

**DESCRIPTION OF MODIFICATION APPLICATION AND
PROPOSED CHANGES TO PROGRAM OF EXPERIMENTATION**

By this application, HNS License Sub, LLC (“Hughes”) proposes a further modification of its existing experimental license, Call Sign WE2XEW, File Nos. 0011-EX-PL-2006, 0023-EX-ML-2008, 0047-EX-ML-2008, and 0097-EX-ML-2008. Specifically, Hughes seeks to expand the mobile operations of the authorized Ku-band and Ka-band mobile terminals to include aeronautical mobile use, which will allow testing of terminals mounted on helicopters, airplanes and unmanned aerial vehicles (“UAVs”).

Hughes anticipates that within the relatively near term, it is likely to receive requests from Federal or other customers with which it has contracts to begin experimental testing of mobile terminals on-board one or more types of aircraft. For more than a year, Hughes has been engaged in testing the operational capabilities of several types of mobile antenna equipment mounted on various types of military and other vehicles. Earlier this year, it received approval to extend this testing to include maritime mobile operations in U.S. coastal waters (*see* File No. 0047-EX-ML-2008). With this further modification application, Hughes seeks authority to extend its testing program to the third type of mobile operation, permitting it to mount mobile antennas on military and other aircraft, including airplanes, helicopters and UAVs.

Processing of this modification request will not require detailed technical review. With the exception of the fact that terminals are proposed to be tested on aircraft operating within CONUS and over adjacent coastal waters, all other parameters – including all technical and operational parameters – of the proposed use are consistent the terms of the existing

authorization and the licensing conditions applicable to Call Sign WE2XEW will remain in full force and effect. Hughes notes in this respect that the conditions currently applicable to Hughes's vehicle-mounted and vessel-mounted operations include limitations on off-axis EIRP spectral density from the Commission's Rule governing operation of Earth Stations on Vessels ("ESV Rule"). See Hughes Authorization, Call Sign WE2XEW, at Condition 10. Conditions regarding coordination with NASA over operation near Tracking and Data Relay Satellite System receive sites, and requiring the automatic cessation of transmissions from mispointed antennas, are also taken from the Commission's ESV Rule. See Hughes Authorization, Call Sign WE2XEW, at Conditions 8 and 11; 47 C.F.R. § 25.222. These conditions, as well as Conditions 6 and 7 (governing protection of National Science Foundation sites), are equivalent to the requirements of ITU Recommendation M.1643 ("Rec. ITU-R M.1643"), which sets forth the ITU requirements for the operation of aircraft Earth stations operating in the aeronautical mobile-satellite service in Ku-band.

Grant of the non-technical modification proposed herein would provide an important new platform for the domestic testing, demonstration and training operations of mobile aircraft terminals within and just beyond CONUS. Hughes will be able to continue its program of developing small, high-throughput terminals that are desired by the Department of Defense for military use in command, control, communications, intelligence, surveillance and reconnaissance ("C³ISR") functions. Critically, there will be no change whatsoever in Hughes's ability and responsibility to satisfy its obligation not to cause harmful interference through the terminals it will be using.