

UNITED STATES**PRELIMINARY VIEWS ON WRC-15**

WRC-15 Agenda Item: 1.5 to consider the use of frequency bands allocated to the fixed-satellite service not subject to Appendices **30**, **30A** and **30B** for the control and non-payload communications of unmanned aircraft systems (UAS) in non-segregated airspaces, in accordance with Resolution **153 (WRC-12)**;

ISSUE: The referenced WRC-15 agenda item provides the basis for developing technical, regulatory and operational recommendations to WRC-15 addressing the use of satellites in the fixed-satellite service (“FSS”) to provide for the control and non-payload communications (“CNPC”) of UAS in non-segregated airspace.

BACKGROUND: From a technical standpoint, aircraft radio links can be relayed via commercial satellites using an FSS allocation. Many commercial aircraft are already equipped with commercial FSS systems at Ku and Ka-band.

These existing commercial FSS systems operating between 10 and 31 GHz offer immediate access to spectrum for UAS. Specifically, various segments within 10.95 – 14.5 GHz and within 17.30 – 31.0 GHz are suitable for UAS CNPC. This is advantageous in that; (a) there are no satellite systems currently operating in the 5030-5091 MHz band to support current/near-term UAS CNPC, and (b) even when such a system becomes commercially available, it is likely that additional spectrum will be required in order to meet availability requirements. FSS operators have expressed concern about adding new service allocations within the FSS bands, such as AMS(R)S, due to the potential for interruption to existing and future customers implementing other types of FSS applications.

In order to ensure safe operation of UAS, it is expected that technical Standards and Recommended Practices (“SARPs”) for CNPC will be developed in ICAO, and that those SARPs would be independent of the specific link used to provide CNPC. The operation of UAS CNPC in FSS can then be designed to operate within the established FSS interference environment while meeting those SARPs. In such an approach, UAS CPNC would be operating as an FSS application, with the responsibilities and liabilities of the FSS and UAS operator specified in a commercial contract.

Studies by the ITU-R (Report ITU-R M.2233) show that, from a technical standpoint, commercial FSS satellite networks in the indicated bands can support UAS control links and meet the desired link availability. Regulatory measures may be appropriate to address the mobile nature of UAS with CNPC in the FSS.

U.S. VIEW: The United States supports the benefits offered from allowing UAS Control and Non-payload Communication links to operate using FSS satellites and supports studies and development of the necessary technical and regulatory provisions required for such operation.