



ICAO

*International Civil Aviation Organization***SEVENTH MEETING OF SPECTRUM REVIEW
WORKING GROUP (SRWG/7)***Bangkok, Thailand, 15-17 February 2023*

- Agenda Item 3:** Review Frequency planning requirements for the Asia/Pacific Region
- 3.2 Review the Survey on 50 kHz channel spacing for ILS and VOR facilities

**SURVEY RESULT OF THE INTRODUCTION OF 50 KHZ CHANNEL SPACING FOR ILS
AND VOR FACILITIES IN THE ASIA/PACIFIC REGION**

(Presented by the Secretariat)

SUMMARY

This paper presents the results of the questionnaire on the introduction of 50 kHz channel spacing for ILS and VOR facilities in the APAC Region.

1. INTRODUCTION

1.1 SRWG/5 discussed the possible shortfall of VOR frequency channels with the current 100 kHz channel in the frequency band 108.000-117.975 MHz in some States. Subsequently, SRWG/5 agreed to form an ad-hoc group led by India to explore the feasibility of the introduction of 50 kHz channel spacing for VOR and ILS/Localizer deployments in the frequency band 108.000-117.975 MHz in the APAC region.

1.2 The ad-hoc group reported the discussion outcome in SRWG/6. The ad-hoc group identified the challenges of implementing 50 kHz channel spacing were primarily with airspace users (airline operators) and not with ground segment. The need for active coordination between the stakeholders including ANSP, Civil/Military and Airline Operators (IATA) was also identified. The ad-hoc meeting also noted that the ICAO Frequency Finder tool fully supports 50 kHz channel spacing.

1.3 The ad-hoc group presented their coordination work, and noted certain APAC States have already implemented 50 kHz channel spacing and their experiences were shared. The group worked with the ICAO Secretariat and published a questionnaire to the APAC States and Airline Operators including IATA through the ICAO APAC State Letter Ref.: T 8/8.5 – AP068/22(CNS) provided in **Appendix A**.

1.4 The interim results collected from States/Administrations were presented in IP/03 of CNS SG/26, and the results are brought into this SRWG/7 Meeting for further review and discussion.

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2. DISCUSSION

2.1 The ICAO APAC Regional Office received **16** responses from States/Administrations, including Australia, Bhutan, China, Fiji, Hong Kong China, India, Indonesia, Macao China, Nepal, New Zealand, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand and United States. The summary of replies is provided below for meetings review.

States' Plan to Implement 50 kHz Channel Spacing for ILS and VOR Facilities

2.2 Among the 16 responses, nine (9) of them replied there is no plan for implementing 50 kHz channel spacing and seven (7) of them specified their implementation/planned date. The survey result on States' Plan is shown in Fig. 1.

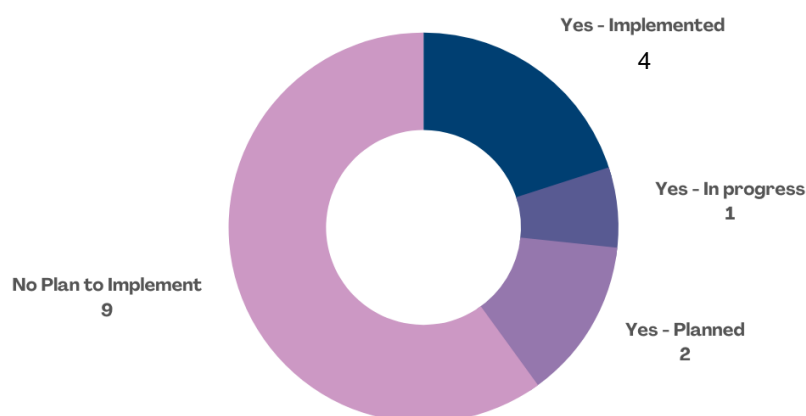


Fig. 1. Survey Result on States' Plan to Implement 50 kHz Channel Spacing for ILS and VOR Facilities

Issues to Implement 50 kHz Channel Spacing for ILS and VOR Facilities

2.3 Among the seven (7) States/Administrations that implemented/planned to implement the 50 kHz channel spacing, only one (1) State/Administration indicated there could be potential issues in the implementation on the lead time required for retrofit of aircraft avionics. It was reported by the State/Administration that aircraft avionics should support using 50kHz channels for either new or replaced ground-based ILS/VOR, and the use of 50kHz channels spacing shall be approved by local telecommunication authorities.

Frequency Assignment Planning Criteria to be used for 50 kHz Frequency Assignments

2.4 Replies from States/Administrations indicated that they would rely on ICAO Doc 9718 the Handbook on Radio Frequency Spectrum Requirements for Civil Aviation, Volume II Second Edition and the coordination guidance from ICAO APAC Regional Office to obtain suitable frequencies. Certain States/Administrations were deemed to better maintain current operating frequency subject to the potential issues mentioned above.

Other Issues pertinent to States' situation that ICAO should consider when developing plans to introduce 50 kHz channel spacing for ILS/VOR in the APAC Region

2.5 Nil States replied that they would envisage any other issues for the introduction of 50 kHz channel spacing for ILS/VOR in the APAC Region.

Other Points to Note

2.6 The ICAO APAC Regional Office received inputs of this questionnaire from States/Administrations only. CNS SG/26 encouraged IATA to advise their member airline operators about the capability of their aircraft avionics in operating with 50 kHz channel spacing for ILS/VOR facilities. States/Administrations should also confirm with other relevant bodies, e.g. Defence and Flying Service bodies that use ILS/VOR facilities on their ability to operate with such 50 kHz channel spacing in their States/Administrations.

2.7 Besides, this questionnaire serves the purpose of understanding States'/Administrations' readiness and implementation progress of operating with 50 kHz channel spacing for ILS/VOR facilities. States/Administrations should follow their own preceding experience and determine accordingly their own needs to implement, and coordinate with their airspace users. There is no requirement envisaged for the APAC Region for a collective action to migrate into 50 kHz channel spacing for ILS/VOR facilities.

Summary

2.8 Based on the survey results obtained, it was noted that certain States/Administrations have already implemented or planned to implement the 50 kHz channel spacing for ILS/VOR facilities. While most of these States/Administrations indicated no issues in implementation/planning, States/Administrations should ensure the aircrafts operating in their airspaces are able to support the use of such 50 kHz channel spacing, if deemed such 50 kHz channel spacing for ILS/VOR facilities are required for their airspaces.

2.9 In addition, States/Administrations who have not yet replied to the Survey are encouraged to do so by replying to the State Letter with Survey in **Appendix A**.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) confirm with relevant bodies of their States/Administrations that use ILS/VOR facilities on their ability to operate with such 50 kHz channel spacing in their States;
- c) encourage States/Administrations to reply to the Survey provided in ICAO APAC State Letter Ref.: T 8/8.5 – AP068/22(CNS) at **Appendix A**; and
- d) discuss any relevant matter as appropriate.



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Ref.: T 8/8.5 – AP068/22(CNS)

28 April 2022

Subject: Survey Questionnaire: The introduction of 50 kHz channel spacing for ILS and VOR facilities in the APAC region

Action Required: To reply by **29 July 2022**

Dear Sir/Madam,

With the development of civil aviation industry and the substantial increase in the number of radio navigation stations, the current navigational frequency allotment plan using 100 kHz channel spacing for the ILS-Localizer, VOR with the associated DME X-channels falls short to satisfy the actual demand in some parts of the APAC Region. The Spectrum Review Working Group (SRWG) of APANPIRG proposed a Questionnaire provided as **Attachment** to this letter in its sixth working group meeting (SRWG/6) to assist ICAO in developing a plan for the introduction of 50 kHz channels for ILS/VOR (with the associated DME Y-channels) in APAC Region.

The intent of the Questionnaire is primarily to investigate infrastructure/equipage capabilities (for the ground and aircraft systems), any implementation plan for 50 kHz channels and exemptions required by States. The response to the questionnaire from States will support to complete the ongoing studies in ICAO objectively.

The electronic version in Microsoft Word format of the Questionnaire can also be accessed at: <https://www.icao.int/APAC/Meetings/Pages/2022-SRWG6.aspx>. You may send back the completed questionnaire through e-mail to apac@icao.int, with a copy to ylo@icao.int. I would be grateful if you could have the questionnaire completed as early as possible, **preferably not later than 29 July 2022**.

Accept Sir/Madam, the assurances of my highest consideration.

Yours sincerely,

Tao Ma
Regional Director

Enclosure:

Survey Questionnaire:

The introduction of 50 kHz channel spacing for ILS and VOR facilities in the APAC region

Survey Questionnaire

The Introduction of 50 kHz Channel Spacing for ILS and VOR Facilities in the APAC Region

Please proceed to answer following questions until you reach to "End of Questionnaire"

1. Does your State/Administration plan to implement 50 kHz Channel Spacing for ILS and VOR Facilities?
 YES, already implemented since _____(date)
 YES, started implementation in progress and expect completed by _____(date)
 YES, not started yet, expect implementation completed by _____(date)
 NO (End of Questionnaire)

2. Do you foresee any issues or reservations on the use of 50 kHz channels for ILS/VOR?
 YES
 NO (End of Questionnaire)

3. Do you foresee any issue with aircraft currently operating with ILS/VOR equipment that cannot use 50 kHz channels after consultation with aircraft operators?
 YES
Do these issues refer to the following categories:
 Aircraft used by international civil aviation or by airline operators
 Aircraft used for General Aviation
 Aircraft used for National Defense purposes
Please provide details: _____

 NO

4. Do you foresee any issue with regard to using 50 kHz channels for either new ground-based ILS/VOR facilities or when replacing current ILS/VOR facilities?
 YES - Please provide details: _____

 NO

5. What frequency assignment planning criteria you envisage to use for 50 kHz frequency assignments when you coordinate with ICAO?

6. Are there any other issues pertinent to your situation that ICAO should consider when developing plans to introduce 50 kHz channel spacing for ILS/VOR in the APAC Region?

