

# **AFI SSR CODE ALLOCATION AND ASSIGNMENT REVIEW ASCAAR PROJECT 3 - WORKSHOP**

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# OUTLINE

**INTRODUCTION**

**METHODOLOGY**

**OUTCOME**

**RECOMMENDATIONS**

# INTRODUCTION

- The ASCAAR project team was supposed to complete the project in 6 months
- Participation was online with occasional meetings in this case only 1 physical meeting was held.
- Most of the work was to be done online
- Participation by team project members was a challenge

# METHODOLOGY

## Project Working Group methodology

- AFI SSR Code Allocation and Assignment Review (ASCAAR) Project Team Number A3 members used the following steps to get project outcome;
- Accessed current status (Single Participating Area- PA)
- Considered traffic flows and patterns
- Developed new ORCAM with Multiple Participating Areas – PAs
- ICAO reminder to States

# AFI / EUR /MID INTERFACE





# METHODOLOGY

## Accessed current status (Single Participating Area- PA)

The following were noted;

- Most AFI States lacked adequate SSR codes for assignment to aircraft resulting to non standard use of SSR codes
- There is use of non standard SSR codes resulting in safety concerns of some flights
- Automation capability of SSR code management in AFI was low

## Considered traffic flows and patterns

- AFI Traffic Forecasting Working Group is dormant
- There is need to collect traffic data in States using a standard format

# METHODOLOGY

## Developed new ORCAM with Multiple Participating Areas – PAs

- Proposed AFI to implement Multiple PAs as opposed to current single PA ORCAM
- Consider 4 PAs with the view of increasing the number in future

## Considered traffic flows and patterns

- AFI Traffic Forecasting Working Group is dormant
- There is need to collect traffic data in States using a standard format
- Further studies be conducted as more data regarding traffic patterns and volume, requirements in adjacent ICAO Regions became available

# OUTCOME

## ICAO action

- Proposed AFI to implement Multiple PAs as opposed to current single PA ORCAM
- Take necessary measures to amend the SSR code allocation table in the AFI ANP Doc 7474
- ESAF to originate State letter on adherence to the AFI plan SSR code assignment procedure



# OUTCOME

## Reallocation Process

- Entailed establishment of multiple Participating Areas (PAs)
- Four (04) PAs were proposed taking into account the geographical location of the FIRs and traffic routing patterns for AFI
- PAs – East, South, Central and West

# AFI SSR CODES PARTICIPATING AREAS

## AFI / EUR / MID INTERFACE



# OUTCOME

- To maximize use of codes, new codes were allocated to all the FIRs taking into account the FIRs that host more than one State and those States having more than one FIR
- To maximize code allocations, FIRs with relatively short distance to be covered by aircraft were allocated a portion of one whole series of codes
- Codes were assigned to every FIR to take care of Transit, International and Domestic use

Note: Transit Codes were not worked on

# OUTCOME

<b>Transit Codes</b>	Assigned for use across the entire AFI region
<b>International Codes</b>	Assigned for use within a Participating Area (PA)
<b>Domestic Codes</b>	Assigned for use only within an FIR



# OUTCOME

FIGURE D-1  
AREAS OF ROUTING AR-1 TO AR-6



# OUTCOME

- To facilitate forward planning for review of code allocation through the multiple PA structure, there is need to further study traffic patterns, volume and requirements in adjacent ICAO Regions
- Results should be presented at APIRG/22 for adoption so as to facilitate implementation in 2022
- This will enable the AFI FIRs keep in pace with the anticipated increase of traffic

# PARTICIPATING AREAS

Allocation of international codes in the AFI region is based on four participating area which includes the following flight information centres/area control centres (FICs/ACCs):

# PARTICIPATING AREAS

## PA – EAST

1- Djibouti

8- Tanzania

2- Eritrea

9- Rwanda

3- Ethiopia

10- Burundi

4- South Sudan

11- Seychelles

5- Uganda

12- Madagascar

6- Kenya

13- Mauritius

7- Somalia

## PA – SOUTH

1- Mozambique

8- South Africa  
C/Town

2- Malawi

9- J'burg

3- Zambia

10- Swaziland

4- Angola

11- Lesotho

5- Namibia

6- Botswana

7- Zimbabwe



# PARTICIPATING AREAS

## PA – CENTRAL

1- Chad

8- D R Congo

2- Cameroon

3- Central Africa  
Republic

4- Malabo

5- Equitorial  
Guinea

6- Gabon

7- Congo Brazza

## PA – WEST

1- SAL

9- Sierra Leone

2- Mauritania

10- Liberia  
(Roberts)

3- Mali

11- Cote D'Ivoire

4- Niger

12- Bukina Faso

5- Senegal

13- Ghana

6- Gambia

14- Togo

7- Guinea Bissau

15- Benin

8- Guinea

16- Nigeria

# OUTCOME







# OUTCOME

## International codes

- **International codes are allocated to specific ACCs for assignment to international transit flights.**

**Aircraft will retain the assigned code beyond national boundaries but not normally beyond the PA and AFI region {(21 c) refers)}**



# OUTCOME

## Domestic codes

- Domestic codes are allocated for use by flights which, throughout their flight, remain within the boundaries of the agreed area of use of such codes (normally within one FIR)
- Domestic codes used for terminal purposes (TMA/APP and GCA) or used within specified portions of the airspace (sectors) will be ensured protection in these functions. Adjacent States may use such codes for their domestic purposes provided a buffer equal to one sector or a distance of 60 NM, whichever is larger between the closest edge of the two areas of use exists

# OUTCOME

## Monitoring of the plan

- While full implementation of the CMP must inevitably be achieved gradually, it is expected that progressive development of ground facilities will allow in future an increasing number of ATS providers to adhere to the provisions foreseen in the plan
- Provisions regarding the progressive implementation of the SSR CMP and its monitoring should be agreed by the AFI region( need for a monitoring mechanism i.e annual report on SSR codes usage and traffic movements to facilitate assessment and review) ARPIG

# OUTCOME

- FIRs expecting to introduce SSR facilities are required to advise the ICAO ESAF or WACAF Regional Offices as applicable, on their intended use of codes at least six twelve (12) months in advance, in order to permit timely accomplishment of any necessary coordination



# RECOMMENDATIONS

- Roll out targeted for June 2019 but later changed by APIRG 22 to November 2020 for the entire AFI
- November 2020 roll out will be in both manual and automation mode, 2022 full automation
- ICAO ESAF/WACAF to conduct 2 workshops for ATM and CNS operations officers before June 2019 to enable better understanding of the multiple Participating Areas (PAs) SSR code allocation concept and the related effects in terms of programming ATM systems



# RECOMMENDATIONS

➤ ATM providers to upgrade equipment and or activate functions in accordance with the technology improvement plan and interoperability criteria developed by the IIM/SG; It is operationally desirable that all SSR systems should by 2020 have reasonable levels of automation enabling basic functionalities for assignment of codes and inter-FIR coordination.

- transfer codes

- recognize codes

- detect conflicts and suggest resolutions to controllers etc.

# RECOMMENDATIONS

- ICAO ESAF/WACAF to coordinate with the European Region to ascertain codes allocated to Tripoli, Algiers and Tunis in order to allay any fears of code duplication without a buffer area
- FIRs/ACCs shall internally allocate SSR codes to units within a given FIR
- To enhance safety, all FIRs shall strictly adhere to the codes allocated when assigning SSR codes to aircraft

*THANK YOU*

