



*International Civil Aviation Organization*

**MIDANPIRG Communication, Navigation and Surveillance Sub-Group**

**Ninth Meeting (CNS SG/9)**  
*(Cairo, Egypt, 19 – 21 March 2019)*

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**Agenda Item 3: Global Developments related to CNS**

**SELECTIVE CALLING (SELCAL) CODE POOL EXPANSION**

*(Presented by the Secretariat)*

**SUMMARY**

The ICAO Communications Panel (CP) identified a need to expand the number of Selective Calling (SELCAL) code assignments to support the increasing demand for SELCAL aircraft code assignments. The SELCAL system is oversubscribed resulting in multiple aircraft responding to the same code in the same airspace. This paper presents the concept and the need for the SELCAL32 and requests States to assess the impact of the SELCAL32 implementation.

Action by the meeting is at paragraph 3.

**REFERENCES**

- Annex 10, VOL III
- Report of the second meeting of the ICAO Data Communication Infrastructure Working Group (DCIWG)

**1. INTRODUCTION**

1.1 The Selective Calling (SELCAL) is a signalling method transmitted over HF or VHF which relieves the flight crew from maintaining a listening watch on assigned frequencies.

1.2 An Aviation Spectrum Resources, Inc (ASRI) is responsible for administering SELCAL codes on behalf of ICAO, maintaining the database of codes and providing periodic reports on the SELCAL system status to ICAO.

**2. DISCUSSION**

2.1 Almost every aircraft operating over the ocean or in remote areas has a SELCAL code registered with ASRI. The SELCAL code is entered into field 18 of the aircraft's flight plan that is filed with the relevant aviation authorities. When a ground station wishes to communicate with an aircraft, the radio operator enters the required SELCAL code into the radio system which then transmits the SELCAL tones.

2.2 The current rules for SELCAL code assignment, with sixteen available letters/tones, limit the number of possible allowable codes to 10,920 resulting in a large amount of duplicate SELCAL Codes.

2.3 While SELCAL is an older technology by aviation standards, demand for SELCAL codes continues to increase by approximately 4% annually. This demand is being driven by the expanding civil aviation market and the requirement for almost all aircraft flying in remote Regions to have HF communications.

2.4 SELCAL32 will allow for new SELCAL avionics to operate without an increasing risk of SELCAL code duplication and the associated operational impacts. As this solution uses the existing 16 audio tones, it is backwards compatible with all existing aircraft avionics, while providing benefits to new aircraft with the updated SELCAL 32 standard. With growing support in the International Aviation Community, the new SELCAL 32 standard will eventually allow for continued operation of the SELCAL system to meet the increasing worldwide demand from aviation.

2.5 States will need to evaluate the impact of the SELCAL code pool expansion on their ground system including flight planning systems and any other systems that support the SELCAL system such as SELCAL encoder.

2.6 SELCAL32 will allow new SELCAL avionics to operate without the risk of SELCAL code duplication reducing the possibility of human factors errors potentially impacting aviation safety and reducing ATC controller workload.

### 3. ACTION BY THE MEETING

3.1 The meeting is invited to endorse the following Draft Conclusion:

***DRAFT CONCLUSION 9/X: IMPLEMENTATION OF SELCAL32***

*That, in view of the potential safety risks posed by duplicate SELCAL codes, States be urged to:*

- 1) assess the impact of the SELCAL 32 implementation on ground systems; and*
- 2) inform ICAO MID Office about the use of SELCAL in their States by 1 July 2019.*