

International Civil Aviation Organization



ICAO

**THE FOURTH MEETING OF MODE S DOWNLINKED
AIRCRAFT PARAMETERS WORKING GROUP
(MODE S DAPs WG/4)**

Video Teleconference, 29 – 31 March 2021

Agenda Item 3: Sharing of State's implementation on Mode S and related issues, including the experience in Mode S Interrogator Identifier (II) Code usage in APAC region

STATUS OF MODE S INTERROGATOR IDENTIFIER (II) CODES COORDINATED AND REGISTERED WITH ASIA/PAC

(Presented by the Secretariat)

SUMMARY

This paper presents status of Mode S Interrogator Identifier (II) codes coordinated and registered with ICAO APAC Regional Office. States are urged to coordinate with ICAO Regional Office before the II codes are used in particular for those locations closer to adjacent States. It is a revision of WP7 of SURICG/2 in 2017 and WP/15 of SURICG/3 in 2018.

1. INTRODUCTION

1.1 APANPIRG/19 and APANPIRG/20 adopted Conclusions regarding the need for coordination with ICAO Regional Office in the implementation of SSR interrogator identifier (II) code in States.

1.2 ICAO APAC Regional Office sent States letters to follow up with States on this subject. The first one was dated on 24 March 2009 with Ref: T 8/5.11:AP 050/09 (CNS) to circulate APANPIRG Conclusion 19/40, and request States to provide their individual implementation to make regional list.

1.3 The first edition of SSR II codes list was issued on 15 January 2014 with Reference: T 8/5.6: AP006/14 (CNS). The latest edition was issued on 28 March 2019 with Reference: T 8/5.6:AP039/ 19 (CNS).

2. DISCUSSION

2.1 The main ICAO provision is included in *Annex 10 - Aeronautical Telecommunications, Volume IV*, reference is showed as below:

2.1.2.1.2 The assignment of interrogator identifier (II) codes, where necessary in areas of overlapping coverage, across international boundaries of flight information regions, shall be the subject of regional air navigation agreements.

2.2 In order to avoid same II code allocations to adjacent Mode S ground stations which have overlapping designated operational coverage, APANPIRG/19 meeting in 2008 adopted the following Conclusion.

Conclusion 19/40 - Coordination for SSR Mode S Interrogator Identifier Code

That,

- a) in view of low density of SSR interrogator installations in the region, only Interrogator Identifier (and not Surveillance Identifiers) codes be used for SSRs Mode S in the areas of overlapping coverage
- b) while implementing SSR Mode S, States should take into account following issues while assigning Interrogator Identifier codes for these installations:
 - for planning the implementation of SSR Mode S interrogators, administrations should ensure that the interrogators with overlapping coverage are not operating with the same Interrogator Identifier (II) codes.
 - where, the coverage of the interrogator extends beyond the boundaries of the State, The II code and PRF (*Pulse repetition frequency*) should be worked out in coordination with the ICAO Asia and Pacific Office and the neighboring States, and
 - administrations should inform the ICAO Asia and Pacific Office about the assigned II codes and PRFs for these installations.

2.3 APANPIRG/20 held in 2009 agreed that the coordination procedure needs to secure that the ICAO Regional Office is the focal point in making SSR Mode S II code assignments. Pre-coordination of II code assignments between neighbouring States is however encouraged. The meeting stressed the coordinating role of ICAO in the SSR Mode S II code assignments and formulated following Conclusion:

Conclusion 20/56- Coordination for SSR MODE S II Codes

That,

- a) the Table on SSR Mode S Interrogator Identifier Codes as provided in **Appendix T** on Agenda Item 3.4 to the Report be adopted; and
- b) States be advised to provide the required information as specified in the Table on SSR Mode S Interrogator Identifier Codes to the ICAO Asia/Pacific Office for coordination and registration.

2.4 In this connection, the meeting developed the following Conclusion:

Conclusion 20/57 - Planning Criteria for SSR Mode S II Code Assignment

That, the Planning criteria for SSR Mode S II code coordination and assignment as provided in **Appendix U** to the Report on Agenda Item 3.4 be adopted as a provisional guidance material for use in the Asia/Pacific Region.

2.5 ICAO APAC Regional Office issued follow-up State Letters on required actions by States to update SSR II Codes List. It was emphasized by these letters that in order to avoid any risks caused by duplicate allocations of the same SSR II code, Mode S ground stations having overlapping coverage (e.g. with neighboring Administrations) shall be assigned with different II codes except when the Mode S ground stations are clustered. To protect overlapping coverage from such a risk in particular across international boundaries, it is necessary to coordinate the assignment of Mode S II codes through the ICAO APAC Regional Office which maintains the list of SSR II codes.

2.6 Australia, Bangladesh, Brunei, India, Indonesia, Japan, Lao PDR, Macau China, Malaysia, Mongolia, Nepal, New Zealand, Papua New Guinea, Philippines, Republic of Korea, Singapore and Thailand provided updating information to ICAO APAC Regional Office. The result of feedback is reflected in the management tool (Frequency Manager installed at ICAO APAC Office).

2.7 The ICAO tool Frequency Finder (FF) is now equipped with II code module, the APAC data has been copied to this new platform. The II codes list is visible to the users with installation of FF.

2.8 During the CNS SG/24 meeting, it was informed that II code conflict had been identified by neighboring State. Considering the SSR II code list is used for regional coordination to meet the requirements of ICAO provision and APANPIRG Conclusions, States are encouraged to provide updates and coordination with ICAO APAC Regional Office for updating the SSR II code list through appropriate focal point, to eliminate any potential operational risk due to duplicated II code implementation in overlapped coverage at boundary area.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to:

- a) Note the information contained in this papers;
- b) Review and discuss relevant APANPIRG Conclusions in section 2.2 and 2.3; and
- c) Urge States/Administrations to provide the required information to ICAO Regional Office for updating the APAC SSR II code list.
