

0418-EX-ST-1999

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December 1, 1999

**BY HAND DELIVERY**

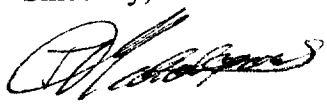
Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
Experimental Radio Services  
P.O. Box 358320  
Pittsburgh, PA 15251-5320

**Re: Request for Special Temporary Authorization**

Dear Ms. Salas:

On behalf of DIRECTV, Inc. and EchoStar Satellite Corporation (collectively, the "DBS Operators"), enclosed please find an original and four copies of a request for special temporary authorization ("STA") to test for 120 days the interference caused to typical Direct Broadcast Satellite ("DBS") receivers from the system proposed by Diversified Communications Engineering, Inc. ("Northpoint") in the 12.2-12.7 GHz band, which is allocated on a primary basis to the DBS service. In addition, enclosed is a FCC Form 159 and a check for \$45.00 to cover the filing fee for this request.

Also, enclosed please find an additional copy of this STA request to be date-stamped and returned with our messenger. If you have any questions concerning this request, please do not hesitate to contact me.

Sincerely,  
  
Pantelis Michalopoulos

Enclosures

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of )  
 )  
Request for Special Temporary )  
Authorization to test for 120 days the )  
interference caused to typical )  
Direct Broadcast Satellite receivers )  
from the system proposed by )  
Diversified Communications )  
Engineering, Inc. in the )  
12.2-12.7 GHz band )  
 )

File No. \_\_\_\_\_

**REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION**

In accordance with Section 5.56 of the Commission's Rules, 47 C.F.R. § 5.56, DIRECTV, Inc. and EchoStar Satellite Corporation (collectively, the "DBS Operators") hereby request a special temporary authorization ("STA") to test for 120 days the interference caused to typical Direct Broadcast Satellite ("DBS") receivers from the system proposed by Diversified Communications Engineering, Inc. ("Northpoint") in the 12.2-12.7 GHz band, which is allocated on a primary basis to the DBS service. As the DBS operators have shown, the limited testing performed to date by Northpoint under an experimental authorization similar to that requested here (File No. 0094-EX-ST-1999) was designed and implemented in such a manner as to minimize the measurable interference to DBS from Northpoint's operation. Among other things, Northpoint located its main transmitter at the USA Today building in Rosslyn, Virginia and oriented it in a southeasterly direction, meaning that the most heavily affected area coincided

with the Potomac River and uninhabited parklands.<sup>1</sup> While this “gerrymandered” testing may permit conclusions about the lack of DBS subscribers afloat the nation’s rivers, it certainly cannot be the basis for nationwide licensing of Northpoint’s proposed service.

The DBS operators have shown that, *first*, Northpoint’s own measurements during its testing show the presence of harmful interference if one sets aside Northpoint’s unscientific averaging methodology, whereby a DBS subscriber should take comfort from his neighbor receiving a better signal. *Second*, the DBS operators have established that the limited measurements they were afforded the opportunity to make showed much worse results – harmful interference exceeding by as many as 15 times any reasonable criterion.<sup>2</sup>

In any event, it is clear that more data are necessary for the Commission to be able to reach intelligent conclusions about the precise extent of interference from Northpoint into the DBS service. It is also clear that the issues need to be joined at the technical level through

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<sup>1</sup> Northpoint itself admits that “the tiny area within the 15 dB contour is completely located in the Potomac River,” and that, while a portion of the 20 dB contour falls over land, “it is important to note that this area is primarily uninhabited . . . .” Northpoint October 1999 Report at 4-5. In the face of these admissions, it is at least curious that Northpoint would be using the test to argue that “not a single EchoStar customer complained of harmful interference during the Northpoint testing in the Washington, D.C. area.” See November 8, 1999 Letter from Antoinette Cook Bush to Magalie Roman Salas at 2.

<sup>2</sup> In a recent submission, Northpoint tries to dismiss these measurements as a “fluke” based on the fact that one of the DBS operators’ measurements showed “only a three count change” and thus, according to Northpoint, “contradicts” the DBS operators’ other reading of an *eight* count reduction in the DBS signal. See November 8, 1999 Northpoint Letter at 3. Aside from the fact that even a decrease of “only” three counts corresponds to almost three times the interference allowed into DBS systems from the aggregate of all non-geostationary satellites, such arguments are consistent with Northpoint’s averaging theory: Northpoint would ignore a measurement of harmful interference if the DBS signal is degraded less at some other time or in some other place.

tests conducted by the DBS operators and based on parameters established by those operators. For these tests to yield useful information, use of a Northpoint transmit antenna is necessary. By letter being sent to Northpoint's counsel, the DBS operators are requesting the temporary use of such an antenna. The DBS operators request authority to conduct their testing for a period of 120 days starting from the date on which Northpoint provides the requested equipment. The initial sites selected by the DBS operators are located in the Washington, D.C. metropolitan area and in the vicinity of Denver, Colorado, and are identified below.

Specifically, the DBS operators' tests will be based on the following principles:

- The DBS operators will be in control of the test transmitter so that they fully understand its technical characteristics, and the features of the test installation. DBS operators will also be in control (and have knowledge of) both the transmitted signal level and the transmitter "on and off" times.
- The test transmitter should use the actual Northpoint transmit antenna so as to ensure that its sidelobe characteristics are truly representative of the antennas Northpoint is proposing to deploy. Northpoint should define the range of possible azimuth pointing directions and the range of beam tilt angles (elevation), relative to the horizontal, for this antenna that are the basis of Northpoint's proposed system.
- The site chosen for the test transmitter should be one that permits full access up to quite close range for the DBS test receivers in all azimuth directions (some exceptions to this could be permitted provided they were for very limited ranges of azimuth directions).
- The structure on which the test transmit antenna is installed should be such that there is no building blockage in any azimuth direction and for quite high elevation angles from the DBS test antennas to the test transmitter (some exceptions could be permitted provided they were for very limited ranges of azimuth directions).

In accordance with Sections 5.56, 5.57 and 5.202 of the Commission's Rules, 47 C.F.R. §§ 5.56-5.57, 5.202, the following information is provided in support of this STA request:

1) Name and Address of the Applicant:

EchoStar Satellite Corporation  
5701 South Santa Fe  
Littleton, CO 80120  
Telephone: (303) 723-1000

DIRECTV, Inc.  
2230 East Imperial Highway  
El Segundo, CA 90245  
Telephone: (310) 535-5000

Technical Contact:

Ed Petruzzelli  
Director of RF Technology  
EchoStar Technologies Corporation  
90 Inverness Circle East  
Englewood, CO 80112

Jim Butterworth  
Vice President, Space and Communications  
DIRECTV, Inc.  
2230 E. Imperial Highway  
El Segundo, CA 90245

2) Need for Special Action:

The Commission has issued a Notice of Proposed Rulemaking concerning operations in the Ku band and terrestrial use of the 12.2-12.7 GHz band. See Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-band Frequency Range and Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates, 14 FCC Rcd. 1131 (1998). The testing proposed in this STA will provide the necessary data to supplement the record of that proceeding, where other measured data have been found insufficient. Without such

authority, the DBS operators will not be able to provide these technical data in a timely manner.

3) Type of Operation:

Continuous.

4) Purpose of Operation:

Operation of a ubiquitous co-frequency terrestrial system in the 12.2-12.7 GHz band could cause devastating interference problems for the DBS service, which is primary in that band. Through its tests, Northpoint has tried to show that its proposed service will not cause any interference to DBS providers. These tests, however, were fundamentally flawed. See Emergency Petition of EchoStar and DirecTV (filed Sept. 22, 1999); EchoStar Preliminary Report on the Impact of Northpoint on the Direct Broadcast Satellite Service Based Upon Testing Performed to Date (filed Oct. 19, 1999). DBS operators should be permitted to conduct their own tests of Northpoint's technology before the Commission draws any conclusions concerning interference caused by Northpoint's proposed system.

5) Dates of Operation:

The duration of the planned tests will be 120 days starting from the date on which Northpoint supplies the requested equipment.

6) Class of Station:

Experimental.

7) Location of Operation:

The test transmitters will be located at the following sites:

Denver, Colorado  
KPXC -TV, Channel 59 transmission tower  
Latitude: North 39 degrees, 40' 27.8"  
Longitude: West 104 degrees, 52' 41.6"  
Tower Height: 320'  
Ground Elevation: 5546' AMSL

1330 Connecticut Avenue, NW  
Washington, DC 20036  
Latitude: North 38 degrees 54' 27"  
Longitude: West 77 degrees 2' 33"  
Building Height: 213'  
Ground elevation: 55' AMSL

1001 Pennsylvania Avenue, NW  
Washington, DC  
Latitude: North 38 degrees 53' 40"  
Longitude: West 77 degrees 1' 36"  
Building Height: 215'  
Ground elevation: 55' AMSL

1530 Wilson Blvd.  
Arlington, VA 22209  
Latitude: North 38 degrees 53' 39"  
Longitude: West 77 degrees 4' 11"  
Building Height: 62'  
Ground elevation: 391' AMSL

As needed, additional sites may be added. The DBS Operators will identify and take all necessary steps to extend their testing to any such sites.

8) Equipment to be Used:

The equipment to be used for the test transmissions will consist of:

- Digital TV encoder
- QPSK modulator
- 1 Watt transmitter
- Horn antenna to be provided by Northpoint<sup>3</sup>
- Test digital TV receiver demodulator

9) Transmission Frequencies Desired:

12.200 – 12.700 GHz.

10) Maximum Power:

The test transmitter will operate at a transmit power not greater than 30 dBm, and an EIRP not greater than 40 dBm.

11) Type of Emission:

The primary emission designator will be G7W. Other emission modes may be utilized, but in no event will the emissions extend beyond the frequencies stated under item 9 above.

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<sup>3</sup> Measured antenna gain patterns, for the Northpoint antenna, in both azimuth and elevation directions, will also be required.

12) Overall Heights of Antennas Above Ground:

The DBS operators will comply with all FCC and FAA antenna requirements. The transmit antenna will be mounted either: (1) not higher than 20 feet above ground or 20 feet above a building; (2) on an FAA-approved structure in a manner that will not exceed the approved height; or (3) in a manner that does not require FAA approval.

13) 47 C.F.R. § 1.2002 Certification:

The Applicants hereby certify that they, their officers and directors, and any party with five percent or greater interest in this request for temporary authorization is not subject to denial of the Federal benefits requested herein pursuant to Section 5301 of the Anti Drug Abuse Act of 1988, 21 U.S.C. § 862.

14) Waiver Pursuant to Section 304 of the Act:

In accordance with Section 304 of the Communications Act of 1934, as amended, the DBS operators hereby waive any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

The DBS operators submit that issuance of an STA is in the public interest, convenience, and necessity as it will permit them to measure accurately the interference that would be caused to the licensed DBS service from the proposed secondary Northpoint service. This will provide valuable information for the Commission's rulemaking proceedings concerning terrestrial use of the 12.2-12.7 GHz band.

Enclosed is a check for \$45.00 to cover the filing fee (Fee Type code "EAE") for this STA request, along with a completed FCC Form 159.



If there are any questions concerning this request, please contact the DBS

operators' counsel:

James H. Barker, III, Esq.  
**Latham & Watkins**  
1001 Pennsylvania Avenue, N.W.  
Suite 1300  
Washington, D.C. 20004  
(202) 637-2200

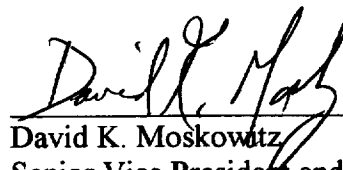
*Counsel for DIRECTV, Inc.*

Philip L. Malet  
Pantelis Michalopoulos  
Marc A. Paul  
**Stephoe & Johnson LLP**  
1330 Connecticut Avenue, NW  
Washington, DC 20036  
(202) 429-3000

*Counsel for EchoStar Satellite Corporation*

**Respectfully submitted,**

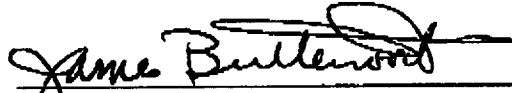
**EchoStar Satellite Corporation**

A handwritten signature in black ink, appearing to read "David K. Moskowitz", is written over a horizontal line.

**David K. Moskowitz**  
**Senior Vice President and General Counsel**

**Dated:** December 1, 1999

Respectfully submitted,

A handwritten signature in cursive script that reads "James Butterworth". The signature is written in black ink and is positioned above a horizontal line.

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James Butterworth  
Vice President, Space and Communications  
DIRECTV, Inc.

DATED: December 1, 1999