

## RESOLUTION 429 (WRC-19)

**Consideration of regulatory provisions for updating Appendix 27 of the Radio Regulations in support of aeronautical HF modernization**

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

*considering*

- a)* that for the purpose of this Resolution, the term “wideband” in HF communications may refer to a combination of multiple 3 kHz channels to provide improved data rates;
- b)* that, with the availability of advanced digital technologies and the demonstrated capabilities of aeronautical wideband HF, including contiguous or non-contiguous channel aggregation, faster data rates and better voice communications are possible;
- c)* that digital aeronautical HF must coexist with existing aeronautical analogue voice and data HF systems;
- d)* that desirable properties of HF propagation enable global coverage for aircraft;
- e)* that aeronautical analogue voice and narrowband digital HF systems are the primary means for international and domestic aviation to communicate with aircraft in remote and oceanic areas;
- f)* that there is an operational need for the modernization of data link services in the HF band for messages related to the safety and regularity of flight for use by international civil aviation;
- g)* that current aeronautical HF systems are limited by the available technology, and are insufficient to meet many modern aircraft information requirements without being augmented by aeronautical safety satellite communications;
- h)* that use of the frequencies in the frequency bands allocated to the aeronautical mobile (R) service (AM(R)S) in the frequency bands between 2 850 and 22 000 kHz is governed by the provisions of Appendix 27,

*recognizing*

- a)* the need for improving aeronautical HF performance in support of internationally recognized aviation performance standards as defined by the International Civil Aviation Organization (ICAO);

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b) that Annex 10 (Volume III) to the Convention on International Civil Aviation is a part of the international Standards and Recommended Practices (SARPs) for the current aeronautical narrowband HF communication systems used by international civil aviation;

c) that the modernization of aeronautical HF communications will not require any changes to Article 5 of the Radio Regulations;

d) that the frequencies 3 023 kHz and 5 680 kHz are designated for search and rescue in Appendix 15 of the Radio Regulations;

e) that any channel aggregation needs to be performed in a manner that protects other primary services operating in band and in adjacent frequency bands,

*noting*

a) the special arrangements clause in Appendix 27 for classes of emission other than J3E or H2B;

b) that the existing regional frequency allotments are detailed in Appendix 27 for aeronautical HF in the AM(R)S;

c) that Appendix 27 provides international and regional allotments for HF channels within the AM(R)S;

d) that the current aeronautical HF narrowband digital communications are detailed in Recommendation ITU-R M.1458;

e) that inter-system compatibility between internationally standardized aeronautical equipment is the responsibility of ICAO;

f) that new HF contiguous or non-contiguous channel aggregation technology allows for variable bandwidths greater than 3 kHz,

*resolves to invite the ITU Radiocommunication Sector*

1 to identify any necessary modifications to Appendix 27 for the AM(R)S between 2 850 and 22 000 kHz, noting *recognizing c)*;

2 to identify any necessary transition arrangements for the introduction of new digital aeronautical wideband HF systems and any consequential changes to Appendix 27;

3 to recommend how new digital aeronautical wideband HF systems can be introduced while ensuring compliance with safety requirements and with *recognizing e)*;

4 to define the relevant technical characteristics and to conduct any necessary sharing and compatibility studies, taking into account *noting e)*, with incumbent services that are allocated on a primary basis in the same or adjacent frequency bands to avoid harmful interference in accordance with *recognizing e)*;

5 to complete the studies in time for WRC-23,

*invites the 2023 World Radiocommunication Conference*

to consider necessary changes to Appendix 27, on the basis of the studies conducted under *resolves to invite the ITU Radiocommunication Sector* above,

*instructs the Secretary-General*

to bring this Resolution to the attention of the ICAO,

*invites the International Civil Aviation Organization*

to participate actively by providing aeronautical operational requirements and relevant available technical characteristics to be taken into account in ITU Radiocommunication Sector studies.

