Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Intelsat License LLC	)	
	)	File Nos. SAT-MOD-20110420-00073
Application to Modify Authorization to Relocate Galaxy 26 to 50.0° E.L.	)	SAT-STA-20110314-00053
	)	SAT-STA-20110727-00137
	)	
Request for Special Temporary Authority for Galaxy 26	)	Call Sign S2469
	)	
	)	

REQUEST TO FILE SURREPLY AND SURREPLY

Intelsat License LLC ("Intelsat"), by its attorneys, and pursuant to Section 1.3 of the Commission's rules,[1] requests leave to file this brief surreply to the reply comments of Al Yah Satellite Communications Company PrJSC ("Yahsat") regarding the above-referenced application for modification to operate the Galaxy 26 satellite (call sign S2469) at the 50.0° E.L. orbital location. There is good cause to grant leave to file this surreply to provide an interference analysis requested by Yahsat and thus provide the Commission a more complete record.

As the Commission is aware, Intelsat is currently providing U.S. government end-users in theater capacity on Galaxy 26 at 50.0° E.L. on a non-interference basis pursuant to a grant of special temporary authority.[2] Intelsat continues to be involved in discussions with Yahsat regarding the transmission parameters of the U.S. government end-users served by the Galaxy 26 satellite at 50.0° E.L. that are compatible with current and future operations of the Yahsat-1A

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[1] 47 C.F.R. § 1.3.

[2] *Policy Branch Information Actions Taken*, Report No. SAT-00787, DA 11-1068, File No. SAT-STA-20110314-00053 (Jun. 17, 2011) (Public Notice).

satellite at 52.5° E.L. To ensure that Yahsat-1A is protected, Intelsat has agreed to operate Galaxy 26 pursuant to a condition requiring operation on a non-interference, non-protected basis.[3]

Nevertheless, in Yahsat's July 1, 2011 Reply Comments, Yahsat emphasized that Intelsat had failed to demonstrate that its proposed operations would be compatible with those of Yahsat-1A.[4] In fact, Intelsat has submitted such a demonstration to Yahsat during coordination discussions that are being held between the two operators.[5] However, Intelsat understands Yahsat's reply comments to mean that it would prefer to have this showing included in the record of this proceeding. To that purpose, Annex 1 contains link budgets for transmissions on the Yahsat-1A East beam, which is the Yahsat satellite beam with more overlap with the Galaxy 26 beam. This analysis confirms that the operations of Intelsat's Galaxy 26 satellite at 50.0° E.L. adequately protect the operations of the Yahsat-1A satellite.

Moreover, with respect to the ongoing coordination discussions, Yahsat states that there "is no substitute for the completion of such negotiations prior to grant of the requested license modification, particularly when there is no record basis for believing that such coordination can be achieved."[6] Intelsat certainly does not agree that completion of coordination be an absolute requirement to grant because such requirement would give excessive power to the party from which coordination has to be obtained. For this very reason, the ITU Radio Regulations allow for operation and recording of frequency assignments without completion of coordination, and in

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[3] *See* Response of Intelsat License LLC at 2, File Nos. SAT-MOD-20110420-00073 and SAT-STA-20110314-00053 (filed Jun. 21, 2011) ("Response of Intelsat").

[4] Reply Comments of Al Yah Satellite Communications Company PrJSC, File Nos. SAT-MOD-20110420-00073 and SAT-STA-20110314-00053 (filed Jul 1, 2011) ("Yahsat Reply Comments").

[5] *See* Response of Intelsat at 2.

[6] Yahsat Reply Comments at 2.

particular, for operation in ITU BSS Plan frequencies, see No. 4.1.18 of Appendix 30 of the ITU Radio Regulations. Moreover, granting the requested authorization prior to completion of coordination, subject to a condition requiring operation on a non-interference, non-protected basis, would be consistent with precedent.[7]

Respectfully submitted,

Wiley Rein LLP

By: */s/ Jennifer D. Hindin*

Jennifer D. Hindin
Colleen King
Wiley Rein LLP
1776 K Street NW
Washington, DC 20006
TEL: 202.719.7000
FAX: 202.719.7049

Counsel for Intelsat License LLC

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[7] *See e.g., Intelsat North America, LLC Application to Modify the INTELSAT 602*, Order, 20 FCC Rcd 11833 (2005).

ANNEX 1

Three different situations were considered for the location of the Yahsat-1A receive earth station antenna: (i) peak of the Galaxy 26 beam; (ii) peak of the Yahsat-1A beam; (iii) on the 49 dBW Yahsat-1A contour as close as possible to the Galaxy 26 peak. In all cases, a 0.60 cm receive earth station diameter was assumed, despite the fact that in an earlier exchange of information Yahsat had quoted a minimum earth station antenna diameter of 0.65 cm. In view of the fact that Yahsat has not been able to provide Intelsat with a specific link budget for their planned transmissions, a sensitive carrier (8-PSK) with usual coding has been assumed in the link budgets.

The peak downlink EIRP density for the Galaxy 26 is taken to be -33 dBW/Hz over the interfered carrier bandwidth. Intelsat is currently operating in such a way not to exceed this level and the results presented in Annex 1 confirm that adequate protection is being provided to Yahsat-1A.

Figure 1 shows the downlink EIRP contours for Yahsat-1 East beam and the Galaxy 26 downlink EIRP density contours, assuming that at beam peak Galaxy 26 is limited to -33 dBW/Hz.

The three considered locations for the Yahsat-1A receive earth station are identified in Figure 1: Galaxy 26 beam peak; Yahsat-1A beam peak; 49 dBW Yahsat-1A EIRP contour as close as possible to the Galaxy 26 beam peak.

Table 1 includes link budgets for each of these receive earth station locations corresponding to clear sky and degraded conditions. The 60 cm antenna has a clear sky G/T of 15.8 dB/K.

It is assumed that Yahsat-1A is transmitting an 8-PSK carrier with a 27.5 MHz noise bandwidth with a required C/N of 8.8 dB.

The link budgets show that for a 99.7% availability there is still significant margin in the links with the highest margin corresponding, as expected, to the situation where the receive earth station is at the Yahsat-1A beam peak.

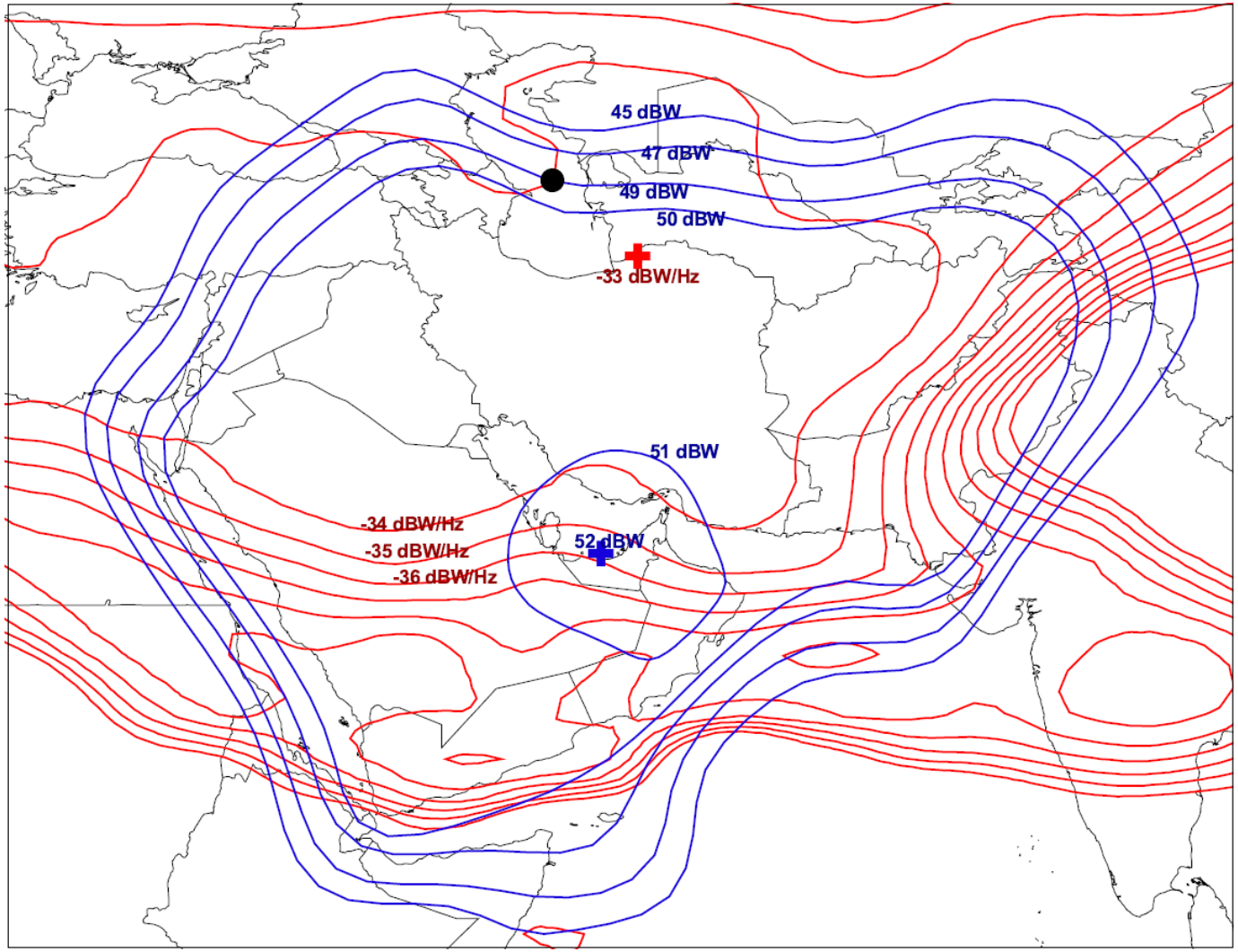

Figure 1. Yahsat-1A East Beam Downlink EIRP Contours (blue) and Galaxy 26 Downlink EIRP Density Contours (red) - Peak Value is Limited to -33 dBW/Hz.

Table 1. Link Budgets Analyzing Interference from Galaxy 26 to Yahsat-1A Downlink

Satellite Information	Clear Sky	Degraded	Clear Sky	Degraded	Clear Sky	Degraded
Satellite Longitude (degrees)	52.5	52.5	52.5	52.5	52.5	52.5
Uplink Beam Name	East	East	East	East	East	East
Uplink Frequency	17.443	17.443	17.443	17.443	17.443	17.443
Uplink Beam Polarization (0=H, 90=V)	0	0	0	0	0	0
G/T (peak)	6.5	6.5	6.5	6.5	6.5	6.5
G/T (at Abu Dhabi, dB/K)	4.1	4.1	4.1	4.1	4.1	4.1
Attenuation setting (dB)	13.6	13.6	13.6	13.6	13.6	13.6
SFD (peak)	-87.0	-87.0	-87.0	-87.0	-87.0	-87.0
SFD (at ES, dBW/m2)	-84.6	-84.6	-84.6	-84.6	-84.6	-84.6
Downlink Beam Name	East	East	East	East	East	East
Downlink Frequency	11.843	11.843	11.843	11.843	11.843	11.843
Downlink Beam Polarization (0-H, 90=V)	90	90	90	90	90	90
Downlink EIRP (Beam Peak, dBW)	52.1	52.1	52.1	52.1	52.1	52.1
Carrier Information						
Bits/Symbol	3	3	3	3	3	3
Info Rate + Overhead (Mbit/s)	61.85	61.85	61.85	61.85	61.85	61.85
Codec incl. RS	0.75	0.75	0.75	0.75	0.75	0.75
RS:	1.00	1.00	1.00	1.00	1.00	1.00
Noise Bandwidth (MHz)	27.489	27.489	27.489	27.489	27.489	27.489
Eb/No required (dB)	5.3	5.3	5.3	5.3	5.3	5.3
C/N required (dB)	8.8	8.8	8.8	8.8	8.8	8.8
Total Availability		99.700		99.700		99.700
D/L Availability		99.700		99.700		99.700
Transmit Earth Station						
Antenna Diameter (m)	5.6	5.6	5.6	5.6	5.6	5.6
E/S Longitude	55.3	55.3	55.3	55.3	55.3	55.3
E/S Latitude	25.3	25.3	25.3	25.3	25.3	25.3
E/S Elevation angle	60.3	60.3	60.3	60.3	60.3	60.3
Range	36500.6	36500.6	36500.6	36500.6	36500.6	36500.6
Rain Rate (mm/hr)	10.5	10.5	10.5	10.5	10.5	10.5
Peak Antenna Gain (dBi)	58.3	58.3	58.3	58.3	58.3	58.3
S/C Relative Gain from Peak towards E/S (dB)	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
Receive Earth Station	G-26 PEAK	G-26 PEAK	Y1A Peak	Y1A Peak	Y1A 49 dBW	Y1A 49 dBW
Antenna Diameter (m)	0.60	0.60	0.60	0.60	0.60	0.60
E/S Longitude	55.0	55.0	53.5	53.5	51.3	51.3
E/S Latitude	37.5	37.5	24.2	24.2	41.0	41.0
E/S Elevation angle	46.4	46.4	61.7	61.7	42.6	42.6
Range	37304.5	37304.5	36434.9	36434.9	37576.2	37576.2
Rain Rate (mm/hr)	12.0	12.0	8.6	8.6	14.6	14.6
Peak Antenna Gain (dBi)	35.6	35.6	35.6	35.6	35.6	35.6
D/Lamda	24.7	24.7	24.7	24.7	24.7	24.7
S/C Relative Gain from Peak towards E/S (dB)	-1.8	-1.8	0.0	0.0	-3.1	-3.1
System (LNA_Sky) Noise Temp	89.6	89.6	89.6	89.6	89.6	89.6
Temperature due to rain fade and gases	5.0	26.0	5.3	20.5	6.0	30.8
G/T of ES (dB/K)	15.8	14.9	15.8	15.1	15.8	14.8
C/N Uplink Per Carrier						
Uplink EIRP per carrier (ES, dBW)	77.9	77.9	77.9	77.9	77.9	77.9
Pathloss at uplink frequency (dB)	208.5	208.5	208.5	208.5	208.5	208.5
Uplink gazeous atttenuation (dB)	0.2	0.2	0.2	0.2	0.2	0.2
Gain of 1 m2 antenna (dB)	46.3	46.3	46.3	46.3	46.3	46.3
C/N uplink, thermal (ES, dB)	27.4	27.4	27.4	27.4	27.4	27.4
C/N Downlink Per Carrier						
Transponder BP saturation EIRP (dBW)	52.1	52.1	52.1	52.1	52.1	52.1
Carrier EIRP towards ES (dBW)	50.3	50.3	52.1	52.1	49.0	49.0
Pathloss at downlink frequency (dB)	205.3	205.3	205.1	205.1	205.4	205.4
Downlink gazeous attenuation (dB)	0.1	0.1	0.1	0.1	0.1	0.1
Downlink rain attenuation (dB)	0.0	0.3	0.0	0.2	0.0	0.4
ES G/T (dB/K)	15.8	14.9	15.8	15.1	15.8	14.8
C/N downlink, thermal (ES, dB)	14.9	13.7	16.8	16.0	13.4	12.0
C/I Up (Reuse)	30.1	30.1	30.1	30.1	30.1	30.1
C/I Down (Reuse)	30.1	30.1	30.1	30.1	30.1	30.1
C/N ESA HPA IM	25.9	25.9	25.9	25.9	25.9	25.9
C/IM	200.0	200.0	200.0	200.0	200.0	200.0
C/I Other links (re-use+HPA+TWTA IM)	23.4	23.4	23.4	23.4	23.4	23.4
INTERFERING SATELLITE G-26 at 50E						
Orbital Separation (degrees)	2.64	2.64	2.64	2.64	2.64	2.64
G (BO-1213) (dBi)	24.9	24.9	24.9	24.9	24.9	24.9
Interfering Uplink power density (dBW/Hz)	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0
Interfering D/L eirp density (dBW/Hz)	-33.0	-33.0	-36.0	-36.0	-34.0	-34.0
C/I ASI uplink (dB)	981.6	981.6	981.6	981.6	981.6	981.6
C/I ASI downlink (dB)	19.5	19.5	24.3	24.3	19.2	19.2
Total C/N						
C/N available per carrier (dB)	13.0	12.2	15.1	14.5	12.0	10.9
Other losses (dB)	0.5	0.5	0.5	0.5	0.5	0.5
C/N total (clear-sky, dB)	12.5	11.7	14.6	14.0	11.5	10.4
Uplink PSD (dBW/Hz)	-54.9	-54.9	-54.9	-54.9	-54.9	-54.9
ESD at beam peak (dBW/Hz)	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3

Certification Statement

I hereby certify that I am a technically qualified person and am familiar with Part 25 of the Commission's Rules and Regulations. The contents of Annex 1 were prepared by me or under my direct supervision and to the best of my knowledge are complete and accurate.

/s/ Jose Albuquerque	August 3, 2011
Jose Albuquerque	Date
Intelsat	
Senior Director	
Spectrum Strategy	

CERTIFICATE OF SERVICE

I hereby certify that, on this 3rd day of August, 2011, a copy of the foregoing Request to File Surreply and Surreply was served by U.S. first-class mail upon:

Joslyn Read
Vice President, Regulatory Affairs
New Skies Satellites B.V.
1129 20TH St., NW, Suite 1000
Washington, DC 20036

Karis A. Hastings
Hogan Lovells US LLP
555 13th Street, N.W.
Washington, DC 20004-1109
Counsel for New Skies Satellites B.V.

John P. Janka
Jarrett S. Taubman
LATHAM & WATKINS LLP
555 11th St., NW, Suite 1000
Washington, DC 20004
Counsel to Al Yah Satellite Communications Company PrJSC

Robert Nelson*
Karl Kensinger*
Kathyrn Medley*
Stephen Duall*
International Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

* (via electronic mail)

/s/ Pam Conley
Pam Conley