Exhibit A
U.S. Satellite Corporation
Call Sign E900470
Modification of License Application
February 2015

Description of application

U.S. Satellite Corporation hereby requests modification to its earth station license under Call Sign E900470 in the following respects:

A. Addition of 0.74 and 0.98 Meter Antennas

B. Addition of emission designators

A. Addition of 0.74 and 0.98 Meter Antennas

Please find attached the signed letter from Intelsat and by SES World Skies, describing the agreement for U.S. Satellite to use the 0.74 and 0.98 Meter Antennas on the Galaxy 18 Satellite at 123 degrees WL as a point of communications with transmit/receive antennas that are not strictly compliant with the FCC's two degree spacing requirements for off-axis side lobe gain.

Intelsat and USSC acknowledge that the use of the Hughes Network Systems non-conforming antennas will not cause unacceptable interference into adjacent satellites in accordance with the FCC's two degree spacing requirements and will not seek any additional protection compared to the case of an earth station employing an antenna conforming to the reference patterns defined in 25.209 of the FCC rules.

B. Addition of emission designators

U.S Satellite requests the addition of emission designators to is existing license for its 1.8 Meter antennas for the 7M00G7D and 14M00G7D emissions. All other aspects of this license remain unchanged.

Radiation Hazard Analysis

A radiation hazard analysis was conducted for a 74 centimeter and a 98 centimeter antenna with 2.0 Watts of power applied at the flange at 14 GHz, using the methodology from OET Bulletin 65. The results of this analysis, which can be seen in Exhibit B, shows that the maximum permissible exposure limit (MPE) for the protection of the general public of 1 mW/cm2 is exceeded on the 74 centimeter antenna at the near field area and at the reflector surface. On the 98 centimeter antenna, this limit is exceeded at the reflector surface.

The value of 5 mW/cm2 is not exceeded with either the 74 or 98 centimeter antennas in the occupational/Controlled enviroment.

The general public will be protected from any access to these areas through the use of either a fenced enclosure around the antenna, a pole mount or an installation on the roof of our buildings. Technical personnel are protected from these areas through training and the transmitter is disabled before performing maintenance in the area surrounding the terminal.

Exhibit B
U.S. Satellite Corp.
Call Sign: E900470
Request For Modification for 98cm Antennas

U.S. Satellite Corp.
935 W. Bullion St.
Murray, UT 84123-5401 U.S.A.
801-268-5839 FAX: 801-268-5880
Contact: John Lloyd (lloyd@ussc.com)

Radiation Hazard Calculations for 0.98 meter Earth Station

Nomenclature	Formula	Value	Unit(s)
Input Parameters			
M = Antenna Aperture (Major Axis)		0.98	Meters
m = Antenna Aperture (Minor Axis)		0.98	Meters
d = Diameter of Feed Mouth		0.035	Meters
f = Frequency		14.250	GHz
P = Maximum power into Antenna		2.0	Watts
n = Aperture Efficiency		62.80%	
k = Wavelength @ f (f=14.250 GHz)		0.0210	Meters
Calculated Values			
A = Area of Reflector	Π * M * m / 4	0.75	$Meters^2$
l = Length of Near Field	$M^2 / (4k)$	11.43	Meters
L = Beginning of Far Field	$0.6M^2/k$	27.44	Meters
G = Antenna Gain @ f (14.250 GHz)	$n (4 * \Pi * A)/k^2$	(13492) = 41.3	dbi
a = Area of Feed Mouth	$\Pi * d^2/4$	0.0010	$Meters^2$
Power Density Calculations			
	Maximum Power Density In Region		**Occupational/Controlled Hazard Assessment**
	Formula	**Value (mw/cm^2)**	**(FCC MPE Limit >= $5mw/cm^2$)**
1) Near Field	4nP/A	0.67	< FCC MPE Limit
2) Far Field	$GP/(4\Pi L^2)$	0.29	< FCC MPE Limit
3) Transition	<= Near Field Region	0.67	< FCC MPE Limit
4) Near Reflector Surface	4P/A	1.06	< FCC MPE Limit
5) Between Reflector and Ground	P/A	0.27	< FCC MPE Limit
6) Between Reflector and Feed	4P/a	831.5	> FCC MPE Limit (See Exhibit A)
	Maximum Power Density In Region		**General Population/UnControlled Hazard Assessment**
	Formula	**Value (mw/cm^2)**	**(FCC MPE Limit >= $1mw/cm^2$)**
1) Near Field	4nP/A	0.67	< FCC MPE Limit
2) Far Field	$GP/(4\Pi L^2)$	0.29	< FCC MPE Limit
3) Transition	<= Near Field Region	0.67	< FCC MPE Limit
4) Near Reflector Surface	4P/A	1.06	> FCC MPE Limit (See Exhibit A)
5) Between Reflector and Ground	P/A	0.27	< FCC MPE Limit
6) Between Reflector and Feed	4P/a	831.5	> FCC MPE Limit (See Exhibit A)

Exhibit B
U.S. Satellite Corp.
Call Sign: E900470
Request For Modification for 74cm Antennas

U.S. Satellite Corp.
935 W. Bullion St.
Murray, UT 84123-5401 U.S.A.
801-268-5839 FAX: 801-268-5880
Contact: John Lloyd (lloyd@ussc.com)

Radiation Hazard Calculations for 0.74 meter Earth Station

Nomenclature	Formula	Value	Unit(s)
Input Parameters			
M = Antenna Aperture (Major Axis)		0.74	Meters
m = Antenna Aperture (Minor Axis)		0.56	Meters
d = Diameter of Feed Mouth		0.035	Meters
f = Frequency		14.250	GHz
P = Maximum power into Antenna		2.0	Watts
n = Aperture Efficiency		64.97%	
k = Wavelength @ f (f=14.250 GHz)		0.0210	Meters
Calculated Values			
A = Area of Reflector	Π * M * m / 4	0.33	$Meters^2$
l = Length of Near Field	M^2 / (4k)	6.5	Meters
L = Beginning of Far Field	$0.6M^2/k$	15.6	Meters
G = Antenna Gain @ f (14.250 GHz)	n $(4 * \Pi * A)/k^2$	(6020) = 37.8	dbi
a = Area of Feed Mouth	$\Pi * d^2/4$	0.0010	$Meters^2$
Power Density Calculations			
	Maximum Power Density In Region		**Occupational/Controlled Hazard Assessment**
	Formula	**Value (mw/cm^2)**	**(FCC MPE Limit >= $5mw/cm^2$)**
1) Near Field	4nP/A	1.60	< FCC MPE Limit
2) Far Field	$GP/(4\Pi L^2)$	0.39	< FCC MPE Limit
3) Transition	<= Near Field Region	1.60	< FCC MPE Limit
4) Near Reflector Surface	4P/A	2.46	< FCC MPE Limit
5) Between Reflector and Ground	P/A	0.62	< FCC MPE Limit
6) Between Reflector and Feed	4P/a	831.5	> FCC MPE Limit (See Exhibit A)
	Maximum Power Density In Region		**General Population/UnControlled Hazard Assessment**
	Formula	**Value (mw/cm^2)**	**(FCC MPE Limit >= $1mw/cm^2$)**
1) Near Field	4nP/A	1.60	> FCC MPE Limit (See Exhibit A)
2) Far Field	$GP/(4\Pi L^2)$	0.39	< FCC MPE Limit
3) Transition	<= Near Field Region	1.60	> FCC MPE Limit (See Exhibit A)
4) Near Reflector Surface	4P/A	2.46	> FCC MPE Limit (See Exhibit A)
5) Between Reflector and Ground	P/A	0.62	< FCC MPE Limit
6) Between Reflector and Feed	4P/a	831.5	> FCC MPE Limit (See Exhibit A)