

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 Fillmore, CA (Call Sign E060383). This new station will be used for back-up TT&C 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.

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.

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.

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.

Radiation Hazard Analysis

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 Fillmore, CA 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.