Proposed Draft U.S. Preliminary View on Resolution 420 (WRC-07) of WRC-11 A.I. 1.4

AGENDA ITEM 1.4: *to consider, based on the results of ITU-R studies, any further regulatory measures to facilitate introduction of new aeronautical mobile (R) service (AM(R)S) systems in the bands 112-117.975 MHz, 960-1 164 MHz and 5 000-5 030 MHz in accordance with Resolutions* ***413 (Rev.WRC-07)****,* ***417 (WRC-07)*** *and* ***420 (WRC-07);***

ISSUE: The **Resolution 420 (WRC-07)** aspect of **WRC-11 Agenda Item 1.4**

Resolution 420 (WRC-07) *resolves*

1. that ITU-R investigate, with priority, AM(R)S spectrum requirements for surface applications in the 5 GHz range, in order to determine if they can be fulfilled in the band 5 091-5 150 MHz;

2. that ITU-R further investigate, if necessary, the feasibility of an allocation for AM(R)S for surface applications at airports, study the technical and operational issues relating to the protection of RNSS in the bands between 5 000 and 5 030 MHz and of the radio astronomy service in the band 4 990-5 000 MHz from AM(R)S, and develop appropriate Recommendations;

3. that WRC-11 consider results of the above studies and take appropriate actions.

BACKGROUND:

The RNSS bands in the 1164-1610 MHz range are now reaching a point where little bandwidth remains for new signals. Having foreseen this lack of spectrum for future RNSS applications, the 5000-5010 MHz (Earth-to-space) and 5010-5030 MHz (space-to-Earth) bands were allocated to the RNSS by WRC-2000 and confirmed by WRC-03. The Navstar Global Positioning System (GPS) and other RNSS systems such as QZSS, Galileo and GLONASS are planning to implement RNSS services in these 5 GHz bands. Aside from the congested 1 GHz RNSS bands, the 5000-5030 MHz bands are currently the only ones that remain of practical use to the RNSS and there appear to be no viable future RNSS allocation possibilities.

The introduction of AM(R)S in the 5GHz RNSS bands would rule out the possibility of domestic mobile GPS stations. Such mobile stations may indeed need to operate in and around airports to be effective, and studies have shown that AM(R)S systems would be incompatible with such use. Furthermore, new 5 GHz RNSS applications; e.g., small anti-jam antennas, are made possible due to the shorter wavelength, and the 5000-5030 MHz bands need to be maintained for future GPS development. Since WRC-07, a preliminary GPS service downlink has been designed for the 5010-5030 MHz band and it is expected that this design will evolve over the next few years as technology progresses to more fully take advantage of the potential available.

It appears that the proposed AM(R)S allocations would effectively end future RNSS development of the 5000-5030 MHz bands. If AM(R)S systems were deployed throughout airports worldwide, finding sites for future RNSS terminals, or the use of mobile RNSS terminals would becomes problematic. As a practical matter, once an AM(R)S system is installed at an airport, it would be difficult to have it modified to accommodate an incoming RNSS system. Since current RNSS applications operate at airports, it would be useful for 5 GHz applications to

operate alongside of 1 GHz applications and a significant burden to operate 5 GHz applications several kilometres from airports.

Finally, there is no clear regulatory path to protecting the RNSS from the AM(R)S. The RNSS requires protection, but some proposed regulatory language appears to be insufficient. The clause "not cause harmful interference to, nor claim protection from" would effectively make the AM(R)S Secondary to RNSS. However, due to the safety-service status of the AM(R)S, several serious regulatory questions have been raised. For example, how can the RNSS, which is not normally considered a safety service, claim protection from the AM(R)S? Since the AM(R)S allocation is intended to provide safety at airports, the AM(R)S allocation cannot waive its safety status and there is no easy regulatory fix. Hence RNSS proponents still have yet another strong argument to oppose a new AM(R)S allocation in the 5000-5030 MHz band.

U.S. VIEW:

In regard to Resolution **420** of WRC-11 A.I. 1.4, until technical and regulatory approaches can be demonstrated to be feasible in these bands, the United States believes there should be no changes proposed to the to the allocations in the bands 5000-5010 MHz and 5010-5030 MHz.