

**Rainbow DBS Company LLC
Statement Regarding Condition 8
For its Ka-band Licenses**

Received

APR 13 2004

Policy Branch
International Bureau

**Re: SAT-LOA-20030827-00172
SAT-LOA-20030827-00248
SAT-LOA-20030827-00175
SAT-LOA-20030827-00249
SAT-LOA-20030827-00173**

A. Introduction

On November 21, 2003, Rainbow DBS Company LLC (Rainbow) was granted authorizations by the FCC to launch and operate four satellites in systems that would use Ka-band frequencies. These satellites would be at 62°WL, 129°WL, 71°WL and 119°WL in the GSO. On January 5, 2004, Rainbow was granted authorization for a fifth satellite (at 77°WL) to employ Ka-band frequencies. Condition 8 of each of those authorizations requires Rainbow to submit a statement regarding measures that would be taken to prevent in-orbit collisions with other satellites in the GSO. Specifically, the Condition requires Rainbow to consider methods for the avoidance of collisions with satellites:

Located at, or planned to be located at the Rainbow assigned orbit locations, or assigned in the vicinity of the Rainbow locations such that the station-keeping volume of the respective satellites might overlap.

B. The In-Orbit Situation

In order to determine the satellites that need to be considered, Rainbow examined the lists¹ of FCC licensed satellite systems as well as those under consideration by the FCC. In addition, Rainbow examined the on-line database of the ITU-R² and reviewed the expected launch manifest of the 2003 Commercial Space Transportation Forecast of the Federal Aviation Administration (May 2003).

¹ See IBFS Reports at www.fcc.gov.

² See "SNS on-line" at www.itu.int.

Based on these sources, the table below was prepared.

<u>Rainbow Location</u>	<u>In-Orbit Satellites</u>	<u>Possible Future In-Orbit Satellites</u>	
62°WL	None	62°WL	TDRS-62W
129°WL	128.98°WL Telesat 7	129°WL	LM-RPS-129W ³
		129°WL	CAN-BSS-129
71°WL	None	71°WL	F-SAT-12 KA ⁴
119°WL	118.71°WL ANIK E1	118.7°WL	CANSATKA-5X ⁵
	118.92°WL Echostar 7	118.8°WL	CANSAT-14
	119.07°WL Echostar 5	119°WL	USABSN-11
	119.18°WL DirecTV 5	119°WL	Echostar EX-1
		119°WL	DirecTV 7.S
		119°WL	PAS-ENDEAVOR-119W ⁶
77°WL	None	77°WL	Spectrum Astro ⁷
		77°WL	Telestar 4 (applied for on 11/1/99)
		77°WL	GIFTS-IOMI-1

In addition to the satellites identified above, there are several non-U.S., in-orbit satellites that are outside the “trigger” of the license condition, but are sufficiently close to the Rainbow orbit locations to pose an in-orbit collision threat if they do not adhere to the ITU station-keeping limit of $\pm 0.1^\circ$. Rainbow will monitor the station-keeping performance of these satellites during the construction program of its satellites. If it appears that problems might occur, the coordination program (outlined below) will be extended to these satellites.

C. Avoidance Methods

Based upon its experience with Echostar regarding 61.5°WL, Rainbow expects to be able to achieve station-keeping, coordination agreements with the identified in-orbit satellites. This activity will start approximately two years prior to the expected launch of each Rainbow satellite. In the interim time period, Rainbow will periodically monitor the

³ The ITU-R database lists this satellite at 129°WL but the FCC Pending Application List includes both the applications for launch authority (4/27/99) and its amendment (7/30/03) as requesting 125°WL.

⁴ And other filings by France in the ITU-R database at the same location.

⁵ And several additional ITU-R filings at this location by Canada for differing frequencies.

⁶ And one additional filing by Australia in the ITU-R database.

⁷ FCC Application of 9/26/97 for V-band satellite.

FCC and ITU-R databases and the FAA launch forecast to determine if additional satellites will be launched that will create a potential in-orbit collision threat and therefore require additional coordinations. To the extent any coordination arrangements would require any changes (offsets) to Rainbow's assigned orbital locations, Rainbow will seek any necessary modifications to its authorizations from the Commission.

In addition, Rainbow is concerned about the potential collision threat posed by uncontrolled, inert objects that are in, or move through the equatorial GSO. Thus, Rainbow intends to conduct discussions with entities that offer a "warning" service for such threats. It is also suggested that the Commission establish a liaison link with NTIA regarding U.S. Government satellites that appear to pose an in-orbit collision threat to FCC-licensed satellites.

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