UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS FOR WRC-15

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: WARC-92 allocated the band 410-420 MHz to the space research service (SRS) on a secondary basis to allow for extra-vehicular activity (EVA) communications in the immediate vicinity of low earth orbit (LEO) manned space vehicles. EVA refers to manned activities outside a spacecraft (e.g., spacewalk). No. **651A (WARC-92)** 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." ITU-R preliminary analyses using a spread spectrum signal in the 410-420 MHz band by a LEO vehicle suggest that these vehicle links can meet the pfd limits in No. **5.268** for distances beyond 5 km. 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. Therefore, it is necessary to modify No. **5.268** to remove the 5 km distance restriction and EVA limitation while maintaining the pfd limits.

U.S. VIEW: The United States supports the removal of both the 5 km distance limitation and restriction to EVA operation, if the studies performed in accordance with Resolution **652 (WRC-12)**, demonstrate space vehicle links operating around a manned vehicle beyond 5 km can meet the pfd limits in No. **5.268**. 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.

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