International Civil Aviation Organization

Fifth Meeting of the Surveillance Implementation Coordination Group (SURICG/6)

Web-conference, 24 – 27 August 2021

Agenda Item 5: Review of regional requirements for Surveillance in the e-ANP, Seamless ANS Plan and the reported implementation status

b) Regional planning criteria for addition of new System Area Codes (SAC) for surveillance systems in APAC and update on Regional Supplement to ASTERIX Interface Control Document (ICD) for ASIA/PAC Region

THE SAC SIC CODE ALLOCATION MANAGEMENT AND PLANNING IN CHINA

(Presented by China)

SUMMARY

This paper mainly introduces the allocation management and planning of SAC SIC code in China.

1. INTRODUCTION

1.1 This paper mainly introduces the allocation management and planning of SAC SIC code in China.

2. OVERVIEW of SAC SIC CODE

2.1 The identification information of the surveillance data source is mainly used to distinguish the source of various types of surveillance source information. The surveillance data source identification code is composed of two fixed 8-bit data items, which are SAC code (source area code) and SIC code (source identification code).

2.2 China was accredited to ICAO APAC Region years ago with 16 (hexadecimal) for SAC previously. The SIC code is composed of 8 binary numbers with a range of 0-255 (decimal), a total of 256 identifiers.

2.3 With doing some forward planning for surveillance facilities, and china has realized that we are about to exhaust the available System Identification Codes (SIC). So in Jun of this year, China has applied to ICAO APAC for the allocation of an additional SAC. ICAO APAC Regional office has accepted the application and assigned the new SACs to China.

3. SAC SIC CODE APPLICATION RANGE

3.1 The standard configuration application of SAC and SIC codes can locate the source of surveillance data in the first time. When multiple surveillance sources are connected to a certain set of ATM Automation Systems, we can quickly ensure the source of the problem through SAC_SIC code.

3.2 At present, China has formulated relevant standards to apply SAC and SIC codes. Its main scope is Radar, ADS-B ground station, MLAT system and other surveillance information processing systems, as well as ADS-B data center/station, ATM Automation System, etc.

3.3 Follows are use the radar and ATM Automation System as a examples. If the SIC identification codes of two radars are the same , the ATM Automation System will consider the two radars to be one radar, which will not affect the surveillance data processing, but it will increases the difficulty of the investigation of system failures and problems.

4. SAC SIC ALLOCATION MANAGEMENT AND PLANNING

Current Situation

4.1 Now, CAAC ATMB has about 140 sets of radars, more than 330 sets of ADS-B ground stations ,and more than 20 sets of MLATs; And more than 45 sets of ADS-B data processing centers/data stations, 90 sets of ATM Automation Systems, and 30 sets of A-SMGCS systems.

4.2 And also CAAC ATMB currently have many surveillance facilities under construction.

4.3 Therefore, at present, even CAAC ATMB has multiplexed SIC codes according to different air traffic control application systems and the network structure of surveillance data sources. One SAC code and 256 SIC codes can no longer meet the current operation requirements of China.

4.4 Such a large number of surveillance data identification code configuration requirements and limited SIC identification code resources will caused certain potential risks to the safe operation of equipment.

Future Planning

4.5 CAAC has just completed the construction plan for ATMB of CAAC during the 14th Five Year Plan period (2020-2025) and the professional plan of CNS for the next ten years (2020-2030).

4.6 The planning scale of surveillance equipment of ATMB will reach nearly 250 sets of radar system and 600 sets of ADS-B ground station by 2030. There have more than 50 sets of MLAT system and 50 sets of ADS-B data processing centers / data stations, and more than 120 sets of ATC automation system and 100 sets of A-SMGCS system.

4.7 So according to the application for the additional SACs form China, ICAO APAC Regional office has assigned the new SACs to China as follows: A6, 1A, 1C, AA.

4.8 For the four new SAC codes in China, the specific application scheme is as follows:

Equipment	SAC code	Remark
ATM Automation System	16 (Existing)	210+ shared use of civil and non civil users; 40+ in planning;
Radar	A6 (New Assigned)	140 + in use; 110 + in planning;
ADS-B system	1A (New Assigned)	50+ ADS-B datacenters in use and in planning; 330+ ADS-B ground stations in use; 120+ ADS-B ground stations in planning;
	1C (New Assigned)	

A-SMGCS&MLAT	AA（New Assigned）	100+ A-SMGCS in use and in planning; 150+ MLATs in use and in planning.

5. ACTION BY THE MEETING

5.1 The paper is invited to:-

a) note the information contained in this paper; and

b) discuss any relevant matters as appropriate.

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