



June 1, 2016

Via Electronic Filing

Federal Communications Commission
Experimental Licensing Branch
MS 1300E1
445 Twelfth Street, S.W.
Washington, DC 20554

**Re: Annual Progress Report of HNS License Sub, LLC Pursuant
to Call Sign WE2XEW**

Dear Sir or Madam:

This Progress Report of HNS License Sub, LLC (“Hughes”) is submitted pursuant to the special conditions associated with Hughes’ Experimental Radio Service license in Call Sign WE2XEW.

On January 1, 2006, Hughes obtained an authorization under Call Sign WE2XEW to conduct experimental operations with in-motion earth terminals in the fixed-satellite service (“FSS”) frequencies at 14-14.5 GHz and 29.5-30 GHz.¹ The experimental operations conducted under this license respond to potential and actual customer requirements, assess or demonstrate the viability of particular equipment and service configurations that are under development, and/or test different antenna products from various manufacturers in order to assess the performance of these products when integrated into the Hughes VSAT system.

This year’s experiments have continued study of airborne antennas. Hughes tested aeronautical Ka-band terminals to demonstrate the drive (ground vehicle) performance of the terminal for antenna tracking, Doppler shift performance, and terminal compensation of the end to link due to terminals in motion.² Hughes plans to conduct similar experimental testing in the future with terminals mounted on an airplane.

During the past year Hughes conducted on-the-move integration testing using a flat plan electrically steerable antenna system in receive-only mode, as well as range

¹ On April 28, 2016, Hughes filed a request (0090-EX-ML-2016) to: (1) modify the frequencies for operation from 29.5-30 GHz to 29.25-30 GHz; (2) add EchoStar 19 (Jupiter 2) as a point of communication; and (3) authorize as permitted experimental services aeronautical services. The Commission granted this modification application on May 31, 2016.

² Hughes conducted over the air and on-the-move integration and test phases using various parabolic antenna systems on both transmit and receive mode, as well as range tests in the Ka-band with various modems.

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tests in the Ka-band. Hughes has also completed testing with a single-panel Ku-band model in both transmit and receive mode through a Hughes VSAT modem system.

For fixed deployable testing using this license, Hughes qualified three models of automatically deployed systems which are integrated with a Hughes VSAT modem and gateway system. Hughes has successfully conducted testing at wide band Ka-band transmit and receive with electrical pole switching as well as external Ku-band lineal pole system.

The WE2XEW license has also supported the experiments discussed above by providing uplink facilities for these tests.

Please let me know if you have any questions regarding this required report or if any additional information is needed.

Respectfully submitted,

/s/ Deborah Broderson

Deborah Broderson

Communications Regulatory Counsel and Director