number and series of transit codes (please see paragraph 4.3.4). At the same time, the protection period should be reduced when possible, while providing adequate protection (please see paragraph 4.3.3 b). Certain suggestions along these lines will be found below.

B.3.2 Point of time for code assignment to aircraft

In order to economize codes as much as possible, it is recommended that codes be assigned to flights which will be performed in the very near future (when ready for departure, or in flight, about to come under control).

*Note.— The ideal moment is the flight activation point in the case of automated systems.*

### B.3.3 Assignment procedures

Codes are normally assigned according to the earliest time of release (a VSP). However, in units assigning codes manually such sophistication may be cumbersome. When sophisticated systems are not available, cyclical assignment of the codes released should be preferred instead of a systematic return to the beginning of the category.

### B.3.4 Release of a code by an aircraft

When a system records an aircraft landing or passing a distant MID PA exit point, the code assigned to the aircraft may be regarded as released and be re-used. In the case of distant MID PA exit point, an additional VSP waiting time, normally thirty minutes, shall be added before re-use. In the event that a code has been assigned to flight that has been cancelled or which will not take place, the code assigned should be released for immediate re-use.

### B.3.5 Saturation

When the traffic load is such that no code is available for a given flight category it may be necessary to assign codes in accordance with relaxed rules:

- a) reduced protection times –  
(see B.3.4);
- b) using a different code category –  
using an omni-directional assignment if no more codes for directional assignment

## APPENDIX C - IMPLICATIONS FOR AUTOMATION

C.1 As stated in Appendix B, B.1.1, retention of the code assigned by the previous unit requires foreknowledge, implying capture of the data by the system in the event of automated assignment (direct capture by an AIDC or OLDI message, or indirect by manual input on coordination).

C.2 Assignment according to flight category implies that the system is capable of analysing the origin and destination of flights. If not, capture of units transferring and accepting, where applicable, may be used. For some cases one may need to process all four data items.

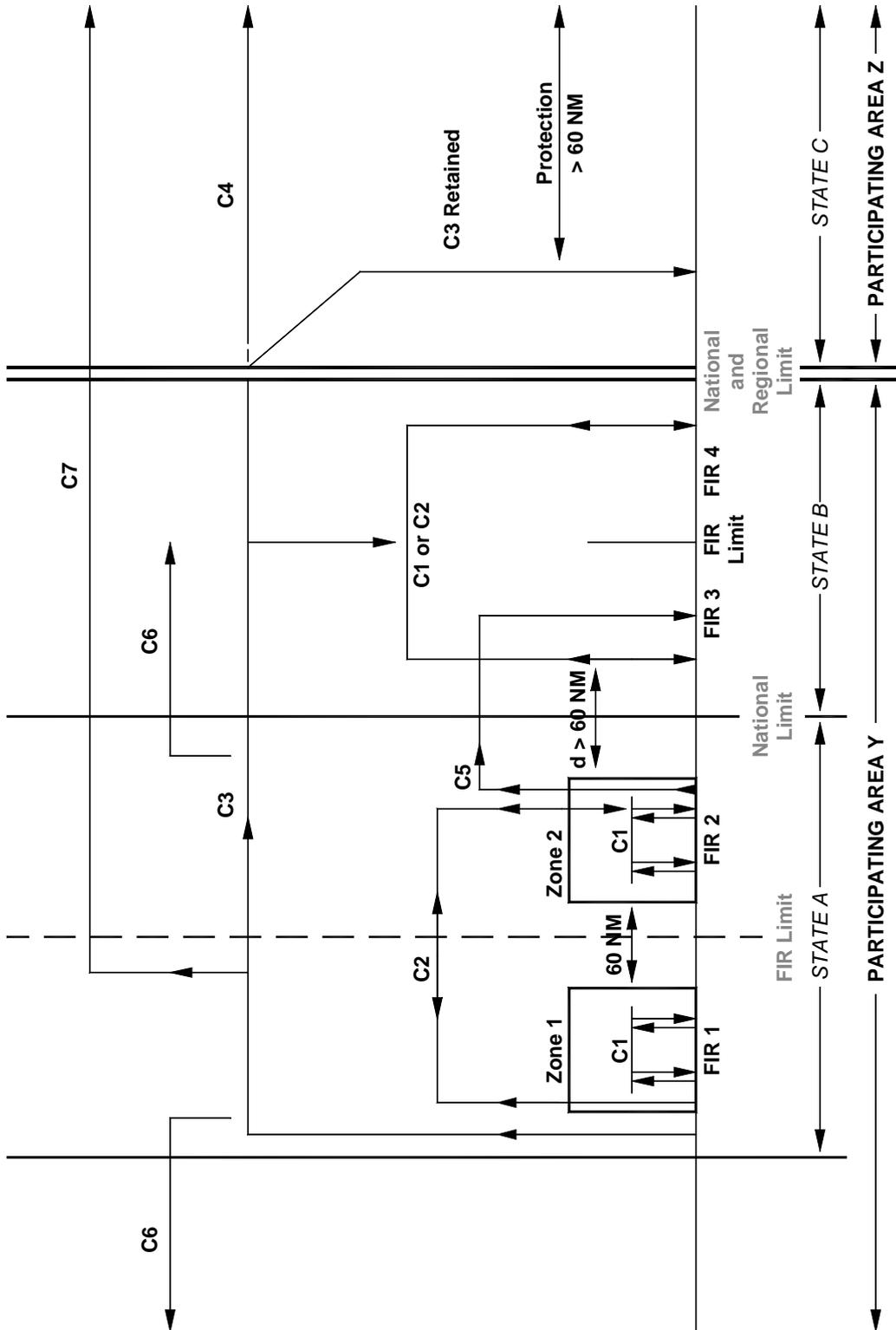
C.3 As in the case of any problem involving the “queuing management”, it is abundantly clear in the light of the previous remarks that the more centralized the allocation-assignment system, the more economical it will be. In other words, the less call there will be for allotment type solutions (provision of sub-banks to decentralized units), and the greater the use made of central assignment in accordance with overall criteria the more economical the system will be.

C.4 Likewise it has been seen that proper management of the assignment system presupposes knowledge of the actual traffic situation (entry into the system, route, exit from the system-landing etc.). Consequently, it is desirable that the assignment machinery should be linked with the real-time system.

C.5 A number of examples given in Appendix B show that despite the uniqueness by zone criterion, two codes may be found to be in use simultaneously in the same system (radar range is greater than the 60 NM buffer zone). Accordingly, the correlation systems should at least be capable of accommodating and unambiguously identifying two aircraft responding on the same code separated at the time of correlation by a designated geographical distance which will be a function of the automated system.

*Note.— A geographical correlation filter should exist such that correlation will not be achieved if the calculated distance between the flight plan derived position based on estimate information and the SSR response corresponding to the SSR code in the flight plan is more than 30 NM.*

C.6 Illustrative diagram for general code allocation and assignment



00-005-007 A

**The following notes relate to the diagram:**

**Code C1:** Domestic code for PA Y (Domestic in STATE A Domestic in STATE B)

These codes can be used inside zone 1, inside zone 2, inside other zones of STATE B, and even inside the whole territory of STATE B if a buffer zone of 60 NM or a FIR separates them.

These codes could be used in PA Z under the same condition of protection against the allocation in STATE B.

**Code C2:** Domestic code for PA Y (Domestic in STATE A and STATE B)

Condition: a 60 NM buffer zone should be provided between these two assignments.

**Code C3:** Transit code for PA Y (STATE A)

In general such a code should be assigned to any aircraft originated in STATE A and leaving its boundaries, for overflying STATE B or landing in B.

In general this code may be changed at the entry in PA Z, but it could be retained for an arrival at an aerodrome close to the border and having a protection area of at least 60 NM against any other use in PA Z.

If C3 is planned for transit use from PA Y to PA Z it could be retained inside the whole PA Z.

**Code C4:** Transit code for PA Z (STATE C)

Such a code will be assigned to any flight whose code cannot be retained and overflying STATE C for a further destination in PA Z.

**Code C5:** Directional transit code between STATE A FIR2 and STATE B FIR3

C5 should be simultaneously protected in the two FIRs though domestic for PA Y. Such an allocation has the advantage of avoiding assignment of a transit code for such short middle-range flights.

**Code C6:** Transit code for PA Y

The example given with C6 is a duplication where the directional assignment by STATE A gives a guarantee of no conflicts occurring with the following units.

**Code C7:** Transit code for use for PA Y (STATE A) and PA Z

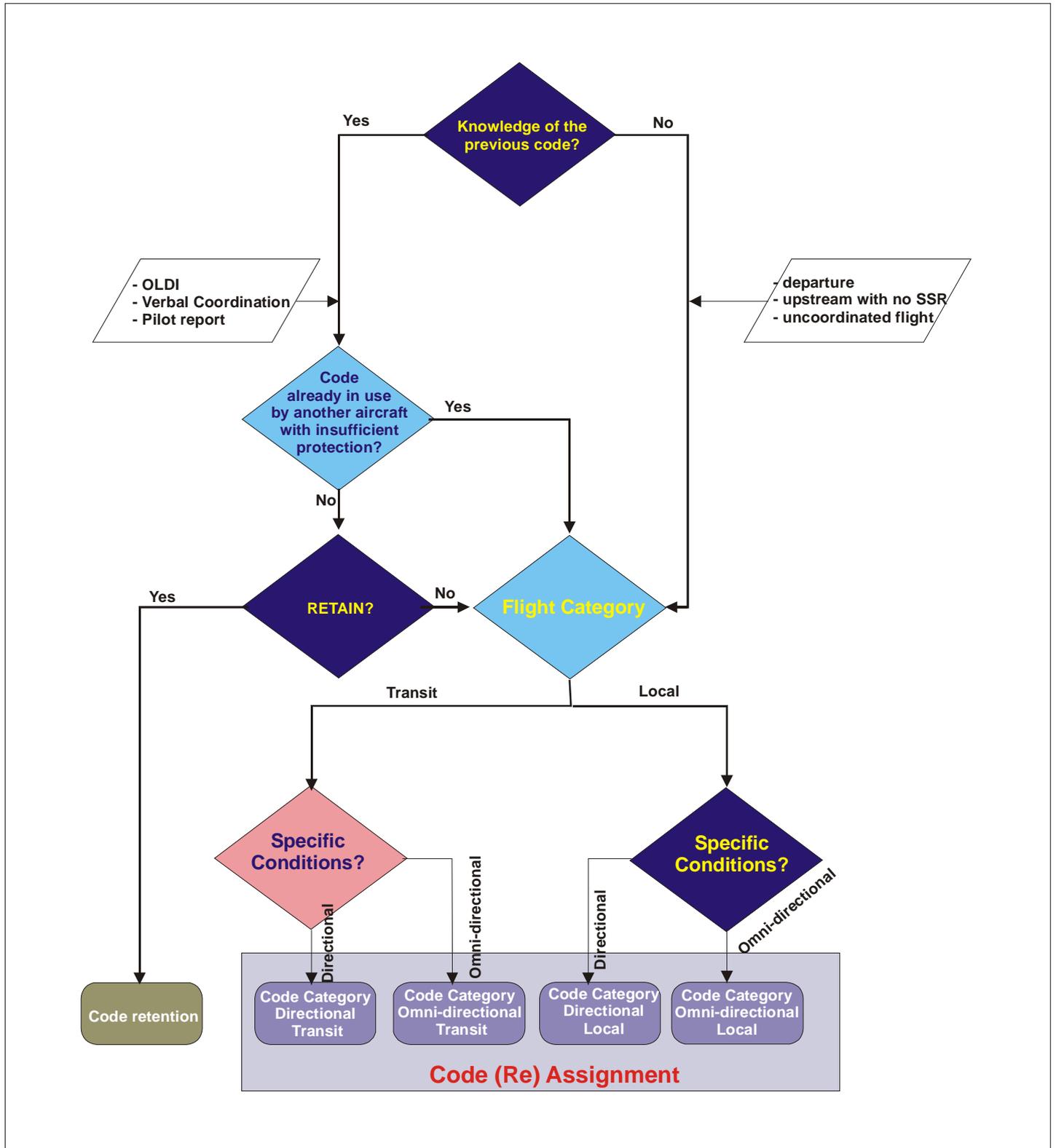
C7 which is at least transit in PA Y and having no domestic use in PA Z will be retained in the two areas.

**Management of the code baskets for STATE A:**

General:	Domestic basket				: C1, C2
	Transit basket				: C3, C6
Special:	Domestic State A	FIR 2	—	State B FIR 3	: C5
	Transit State A		—	PA Z	: C7
	Directional assignment	FIR 2	—	State B	
		FIR 1	—	Other State of PA Y	: C6

C.7 Flow Chart

The following chart outlines the retention/assignment procedures described above:



---

APPENDIX D - DEVELOPMENT OF AUTOMATED SSR CODE ASSIGNMENT SYSTEMS

D.1 As computer capabilities could be a limiting factor in code assignment and thus reflect on the code allocation, the following principles for the development of automated SSR code assignment systems should be observed:

- a) automated systems shall be capable of using code blocks (part of a code series) without getting confused if, in a neighbouring system, other blocks of the same code series (with the same first and second digits) are used;
- b) automated equipment shall be capable of coping with a limited number of code conflicts rather than preventing code duplications by means of more complicated and less economical code allocation and assignment methods;

*Note.— It is expected that this feature will become even more important as traffic increases.*

- c) automated systems shall be capable of assigning codes with reference to the category of a flight, i.e. transit codes shall be assigned to an aircraft engaged in transit flights and domestic codes to an aircraft confined within the smaller area of use reserved for such codes;
- d) automated systems shall permit the addition of a sophisticated capability of assigning codes with reference to the routing or special code protection required for specific aircraft, especially when this will permit economies in the number of codes required;
- e) the code assignment logic of an automated system shall not impose any restriction on the free choice of any specific additional codes if this is required to satisfy new requirements;
- f) automated code assignment systems shall be designed to conform to international cooperative principles and essential capabilities described in this Document.

-----

SSRCA SG/4  
Appendix 3H to the Report on Agenda Item 3

**Request for Temporary/permanent SSR Codes**

**State:-** -----

**Date of request:-** -----

**Name Of Unit Requesting SSR Code:-** -----

**Number Of Codes Required:-** -----

**Purpose:-** -----

**Duration:-** -----

**Notes:**

- 1- The official request from States DG should be sent to the ICAO MID Regional Office Director and copied Email: [icaomid@cairo.icao.int](mailto:icaomid@cairo.icao.int) or Fax: +2022674843
- 2- The temp assigned codes will be automatically withdrawn after the specified duration date.

-----

SSRCA SG/4  
Appendix 3I to the Report on Agenda Item 3

**PROPOSAL FOR AMENDMENT OF THE ICAO MID**  
**FACILITIES AND SERVICES IMPLEMENTATION DOCUMENT (FASID)**

(Serial No. MID FASID 11/xx – CNS-ATM)

- a) **Plan:** MID Air Navigation Plan (Doc 9708), Volume II (FASID)
- b) **Proposed amendment:**
1. **Delete** the requirement with respect to SSR code assignment in paragraph 2.2.2, including Attachment B, in Part V - ATM.
  2. **Add** the requirements with respect to Part IV-CNS, Communications, Navigation and Surveillance as follows:

**“SURVEILLANCE SYSTEMS**

1.9 Principles procedures and guidance on the use of Mode 3/A secondary surveillance radar codes in the MID Region are found in the *Middle East Secondary Surveillance Radar (SSR) Code Management Plan* (MID Doc 001). The management of SSR codes in the ICAO MID Region shall be in accordance with the procedures and technical requirements as detailed in MID Doc 001.

2.3.1 Appendix B to table CNS 4 shows the SSR Code Allocation List for the MID Region.”

- c) **Originated by:**  
Middle East Planning and Implementation Regional Group (MIDANPIRG)
- d) **Originator’s reasons for amendment:**
- e) **Intended date of implementation:** As soon as practicable after approval.
- f) **Proposal circulated to:**
- g) **Secretariat Comments:**

-----

SSRCA SG4  
Report on Agenda Item 4

---

**REPORT ON AGENDA ITEM 4: FUTURE WORK PROGRAMME**

4.1 The meeting recalled that SSRCA held its first meeting in Cairo, 07-08 August 2007 and developed two (2) Conclusions and two (2) Decisions, where the second meeting was held, also in Cairo, 04-05 March 2008 developed three (3) Conclusions.

4.2 The meeting noted that the third SSRCA SG meeting was held in Cairo, 18 - 19 April 2010, developed two (2) Conclusions and conducted a thorough study on the issues facing the MID Region for the allocation of the SSR Codes mainly the shortage of SSR Codes in certain MID States.

4.3 Based on the above study, the SSRCA SG/3 meeting developed the MID Strategy for SSR Code Allocation which was adopted by MIDANPIRG/12 meeting.

4.4 In continuation with the work of SSRCA SG/3 meeting, the SSRCA SG/4 meeting developed the criteria and questionnaire also performed a thorough analysis of the replies and the available traffic data, which resulted that SSRCA SG/4 could complete the tasks of the study group and concluded by the development of the following:

- i) CMP Doc 001 as at **Appendix 3G** to the Report on Agenda Item 3;
- ii) a request form as at **Appendix 3H** to the Report on Agenda Item 3; and

4.5 The meeting agreed that the ICAO MID Regional Office is to develop a new SSR Code Allocation List for the MID Region to cater for the SSR Code allocation issues.

4.6 The meeting noted that with the development of all the above, the SSRCA SG has completed its entire work programme as was mandated by MIDANPIRG/10.

4.7 The meeting agreed that the SSRCA SG be dissolved and any issues related to SSR Code allocations be discussed at the ATM/SAR/AIS SG meetings. Accordingly the meeting agreed to following Draft Decision:

***DRAFT DECISION 4/5: DISSOLVE THE SSRCA SG***

*That, since all tasks assigned to the SSRCA Study Group have been completed; the SSRCA SG is dissolved and the future work related to SSRCA be included into the Work Programme of the ATM/SAR/AIS Sub-Group.*

-----

SSRCA SG/4  
Report on Agenda Item 5

---

**REPORT ON AGENDA ITEM 5: ANY OTHER BUSINESS**

5.1            Nothing has been discussed under this Agenda Item.

-----

ATN/IPS WG/3  
Attachment A to the Report

NAME	TITLE & ADDRESS
<p><b><u>STATES</u></b></p> <p><b>EGYPT</b></p> <p>Mr. Aly Abdel Hamid Abdel Azim</p>	<p>ATIRN Equipment Inspector Communication Engineer Egyptian Civil Aviation Authority Cairo Airport Road Cairo - EGYPT Fax: (202) 22268 332 Tel: (202) 2268 1347 Mobile: (2014) 9180 924 - 0109801394 Email: engalihamid@yahoo.com</p>
<p>Ms. Heba Mostafa Mohamed</p>	<p>Supervisor AIS Unit and Technical Coordinator Ministry of Civil Aviation Cairo Airport Road Cairo - EGYPT Fax: (202) 2268 5420 Tel: (202) 2417 5389 Mobile: (2014) 7222 395 Email: heba.mostafa1@hotmail.com</p>
<p>Mr. Hisham Mohamed Ismail</p>	<p>Projects Follow-up Manager and Senior ATC Automation Engineer Ministry of Civil Aviation Complex Cairo Airport Road Cairo-EGYPT Fax: (202) 2268 0627 Tel: (202) 2265 7950 Mobile: (2010) 169 0290 Email: ahsn_ism@hotmail.com</p>
<p>Mr. Micheal Youssef Finan</p>	<p>Air Traffic Controller Senior ATS Inspector Egyptian Civil Aviation Authority Cairo Airport Road Cairo - EGYPT Fax: (202) 2267 8537 Tel: (202) 2267 8537 Mobile: (2010) 109 6295 Email: mickeyfinan@hotmail.com</p>

NAME	TITLE & ADDRESS
Mr. Mohamed Ahmed Soliman	Airways Planning Director Cairo Air Navigation Center Control Tower Cairo Airport-Village Road Cairo-EGYPT Fax: (202) 2268 0627 Tel: (202) 2265 7814 Mobile: (2010) 6013043 Email: memesoly@yahoo.com
Mr. Mohamed Ashraf Hamzawy	ATC Instructor – Area Control Centre Ministry of Civil Aviation Cairo Airport Road Cairo - EGYPT Fax: (202) 2268 0627 Tel: (202) 2975 9136 Mobile: (2010) 5871718 Email: ashrafanas_2005@hotmail.com Ashrafanas2020@gmail.com
Mr. Nasr El Din Ali M. Sayed	Research and Development Director National Air Navigation Services Company (NANSC) Cairo Air Navigation Center (CANC) Cairo Airport Road Cairo - EGYPT Fax: (202) 2268 0627 Tel: (202) 2265 0743 Mobile: (2010) 1148 968 Email: neam2002@hotmail.com nasreldin.ali@nansceg.org
<b>LEBANON</b> Mr. Maher Chehab	Radar Section Head (Maintenance Dept) Directorate General Civil Aviation Rafic Hariri Beirut International Airport Beirut, LEBANON Tel: (961-1) 628 000 - 6434 Mobile: (961-3) 724 385 Email: SSRCA@beirutairport.ove.lb shehabm@beirutairport.gov.lb maherch@hotmail.com
Ms. Nidal Rizk	Air Traffic Controller Directorate General Civil Aviation Beirut International Airport Air Navigation Department Beirut, LEBANON Fax: (961-1) 629 023 Tel: (961-1) 629 026 Mobile: (961-3) 778 083 Email: SSRCA@beirutairport.gov.lb

NAME	TITLE & ADDRESS
<p><b>OMAN</b> Mr. Khalfan Ali Khalfan</p>	<p>Air Traffic Controller Directorate General of Meteorology &amp; Air Navigation (DGMAN) Salalah Airport P.O.Box 868 Code 211 Muscat, SULTANATE OF OMAN Fax: (968) 2320 4184 Tel: (968) 2320 4106 Mobile: (968) 9948 1146 Email: kh9948@hotmail.com</p>
<p><b>SAUDI ARABIA</b> Mr. Abdullah Al-Turkistani</p>	<p>ATM/Planning and Operation General Authority of Civil Aviation P.O.Box 15541 Jeddah 21444 - SAUDI ARABIA Fax: (966-2) 671 7717 Ext 1817) Tel: (966-2) 671 7717 Ext 1823 Mobile: (966-50) 570 7672 Email: at44943@yahoo.com</p>
<p>Mr. Hassan Ahmed Alzahrani</p>	<p>Riyadh/ATC Supervisor General Authority of Civil Aviation P.O.Box 15541 Jeddah 21444 - SAUDI ARABIA Fax: (966-2) 671 7717 Tel: (966-2) 671 7717 Mobile: (966-55)5778 879 Email: hazah1@hotmail.com</p>
<p>Mr. Hassan Ghazi Alniami</p>	<p>Jeddah/ATC Supervisor General Authority of Civil Aviation P.O.Box 6326 Jeddah 21442 - SAUDI ARABIA Fax: (966-2) 685 4011 Tel: (966-2) 685 5006/7 Mobile: (966-50) 568 0025 Email: alsakab@live.com</p>
<p><b>SYRIA</b> Mr. Imad Al Masri</p>	<p>Chief of Radar Development Division Syrian Civil Aviation Authority Damascus Airport Damascus - Syria Fax: (963-11) 5400 571 Tel: (963-11) 680 3434 Mobile: (963) 944797084 Email: engemad.masri80@yahoo.com</p>

NAME	TITLE & ADDRESS
Mr. Manhal Assad	Air Traffic Controller Syrian Civil Aviation Authority Damascus Airport Damascus - Syria Fax: (963-11) 5400 277 Tel: (963-11) 6460 090 Mobile: (963-93) 325 8451 Email: asalamah79@yahoo.com
<b>UNITED ARAB EMIRATES</b> Mr. Abdullah Al Hashmi	Director Air Traffic Management General Civil Aviation Authority p.o.Box 666 Abu Dhabi UNITED ARAB EMIRATES Fax: (971-2) 5996 836 Tel: (971-2) 599 6830 Mobile: (971-50) 4420 486 Email: ahashimi@szc.gcaa.ae
Mr. Haitham Yousef Al Hosani	Dataset Manager Abu Dhabi Airports Companys (ADAC) P.O.Box 94449 Abu Dhabi UNITED ARAB EMIRATES Fax: (971-2) 575 7414 Tel: (971-2) 599 8647 Mobile: (971-50) 444 4766 Email: hhosani@ans.adac.ae
Mr. Sadiq Al Menhali	A/Deputy Engineering Services Manager Abu Dhabi Airports Companys (ADAC) P.O.Box 94449 Abu Dhabi UNITED ARAB EMIRATES Fax: (971-2) 575 7414 Tel: (971-2) 599 8644 Mobile: (971-50) 344 3332 Email: ssalmenhali@ans.adac.ae