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September 7, 2007

**BY HAND DELIVERY**

Marlene H. Dortch  
Office of the Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

FILED/ACCEPTED

SEP - 7 2007

Federal Communications Commission  
Office of the Secretary

Re: *FCC File No. SAT-MOD-20070626-00086*

Dear Ms. Dortch:

DIRECTV Enterprises, LLC ("DIRECTV") filed an application in the above referenced proceeding to modify its authorization to launch and operate the DIRECTV 10 Ka-band satellite. After discussions with the International Bureau staff, DIRECTV wishes to clarify one aspect of that application, related to the telemetry, tracking and command operations discussed in Exhibit A to the application. Accordingly, DIRECTV submits herewith a slightly revised Exhibit A that contains the necessary technical clarifications.

If you have any questions, please do not hesitate to contact me.

Sincerely yours,

A handwritten signature in black ink that reads "William M. Wiltshire".

William M. Wiltshire  
*Counsel for DIRECTV Enterprises, LLC*

Enclosure

## EXHIBIT A

### DIRECTV 10 TT&C Subsystem

The TT&C subsystem provides redundant telemetry, tracking, and command channels for the spacecraft. The principal functions of the subsystem are:

1. Reception and amplification of the radio frequency command uplinks and demodulation of baseband for subsequent signal processing and command distribution.
2. Modulation, up-conversion, amplification, and transmission of all telemetry data.
3. Reception and retransmission of ground-station-generated ranging signals.
4. Reception of pointing beacon for maintaining proper spot beam alignment

The subsystem is configurable to accommodate the unique requirements of pre-launch, orbit raising, and on-station synchronous orbit operations. The command and telemetry frequencies and polarizations for DIRECTV 10 are as shown in the Table 1 below for the spacecraft during transfer orbit and on station operations.

Transfer Orbit Command (MHz)/Pol		On-Station Command (MHz)/Pol		Telemetry (MHz)/Pol	
Pipes	Bicone	Nominal	Backup	TM 1	TM 2
29,251 LHCP	29,493 LHCP	29,251 LHCP	29,493 LHCP	18,300.25 RHCP	18,300.75 LHCP

**Table 1. DIRECTV 10 Command and Telemetry Frequencies & Polarizations**

The pointing beacon and command link performance is summarized in the link budget analysis in Table 2 below. Note that the telecommand and beacon are transmitted using the same carrier. The beacon is always transmitted, in order to maintain proper pointing of the DIRECTV 10 antenna beams. This beacon signal is modulated with tones producing approximately  $\pm 80$  kHz of frequency modulation. This beacon carrier is also modulated with command data when satellite commands are transmitted to the spacecraft

and this command data modulates the carrier to a width of approximately 1.3 MHz. The emission designators associated with the TT&C subsystem are 1M30F9D for command, 106KG9D for telemetry, and 160KF3N for beacon with associated allocated bandwidths of 1.3 MHz, 106 kHz and 160 kHz for each of these emissions, respectively.

	Command		Pointing Beacon	
	Rain	Clear	Rain	Clear
Command EIRP (dBW)	81.0	76.0	81.0	76.0
Free Space Loss (dB)	213.3	213.3	213.3	213.3
Gaseous Atten. (dB)	0.4	0.4	0.4	0.4
Rain Fade (dB)	4.5		4.5	
Received isotropic power @ Spacecraft (dBW)	-137.2	-137.7	-137.2	-137.7
Required RIP (dBW)	-148.9	-148.9	-147.9	-147.9
Margin (dB)	11.7	11.2	10.7	10.2

**Table 2. DIRECTV 10 Command and Beacon Link Budget**

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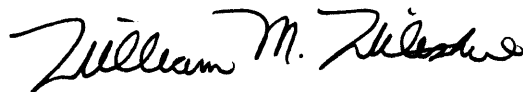
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