

Ms. Mindel De La Torre
Chief of the International Bureau
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Ms. De La Torre:

The National Telecommunications and Information Administration (NTIA) on behalf of the Executive Branch agencies, approves the release of the draft Executive Branch proposals for WRC-15 agenda items 7 (No. 11.49) and 1.13. For agenda item 7, NTIA proposes to add regulatory procedures when administrations notify the Bureau of suspension beyond the initial six-month period. For agenda item 1.13, NTIA proposes to modify No. 5.268 by removing both the 5 km distance limitation and the restriction to EVA operation.

NTIA considered the federal agencies' input toward the development of U.S. proposals for WRC-15. NTIA forwards this package for your consideration and review by your WRC-15 Advisory Committee. Dr. Darlene Drazenovich is the primary contact from my staff.

Sincerely,

(Original Signed February 14, 2013)

Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.13: *to review No. 5.268 with a view to examining the possibility for increasing the 5 km distance limitation and allowing space research service (space-to-space) use for proximity operations by space vehicles communicating with an orbiting manned space vehicle, in accordance with Resolution 652 (WRC 12)*

Background Information: WARC-92 allocated the band 410-420 MHz to the space research service (SRS) on a secondary basis for extra-vehicular activity (EVA) communications in the immediate vicinity of low earth orbit (LEO) manned space vehicles, and limited the use of the band by the SRS to EVA operation within 5 kilometers (km) of orbiting manned space vehicles. WRC-97 upgraded the allocation to the SRS in the band 410-420 MHz to primary status and No. 5.268 specified a set of power flux-density (pfd) limits to ensure protection of the fixed and mobile services while retaining the 5 km distance limitation for EVA operation.

Resolution 652 (WRC-12), recognizing c, states that “power flux-density (pfd) limits contained in No. 5.268 ensure the protection of terrestrial stations operating in the fixed and mobile services independent of the distance from, or the source of, space-to-space communications in the SRS.” Also, long-term space exploration objectives require new activities around a manned space station other than EVA, such as visiting vehicles for crew transportation/cargo re-supply and free-fly proximity vehicles for inspection and maintenance. These vehicles need to initiate communication over distances greater than 5 km to ensure proper vehicle positioning, data exchange and system monitoring. ITU-R sharing studies within Working Party 7B demonstrate that communication links for a variety of space vehicles other than EVA can meet the pfd limits in No. 5.268 for distances beyond 5 km by using different modulation, spreading technologies, and power control schemes (7B/88 Annex 1, Preliminary Draft New Report ITU-R SA.[Proximity operations] - “Sharing conditions between space research service proximity operations links and fixed and mobile service links in the 410-420 MHz band).

Therefore, it is necessary to modify No. 5.268 to remove both the 5 km distance limitation and restriction to EVA operation while maintaining the pfd limits. Removal of these two restrictions will allow for greater flexibility in using the band 410-420 MHz for space research activities while maintaining protection of the terrestrial services.

Proposal:

MOD USA/AI 1.13/1

5.268 Use of the band 410-420 MHz by the space research service is limited to space-to-space communications with an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from stations of the space research service (space-to-space) in the band 410-420 MHz shall not exceed $-153 \text{ dB(W/m}^2\text{)}$ for $0^\circ \leq \delta \leq 5^\circ$, $-153 + 0.077(\delta - 5) \text{ dB(W/m}^2\text{)}$ for $5^\circ \leq \delta \leq 70^\circ$ and $-148 \text{ dB(W/m}^2\text{)}$ for $70^\circ \leq \delta \leq 90^\circ$, where δ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. No. 4.10 does not apply. (WRC-15)

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Reasons: Modify No. 5.268 to remove both the 5 km distance limitation and restriction to EVA operation while maintaining the pfd limits to protect the terrestrial services.

SUP USA/AI 1.13/2

RESOLUTION 652 (WRC-12)

Use of the band 410-420 MHz by the space research service (space-to-space)

Reasons: ITU-R Working Party 7B completed required studies and this resolution is no longer needed.