International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Fourteenth Meeting (CNS SG/14)
(Abu Dhabi, UAE, 19 – 23 October 2025)

Agenda Item 5: Frequency Management Working Group (FM WG/4) Main Matters

STRENGTHENING AIR TRAFFIC SAFETY WITH ILS/DME CHANNEL ALLOCATION OVERSIGHT

(Presented by The United Arab Emirates)

SUMMARY

This paper highlights the crucial need for the Civil Aviation Authority (CAA) to oversee the ILS/DME channel pairing frequency assignments to runways within the State, ensuring the elimination of duplicate allocations and verifying the accuracy and integrity of navigational aid data recorded in the ICAO Frequency Finder (FF) Tool database.

Action by the meeting is at paragraph 3.

REFERENCES

- ICAO Global Air Navigation Plan (GANP), 7th Edition
- ICAO Middle East Region Air Navigation Plan (MID ANP)

1. INTRODUCTION

1.1 This paper highlights the crucial need for the Civil Aviation Authority (CAA) to exercise effective oversight over ILS/DME channel pairing frequency assignments to runways within the State. Such oversight should ensure the elimination of duplicate allocations of systems that are too close to each other and verify the accuracy and integrity of navigational aid data recorded in the ICAO Frequency Finder (FF) Tool database.

1.2 The demand for air travel in the MID Region continues to rise, driving the need for more robust Air Traffic Management (ATM) solutions to safeguard both safety and efficiency. In parallel, new ATM and aerodrome infrastructure projects are being implemented.

1.3 Building on discussions from the MIDANPIRG CNS SG/13 meeting, this paper stresses the importance of going beyond the current level of navigational frequency allocations. It proposes the proactive identification and reservation of ILS/DME pairing channels for planned expansion projects.

1.4 The ICAO Global Air Navigation Plan (GANP) underscores the importance of navigational aid resilience as part of globally interoperable systems, particularly under Performance Improvement Area 2 (PIA 2). In alignment, the MID ANP promotes harmonized performance standards for navigational services across the region.

1.5 While the UAE has successfully implemented ILS/DME systems across its airports, the increasing project demands have led to a tightening of available channel allocations. Compliance with ICAO Annex 10, ICAO Doc 8071, and ICAO Doc 9718 in frequency planning, together with the optimization of data in the ICAO FF Tool, is essential to ensuring that new ILS/DME systems are allocated channels well in advance, avoiding costly project delays.

2. DISCUSSION

The Need for ILS/DME Channel Pairing Frequency Assignments Accuracy

2.1 The safe and efficient management of ILS/DME frequencies is a critical enabler of air traffic safety. Given the limited number of available ILS/DME pairing channels globally, it is imperative that States maintain a coordinated, interference-free allocation strategy.

2.2 Without robust oversight, there is a risk of:

a) Duplicate or conflicting allocations within mutual radio range, leading to signal interference.
b) Inaccurate ICAO FF Tool entries, which could result in operational safety hazards and misinformed frequency planning.
c) Project delays for new runway and aerodrome developments due to unavailable pairing channels.
d) To avoid co-channel interference, separation between airports reusing the same LOC frequency, the minimum separation distance needs to be determined so that the states have a reference to oversight.

2.3 The UAE's approach, whereby planned expansion projects have pre-allocated ILS/DME channels, has proven effective in preventing allocation conflicts and ensuring seamless commissioning of new navigational aids. This model, if applied regionally, could strengthen frequency coordination within the MID Region.

2.4 Furthermore, data quality in the ICAO FF Tool is essential for frequency planning. Regular audits of location accuracy, system technical parameters, and output power settings are needed to maintain reliable and up-to-date records.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) take note of the information contained in this Paper;

b) acknowledge the UAE's experience in successful navigational aids implementation and the pre-allocation of ILS/DME pairing channels for future projects as a potential best-practice model for regional adoption;

c) urge MID States to strengthen navigational data governance and commit to ensuring that all data in the ICAO FF Tool database is accurate, complete, and reflective of operational parameters, including location, system requirements, and power output of ATM/CNS systems; and

d) urge ICAO to provide references on the minimum separation distance between runways or ILS/DME systems reusing the same LOC frequencies.

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