International Civil Aviation Organization

Sixth Meeting of the Frequency Management Working Group (FM WG/6)

(Cairo, Egypt, 27 – 28 September 2026)

Agenda Item 4: Frequency Congestion Issue

FREQUENCY CONGESTION IN THE MID REGION

(Presented by the Secretariat)

SUMMARY

This paper presents the progress achieved and the follow-up actions taken in response to MIDANPIRG Conclusion 23/27 concerning the VHF COM database, as well as the planned verification activities related to navigation data.

Action by the meeting is at paragraph 3.

REFERENCES

- MIDANPIRG/23 Report
- ICAO Frequency Handbook (DOC 9718)

1. INTRODUCTION

1.1 The frequency congestion in the aeronautical spectrum is becoming an increasing concern due to growing air traffic demand and the limited availability of COM and NAV frequencies. This may constrain future airspace capacity, increase coordination requirements, and affect the provision of efficient air navigation services.

2. DISCUSSION

2.1 The MIDANPIRG/23 meeting discussed the issue of frequency congestion in the MID Region and a set of actions to mitigate it. These actions include revising the MID Region allotment plan, enhancing the quality of the ICAO frequency database to support more accurate frequency assignment, and exploring additional measures to expand available spectrum capacity, including the implementation of 8.33 kHz channel spacing and various approaches to optimize the use of the DME spectrum.

2.2 The MIDANPIRG/23 meeting agreed to the following Conclusion:

MIDANPIRG CONCLUSION 23/26: FREQUENCY CONGESTION

That, in order to reduce COM and NAV frequency congestion and enhance frequency availability in the MID Region, States are required to complete the following actions by the end of 2026:

a) complete the review and update of their frequency assignment data in the current ICAO database;
b) provide their projected frequency requirements up to 2034 using the questionnaire provided in Appendix 5.7C, to enable ICAO conduct the necessary simulations and assess with States the need for implementing reduced channel spacing (8.33 kHz); and

c) complete the review of the MID Region allotment plan for processing by ICAO and inclusion in the relevant ICAO documents.

2.3 As a follow-up to MIDANPIRG Conclusion 23/26 and part of the Data Quality Control initiative (DQC), ICAO has sent emails to frequency focal points in the MID Region including their DQC sheets. The details of the data quality control process is at **Appendix A.**

2.4 States are requested to review and verify the information contained in their DQC files, and do the following:

a) Confirm or correct the listed frequencies.

b) Complete the missing fields (ICAO code, service, range, height, ER group and category)

c) Review the field category. Frequencies associated with civil airports are generally classified as International (ICAO), unless they are clearly used for non-aviation purposes, such as fire services or AOC. The NAT category is related to military, defence or government use and not to domestic airports.

d) Add any additional frequencies within the aeronautical band 118 - 137 MHz that are operational, including military or aeronautical operational control frequencies.

2.5 The ICAO frequency Handbook (Doc 9718, Vol. II, Table 2-5) includes service names and recommended DOCs range and height. The handbook is available at FSMP - Documents

2.6 The meeting may wish to note that ICAO is developing a new tool for frequency assignment, which will provide several enhancements such as use of polygons, hiding the sensitive data, and make it only accessible for RO and concerned state and many others.

2.7 The MIDANPIRG/23 meeting tasked FM WG to explore the implementation of 8.33 channel spacing to enhance VHF COM available frequencies. Furthermore, IATA expressed its support for the implementation of 8.33 channel spacing and confirmed that all airlines have been fully equipped with the necessary 8.33 receivers.

2.8 The implementation of reduced channel spacing (8.33 kHz) requires large-scale ground system changes, regulatory updates, as well as operational and training adaptations for air traffic controllers and pilots.

2.9 To facilitate an accurate assessment of the implementation of reduced channel spacing, it is recommended that States in the MID Region first complete the DQC review and update. This will ensure the availability of accurate and up-to-date data, enable a reliable evaluation of the status and support informed decision-making.

2.10 The MIDANPIRG/23 meeting requested States to provide their projected frequency requirements up to 2034 using the questionnaire provided in **Appendix B** to enable ICAO conduct the necessary simulations and assess with States the need for implementing reduced channel spacing (8.33 kHz).

2.11 The meeting may wish to note that review and validation of ICAO NAV database will start in Q4 of this year, States are requested to finalise the DQC for COM by the beginning of October 2026, and the NAV database by end of the year.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) urge States to complete the COM DQC review and update by 1 October 2026;

b) invite States requiring assistance with the DQC process to inform ICAO so that one-to-one coordination meetings can be arranged; and

c) review and enhance, as necessary, the projected frequency requirements questionnaire at Appendix B.

- END -

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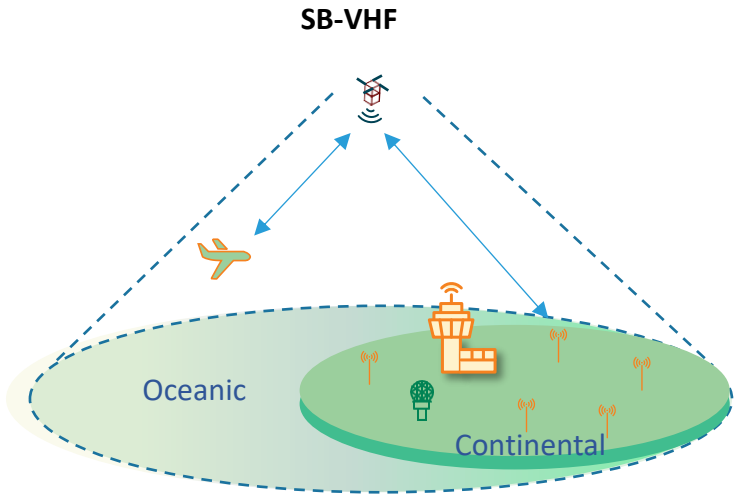
VHF COM FREQUENCY DATA BASE QUALITY CONTROL



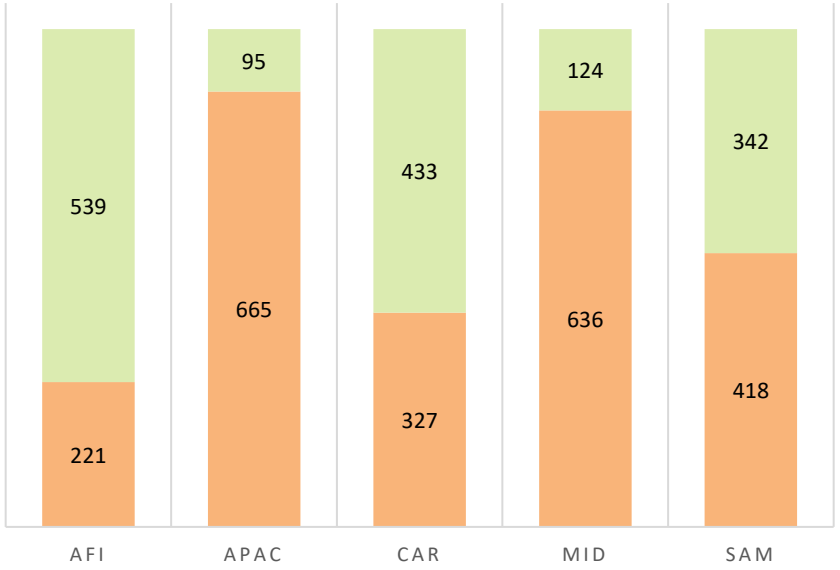
February 2026

SPACE BASED VHF VOICE COMMUNICATIONS

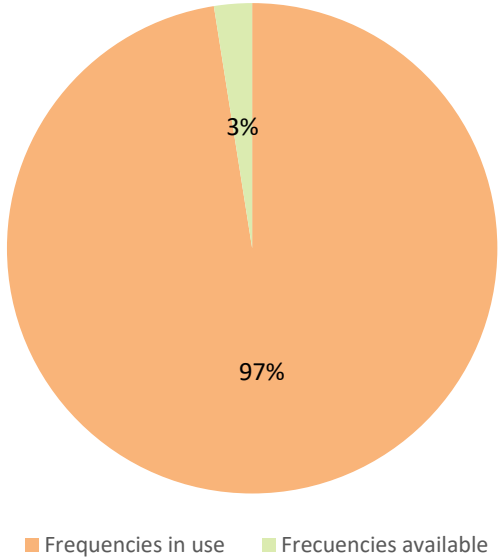
- OCEANIC and REMOTE areas have limited VHF infrastructure.
- SB-VHF will provide GLOBAL COVERAGE of A/G VHF VOICE COMMUNICATIONS SERVICES
- SB-VHF has a larger footprint than terrestrial voice communications



GLOBAL USE OF VHF COM CHANNELS (except Europe and North America)



VHF COM Channels in use vs available



Only 19 VHF COM 25kHz channels are **not** in use worldwide, mainly within the sub-band 134.000 – 136.975 MHz

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SPACE BASED VHF VOICE COMMUNICATIONS

To ensure that SB-VHF and terrestrial VHF are **compatible** and that the SB-VHF does not cause **interference** to the terrestrial VHF services:

- Accurate and consistent frequency data base is needed
- Inter-regional coordination will be implemented in Frequency Finder

FREQUENCY FINDER 2

- Phase 1: VHF COMMUNICATION SYSTEMS MODULE  **launched**
  - Web-based application
  - Online database. No need to synchronize
  - Management and coordination of frequency assignments between ICAO Contracting States and ICAO Regional Offices.

FREQUENCY FINDER 2

- Phase 2: NAVIGATION SYSTEMS MODULE
- Phase 3: SURVIELLANCE MODULE
- Phase 4: IMPROVEMENTS OF FREQUENCY FINDER : SPACE-BASED VHF

DATABASE QUALITY CONTROL

One Excel file will be provided to each state:

- First sheet containing the combined data from the AIP and the VHF COM3 frequency list in Frequency Finder
- Second sheet called “FF” containing the current data from the VHF COM3 frequency list in Frequency Finder. Only for reference.

DATABASE QUALITY CONTROL

ICAO Regional Office	Country	Country code	FF key	Location Airport name	Airport ICAO code	Latitude	Longitude	Frequency	Service	Range	Height	ER group	Category	ICAO HQ
RRR	Ccccc	CCC	000000	Airport 1	AAAA	ddmmss.sN	dddmmss.sW	125.900	APP-I	75	25000		ICAO	
RRR	Ccccc	CCC		Airport 1	AAAA	ddmmss.sN	dddmmss.sW	118.100	AFIS					
			000000	Airport 2	BBBB	ddmmss.sN	dddmmss.sW	131.400	AOC	100	250		NAT	
			000000	Airport 3		ddmmss.sN	dddmmss.sW	118.325	TWR	25	4000		NAT	
			000000	Location 1		ddmmss.sN	dddmmss.sW	126.200	ACC-U	25	4000		ICAO	

- Text in black comes from the AIP
- Text in red comes from VHF COM3 frequency list in Frequency Finder and needs to be checked.
- Frequencies highlighted in green are included in both AIP and VHF COM3 frequency list in Frequency Finder
- Specific details are included in the column “ICAO HQ”

ICAO

DATABASE QUALITY CONTROL

ICAO Regional Office	Country	Country code	FF key	Location Airport name	Airport ICAO code	Latitude	Longitude	Frequency	Service	Range	Height	ER group	Category
RRR	Ccccc	CCC	000000	Airport 1	AAAA	ddmmss.sN	dddmmss.sW	125.900	APP-I	75	25000		ICAO
RRR	Ccccc	CCC		Airport 1	AAAA	ddmmss.sN	dddmmss.sW	118.100	AFIS				
			000000	Airport 2	BBBB	ddmmss.sN	dddmmss.sW	131.400	AOC	100	250		NAT
			000000	Airport 3		ddmmss.sN	dddmmss.sW	118.325	TWR	25	4000		NAT
			000000	Location 1		ddmmss.sN	dddmmss.sW	126.200	ACC-U	25	4000		ICAO

- Frequency included in both the AIP and the VHF COM3 frequency list in Frequency Finder
- Data has been combined
- States are requested to confirm all the information or modify accordingly

DATABASE QUALITY CONTROL

ICAO Regional Office	Country	Country code	FF key	Location Airport name	Airport ICAO code	Latitude	Longitude	Frequency	Service	Range	Height	ER group	Category
RRR	Ccccc	CCC	000000	Airport 1	AAAA	ddmmss.sN	dddmmss.sW	125.900	APP-I	75	25000		ICAO
RRR	Ccccc	CCC		Airport 1	AAAA	ddmmss.sN	dddmmss.sW	118.100	AFIS				
			000000	Airport 2	BBBB	ddmmss.sN	dddmmss.sW	131.400	AOC	100	250		NAT
			000000	Airport 3		ddmmss.sN	dddmmss.sW	118.325	TWR	25	4000		NAT
			000000	Location 1		ddmmss.sN	dddmmss.sW	126.200	ACC-U	25	4000		ICAO

- Frequency included in the AIP but not in the VHF COM3 frequency list in Frequency Finder
- States are requested to confirm whether the frequency is in use and complete the missing information (Range, Height, ER Group and Category)

DATABASE QUALITY CONTROL

ICAO Regional Office	Country	Country code	FF key	Location Airport name	Airport ICAO code	Latitude	Longitude	Frequency	Service	Range	Height	ER group	Category
RRR	Ccccc	CCC	000000	Airport 1	AAAA	ddmmss.sN	dddmmss.sW	125.900	APP-I	75	25000		ICAO
RRR	Ccccc	CCC		Airport 1	AAAA	ddmmss.sN	dddmmss.sW	118.100	AFIS				
			000000	Airport 2	BBBB	ddmmss.sN	dddmmss.sW	131.400	AOC	100	250		NAT
			000000	Airport 3		ddmmss.sN	dddmmss.sW	118.325	TWR	25	4000		NAT
			000000	Location 1		ddmmss.sN	dddmmss.sW	126.200	ACC-U	25	4000		ICAO

- Frequency included in the VHF COM3 frequency list in Frequency Finder but not in the AIP
- States are requested to confirm whether the frequency is in use
- States are requested to confirm all the information or modify accordingly

DATABASE QUALITY CONTROL

ICAO Regional Office	Country	Country code	FF key	Location Airport name	Airport ICAO code	Latitude	Longitude	Frequency	Service	Range	Height	ER group	Category	States
RRR	Ccccc	CCC	000000	Airport 1	AAAA	ddmmss.sN	dddmmss.sW	125.900	APP-I	75	25000		ICAO	in use
RRR	Ccccc	CCC		Airport 1	AAAA	ddmmss.sN	dddmmss.sW	118.100	AFIS	25	4000		ICAO	in use
			000000	Airport 2	BBBB	ddmmss.sN	dddmmss.sW	131.400	AOC	100	250		NAT	in use
			000000	Airport 4		ddmmss.sN	dddmmss.sW	118.325	TWR	25	4000		NAT	in use
			000000	Location 1		ddmmss.sN	dddmmss.sW	126.200	ACC-U	25	4000		ICAO	out of use

How to amend the Excel sheet:

- Use text in green for the new or modified data
- Do not delete any row, even if the frequency is not in use
- Any additional comments should be included in the column “States”

DATABASE QUALITY CONTROL

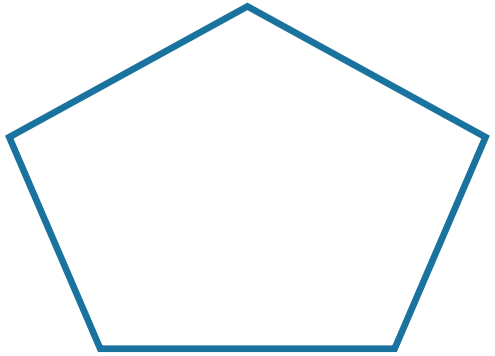
STATES ARE REQUESTED TO:

- Review the information contained in the Excel file (Sheet1).
- Confirm or correct the listed frequencies.
- Add any additional frequency.
- Complete the missing fields (ICAO code, Service, Range, Height, ER group and Category).
- Category:
  - Frequencies for civil airports are generally International (ICAO), unless used for non-aviation purposes (for example, fire service).
  - the NAT category is related to military, defence or government use and not to domestic airports.
- Include in the column “States”:
  - if the frequency is **in use** or **out of use**
  - if the frequency data is **sensitive** or **not-sensitive,** when the Category is NAT

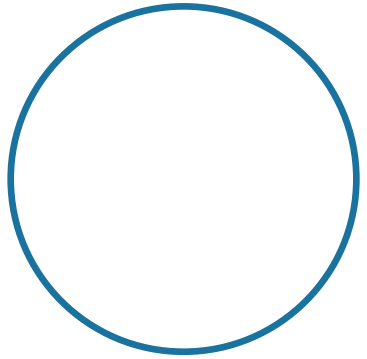
DATABASE QUALITY CONTROL

STATES ARE REQUESTED TO:

- In case more than one service is assigned to a frequency , only the service with the larger DOC should be considered (for example, TWR/APP)
- For frequencies with ACC/APP services, States are encouraged to use an Area DOC rather than a circular DOC and provide the SECTOR name and coordinates that define the polygon



Area DOC
(name & coordinates)



Circular DOC
Range & Height

DATABASE QUALITY CONTROL

To be considered for the new Frequency Finder tool Database :

- Use of airport names and coordinates published in the AIP
- Service names according Doc 9718 (chapter 2.6). Note that current names may be modified (for example, SMC -> AS)
- Range and Height default values according Doc 9718 (chapter 2.6).
- Frequencies out of use will be deleted
- Once the quality control process is complete, the new database will be used for the Frequency Finder 2. No need to update the data in the current Frequency Finder

ACTIONS

ICAO HQ

- Send the Excel file to each state
- Participate in meetings

STATES

- Check the Excel file
- Confirm which frequencies are in use and add the missing frequencies and information
- Participate in meetings

RO

- Set up meetings with each state



Thank You!

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APPENDIX B

SUBMISSION OF FREQUENCY REQUIREMENTS FOR THE PERIOD 2026 – 2034

1.1 The primary purpose of this simulation is to determine if a congestion in the use of frequencies can be foreseen that would require the implementation of 8.33 kHz channel spacing in any parts of the MID Region.

1.2 With the view to determine the medium-term spectrum requirements for VHF communication services, States are invited to submit these requirements to the MID Regional Office by **Q4 2026**. On the basis of these requirements. ICAO will undertake an analysis that is aimed at determining whether these requirements can be assigned a frequency within the available 25 kHz channels.

1.3 In this case, States can introduce the requirements in the local version of Frequency Finder and generate with the button “Export Submissions” an Excel file that can be submitted to the Reginal Office.

1.4 States are able to download the Frequency Finder tool from Frequency Spectrum Management Panel (FSMP) webpage at: https://www.icao.int/safety/FSMP/Pages/Documents.aspx, and ICAO will provide assistance for any difficulties in installation and use of this ICAO tool.

1.5 Precise details not available.

1.5.1 When precise details are not available for future frequency requirements, States can submit such requirements in any format.

1.5.2 Example 1: For a new airport, States can submit the (approximate) coordinates and specify the need for:

x TWR frequencies
x Aerodrome surface frequencies
x APP-U frequencies
x APP-L frequencies
x ACC-U frequencies
ATTM.- 2
x ACC-L frequencies
x VOLMET frequencies
x ATIS frequencies
x VDL frequencies

- END -