

EXHIBIT A
HNS License Sub, LLC
Modification of License Application
Response to Question 43
September 2011

NARRATIVE STATEMENT

HNS License Sub, LLC (“Hughes”) seeks to add a new 9.2m antenna to its Ka-band transmit/receive earth station license in Castle Rock, CO. Hughes also seeks to add three new 1.8m beacon uplink antennas – one in Brownsville, TX, and two in Las Vegas, NV – that will be used for beam pointing purposes. All four new antennas on the license for Call Sign E060382 will be used for TT&C functions for Hughes’s new Jupiter 107W satellite, which is scheduled to be launched in early 2012.

Compliance with §25.138(a) of the Commission’s Rules

Earth stations transmitting in the frequency band 29.5 to 30.0 GHz are required to meet the off-axis EIRP performance levels provided in Section 25.138(a) of the Commission’s Rules so as to prevent unacceptable interference into adjacent satellites. A detailed technical attachment explaining how Hughes intends to meet the limits given §25.138(a) during the routine operation of its TT&C carriers on the 9.2m antenna is included as Exhibit B to this application.

Hughes notes that with the requirement of a 40 kHz reference bandwidth, the beacon uplink stations will not meet the off-axis EIRP performance levels provided in Section 25.138(a) of the Commission’s Rules. Hughes has undertaken to coordinate the beacon carriers with all potentially affected adjacent satellite operators. Coordination is ongoing, and Hughes is prepared to accept as a condition of operation of the beacon stations that Hughes notify the Commission of the successful completion of coordination of these carriers.

Waiver Request

A partial waiver of data submission requirements is requested in order to allow for the measured data from the site-built 9.2m antenna. Details of the waiver request are included in Exhibit C of this application.

A waiver is not required for the Prodelin 1.8m antennas that will be used for the beacon uplinks. The same antenna is operated by Hughes under Call Sign E060445, and Hughes hereby incorporates by reference the antenna pattern information Hughes provided to the Commission from Prodelin in connection with File No. SES-LIC-20061226-02232. Hughes is prepared to resubmit this information upon Commission request.

Compliance with §25.209(a)

The TT&C antenna which will be deployed by Hughes is a 9.2 m GDSATCOM antenna that will meet the antenna performance mask provided in § 25.209(a) of the Commission's Rules. The off-axis levels in § 25.138(a) are also met.

The beacon antenna which will be deployed by Hughes is a 1.8 m Prodelin antenna that will meet the antenna performance mask provided in § 25.209(a) of the Commission's Rules. The off-axis levels in § 25.138(a) will not be met as was explained above.

Maximum EIRP Calculation

The TT&C transmit antenna will be operated in clear sky at a level not to exceed 69.7 dBW. However, during rain events, the uplink power control system has the capability of increasing the EIRP by 20 dB up to 89.7 dBW. EIRP levels above the clear sky level will only occur for brief periods of time so as to counteract the impact of precipitation. The uplink power control will only increase power to the extent necessary to maintain a constant received signal level at the satellite.

As the beacon transmitters are not equipped with uplink power control, their EIRP will not vary in the presence of precipitation. The value of 63 dBW will not be exceeded under any circumstance.

Remote Control

The NLV-2 and Brownsville beacon stations are to be remotely controlled from Hughes' North Las Vegas facility (site of NLV-1) by land line. Mr. McHargue, contact point for the NLV-1 station on the Schedule B portion of the FCC Form 312 application to which this exhibit is attached is the contact person for issues involving remote control of the NLV-2 and Brownsville stations.

Radiation Hazard Analysis

9.2m Antenna:

A radiation hazard analysis was done for a 9.2 meter antenna and 220 Watts of power applied at the flange, using the methodology from OET Bulletin 65. This antenna is located at the Intelsat teleport located in Castle Rock, CO and can only be approached by trained personnel. All areas where the radiation levels exceed 1 mWatt/cm² are inaccessible to the general public. Since this antenna is equipped with uplink power control, the peak power value of 220 Watts at the flange is only reached for short periods of time during rain.

The results of this analysis, which can be seen in Exhibit D-1, show that the maximum permissible exposure limit (MPE) for protection of trained personnel of 5 mW/cm² is met in the near field, transition region, far field, near the reflector surface and in the region between the reflector and the ground.

However, as is typical for all satellite antennas, the value of 5 mW/cm² is exceeded in the volume of space between the feed horn and the reflector. In order to prevent exposure to

radiation levels in excess of the MPE, technical personnel are trained not to perform maintenance in front of an antenna without having verified that the transmitter has been disabled.

1.8m Beacon Antennas

A radiation hazard analysis was done using the methodology from OET Bulletin 65 for the three 1.8 meter beacon antennas, each having 11.3 Watts of power applied at the flange. These antennas are located at the Hughes facility in North Las Vegas NV, television broadcast station in North Las Vegas and another broadcast station in Brownsville, TX. All three locations are situated such that they can only be approached by trained personnel. All areas where the radiation levels exceed 1 mWatt/cm² are inaccessible to the general public.

The results of this analysis, which can be seen in Exhibit D-2, show that the maximum permissible exposure limit (MPE) for protection of trained personnel of 5 mW/cm² is met in the near field, transition region, far field, near the reflector surface and in the region between the reflector and the ground.

However, as is typical for all satellite antennas, the value of 5 mW/cm² is exceeded in the volume of space between the feed horn and the reflector. In order to prevent exposure to radiation levels in excess of the MPE, technical personnel are trained not to perform maintenance in front of an antenna without having verified that the transmitter has been disabled.