

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS FOR WRC-19

AGENDA ITEM 1.3: to consider possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz, in accordance with Resolution **766 [COM6/8] (WRC-15)**;

ISSUE: This agenda item relates to consideration of possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz, in accordance with **Resolution 766 (WRC-15)**.

The ITU-R is invited to study:

- sharing and compatibility studies of such an upgrade while protecting existing primary fixed and mobile services;
- Determine the appropriate pfd limit that would protect these existing primary services, to be placed on MetSat (space-to-Earth) and EESS (space-to-Earth).

BACKGROUND: The 460-470 MHz band is allocated on a primary basis to the fixed and mobile services. The meteorological-satellite service currently has a secondary allocation in this band. Under No. 5.289, “*Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460-470 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table*”.

Within this band, the Argos Data Collection System (ADCS) is used to monitor more than 21,000 active Argos platforms collecting data for over 2,000 distinct projects in 100+ countries. The Argos program is administered under a joint agreement between the National Oceanic and Atmospheric Administration (NOAA) and the French Space Agency, Centre National d’Etudes Spatiales (CNES). Additional partners include European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) and the Indian Space Research Organization (ISRO).

Critical applications of the ADCS include atmospheric & ocean monitoring/research, tropical cyclone forecasting, fishery management, oil spill tracking, fishing vessel tracking, search & rescue modeling (at sea), anti-piracy alerting, import/export & hazardous materials tracking, endangered species studies, migration mapping, and wildlife tracking and management.

The meteorological-satellite (space-to-Earth) service operates on a secondary basis to the fixed and land mobile services and thus it must not interfere with these services. To protect the fixed and mobile services with the United States, a power flux density (pfd)

limit of -152 dBW/m²/4kHz has been imposed on the meteorological-satellite (space-to-Earth) service.

To provide added protection to existing services in the band, globally, the next generation of ADCS transmitters will implement a direct sequence spread spectrum in the satellite downlink to reduce the pfd in the 460-470 MHz band to less than -152 dBW/m²/4kHz.

Potential upgrade of EESS allocation to primary will bring confidence to the space agencies, which are involved, in Satellite Data Collection Programs. This upgrade to primary status will may ease coordination with administrations. These space programs do represent a long term effort and investment during decades between the time when the program is officially approved and the time when the various satellites are in operation, keeping in mind that usually many satellites are deployed in order to provide a continuous service. For the specific case of this band, the number of satellites expected to be in operation is limited for cost reasons and it is unlikely that two satellites will transmit at the same time over the same geographical area.

U.S. VIEW: In order to protect the recent significant investment and expansion of the ADCS systems, the U.S. supports conducting and completing sharing and compatibility studies to determine the feasibility of upgrading the MetSat (space-to-Earth) allocation to primary status, and the addition of a primary EESS (space-to-Earth) allocation in the frequency band 460-470 MHz, while protecting the primary fixed and mobile services to which the frequency band is already allocated and maintaining the conditions contained in No. **5.289**.

Studies should take into account the present usage of the frequency band 460-470 MHz by incumbent services, to determine the appropriate pfd limit to be placed on MetSat (space-to-Earth) and EESS (space-to-Earth) to protect the existing primary services to which this frequency band is already allocated, provided that, if the studies conclude that a less restrictive pfd limit than that contained in Resolution **766 (WRC-15)** considering further a) can protect incumbent services, then the pfd limit (-152 dBW/m² /4 kHz) shall apply.
