

File # SAT-STA-20150910-00062

Call Sign S2811 Grant Date 09/30/15

(or other identifier)

Term Dates From 10/02/15 To 30 days

Approved: Stephen J. Duall

Chief, Satellite Policy Branch

Approved by OMB 3060-0678



Date & Time Filed: Sep 10 2015 10:44:17:280AM  
File Number: SAT-STA-20150910-00062  
Callsign:

FEDERAL COMMUNICATIONS COMMISSION  
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY  
FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
Echo 15 Satellite STA

1. Applicant

<b>Name:</b>	EchoStar Satellite Operating Corporation	<b>Phone Number:</b>	301-428-5893
<b>DBA Name:</b>		<b>Fax Number:</b>	
<b>Street:</b>	100 Inverness Terrace East	<b>E-Mail:</b>	jennifer.manner@echostar.com
<b>City:</b>	Englewood	<b>State:</b>	CO
<b>Country:</b>	USA	<b>Zipcode:</b>	80112
<b>Attention:</b>	Jennifer A Manner		

**EchoStar Satellite Operating Corporation**  
**IBFS File No. SAT-STA-20150910-00062**  
**Call Sign S2811**

The application of EchoStar Satellite Operating Corporation (EchoStar) for special temporary authority, IBFS File No. SAT-STA-20150910-00062, is GRANTED. Accordingly, EchoStar is authorized, for a period of 30 days commencing on October 2, 2015, to conduct telemetry, tracking, and command (TT&C) operations necessary to drift EchoStar 15 (S2811) from its currently authorized orbital location of 45.1° W.L. to the 61.65° W.L. orbital location, and to maintain EchoStar 15 at 61.65° W.L. as an in-orbit spare, using the following center frequencies: 17, 791.5 MHz and 17,793.5 MHz (Earth-to-space); and 12,692.0 MHz, 12,693.0 MHz, 12, 694.5 MHz, and 12,698.5 MHz (space-to-Earth). Operations under this authorization are subject to the terms, conditions, and technical specifications set forth in EchoStar's application and the Federal Communications Commission's rules, and to the conditions set forth below.

1. All operations under this grant of special temporary authority must be on an unprotected and non-harmful interference basis. EchoStar must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating radio communication system.

2. In the event EchoStar's operations under this grant of special temporary authority cause harmful interference to any other lawfully operating radio communication system, EchoStar must cease operations immediately upon notification of such interference and must immediately inform the Commission, in writing, of such an event.


3. EchoStar must coordinate operations of EchoStar 15 with existing geostationary space stations to ensure that no unacceptable interference results from its drift from the 45.1° W.L. orbital location to the 61.65° W.L. orbital location.

4. EchoStar must operate only the TT&C frequencies on EchoStar 15 during the drift from the 45.1° W.L. orbital location to the 61.65° W.L. orbital location, and while maintaining EchoStar 15 at the 61.65° W.L. orbital location.

5. EchoStar must maintain the EchoStar 15 space station with an east/west longitudinal station-keeping tolerance of +/- 0.05 degrees of the 61.65° W.L. orbital location.

6. Any action taken or expense incurred as a result of operations pursuant to this grant of special temporary authority is at EchoStar's own risk and is without prejudice to any request for regular authority to operate EchoStar 15 at 61.65° W.L.

7. This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

 <b>GRANTED*</b> International Bureau *with conditions	File # <u>SAT-STA-20150910-00062</u>
	Call Sign <u>S2811</u> Grant Date <u>09/30/15</u> (or other identifier)
	Term Dates period of From <u>10/02/15</u> To: <u>30 days</u>
	Approved: <u>Stephen J. Duall</u> Stephen J. Duall Chief, Satellite Policy Branch

<b>2. Contact</b>			
<b>Name:</b>	Phuong N. Pham	<b>Phone Number:</b>	202-783-4141
<b>Company:</b>	Wilkinson Barker Knauer, LLP	<b>Fax Number:</b>	202-783-5851
<b>Street:</b>	2300 N Street, NW, Suite 700	<b>E-Mail:</b>	ppham@wbklaw.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20037 -
<b>Attention:</b>		<b>Relationship:</b>	Legal Counsel
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)			
3. Reference File Number SATMOD2013103000126 or Submission ID			
4a. Is a fee submitted with this application?			
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).			
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee			
<input type="radio"/> Other (please explain):			
4b. Fee Classification    CRY - Space Station (Geostationary)			
5. Type Request			
<input checked="" type="radio"/> Change Station Location		<input type="radio"/> Extend Expiration Date <input type="radio"/> Other	
6. Temporary Orbit Location		7. Requested Extended Expiration Date	

8. Description (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Seeking a 30-day STA to move and operate EchoStar 15 (Call Sign S2811) as an in-orbit spare at 72.6 WL.

9. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.

Yes  No

10. Name of Person Signing Jennifer A. Manner	11. Title of Person Signing Vice President, Regulatory Affairs
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12. Please supply any need attachments.

Attachment 1: Exhibit 1	Attachment 2:	Attachment 3:
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**WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).**

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**THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.**



September 17, 2015

**By eFile**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, D.C. 20554

Re: IBFS File Nos. SAT-STA-20150910-00062, SES-STA-20150910-00570 &  
SES-STA-20150910-00573  
Call Signs S2811, E080007 & E080120

Dear Ms. Dortch:

EchoStar Satellite Operating Corporation and EchoStar Broadcasting Corporation (together with their affiliates, "EchoStar") submit this letter to amend the above-referenced applications ("Applications") for special temporary authority ("STA").

Specifically, EchoStar seeks an STA, for a 30-day period commencing on October 2, 2015, to (i) move the EchoStar 15 satellite (Call Sign S2811) from 45.1° W.L. to 61.65° W.L. (in lieu of 72.6° W.L., as previously requested), and operate the satellite as an in-orbit spare; and (ii) operate associated earth stations (Call Signs E080007 and E080120) to provide telemetry, tracking, and control ("TT&C") service during EchoStar 15's relocation and operations as an in-orbit spare at 61.65° W.L.<sup>1</sup> Grant of the requested STA will allow EchoStar to commence moving EchoStar 15 by October 2 and to commence operations as an in-orbit spare at 61.65° W.L. by November 17, 2015.

Attached is a revised Technical Annex in support of the requested STA operations at 61.65° W.L. All other information contained in the Applications remains the same.

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<sup>1</sup> EchoStar shortly will amend its pending applications for regular authority to operate EchoStar 15 as an in-orbit spare at 61.65° W.L. (in lieu of 72.6° W.L.) and the associated earth stations for TT&C service.

September 17, 2015  
Page 2

Please direct any questions regarding this matter to the undersigned.

Sincerely,

/s/ Jennifer A. Manner

Jennifer A. Manner  
Vice President of Regulatory Affairs

Attachment

cc: Stephen Duall  
Paul Blais



## **EHOSTAR-15**

### **ATTACHMENT A**

#### **Technical Information to Supplement Schedule S**

##### **A.1 Scope**

This attachment contains the information required by §25.114(c) and other sections of the FCC Part 25 rules that cannot be captured by the Schedule S form.

##### **A.2 General Description of Overall System Facilities, Operations and Services (§25.114(d)(1))**

The EHOSTAR-15 satellite will serve as in-orbit spare in the EchoStar fleet at 61.65° W.L., collocated with the EHOSTAR-16, EHOSTAR-12 and EHOSTAR-3 satellites. The satellite will be operated using only TT&C frequencies located at the upper and lower 12 MHz guardbands of the ITU's Region 2 BSS Plan (Article 2A of Appendices 30 and 30A)<sup>1</sup>. EchoStar is not seeking authority to operate the communications payload of EHOSTAR-15 while located at 61.65° W.L.

Primary TT&C functions will take place from EchoStar's earth station and satellite control facilities located in Cheyenne, WY and Gilbert, AZ.

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<sup>1</sup> The ITU Region 2 BSS Plan frequencies used for space operations functions (TT&C) are 12.2-12.212, 12.688-12.7, 17.3-17.312 and 17.788-17.8 GHz.



**A.3 TT&C Characteristics**  
**(§25.114(c)(4)(i) and §25.114(c)(9))**

The information provided in this section complements that provided in the associated Schedule S submission.

The ECHOSTAR-15 TT&C subsystem provides for communications during transfer orbit and on-station operations, as well as during spacecraft emergencies. The TT&C subsystem operates in the 12 MHz guardbands for both uplink and downlink during all phases of the mission. The TT&C subsystem consists of 6 near omni-directional command antennas, 4 near omni-directional telemetry antennas, and 2 Ku-band communication antennas that can receive commands and transmit telemetry. TT&C operations will be conducted from EchoStar’s Cheyenne, WY and Gilbert, AZ facilities. Other EchoStar TT&C facilities in Blackhawk, SD and Mt. Jackson, VA may be used in the event of an emergency or contingency requirement, subject to obtaining additional, appropriate FCC authorization in the future. The spacecraft is capable of operating at two command frequencies shown in Table A-1 below. During normal on-station and emergency operations at 61.65° W.L, command signals will be received by the near omni-directional antennas. The spacecraft is capable of operating at four transmit frequencies shown in Table A-1 below. During normal on-station and emergency operations at 61.65° W.L., the telemetry signals will be transmitted by the near omni-directional antennas.

A summary of the TT&C subsystem characteristics is given in Table A-1.

**Table A-1: TT&C Performance Characteristics**

Command Modulation	PCM/PSK
Command/Ranging Frequencies	17,791.5 MHz 17,793.5 MHz
Uplink Flux Density (Minimum)	Omni Rx antenna: > -83 dBW/m <sup>2</sup> (Command) -78 dBW/m <sup>2</sup> (Ranging) Comms Rx antenna: > -93 dBW/m <sup>2</sup> (Command) -87 dBW/m <sup>2</sup> (Ranging)
Satellite Receive Antenna Types and Modes of Operation	Omni antenna during transfer orbit and on-station emergencies for telecommand. Communications antenna during normal on-station operations for telecommand.

Polarization of Satellite Rx/Tx Antennas	RHCP for omni antenna RHCP for communications antenna
Peak Deviation (Command/Ranging)	± 400 kHz
Telemetry/Ranging Frequencies	12,692.0 MHz 12,693.0 MHz 12,694.5 MHz 12,698.5 MHz
Satellite Transmit Antenna Types and Modes of Operation	Omni antenna during transfer orbit, on-station emergencies and normal on-station operations for telemetry.
Maximum Downlink EIRP	15.2 dBW (Omni antenna) 18 dBW (Communications antenna)
Telemetry/Ranging Modulation Index:	
1 sub-carrier	1.0 ± 0.2 rad pk
2 sub-carriers	0.7± 0.2 rad pk
3 sub-carriers	0.58± 0.2 rad pk

#### **A.4 Orbital Debris Mitigation Plan** **(§25.114(d)(14))**

##### **A.4.1 Debris Release Assessment** **(§25.144(d)(14)(i))**

To protect the spacecraft from small body collisions, the design of the ECHOSTAR-15 spacecraft allows for individual faults without losing the entire spacecraft. All critical components (i.e., computers and control devices) have been built within the structure and shielded from external influences. Items that could not be built within the spacecraft nor shielded (such as antennas) are redundant and/or are able to withstand impact. The ECHOSTAR-15 spacecraft can be controlled through both the normal payload antenna and wide angle antennas. The likelihood of both being damaged during a small body collision is minimal. The wide angle antennas on this spacecraft are basically open waveguides that point towards the Earth (there is one set on each side of the spacecraft; either set could be used to successfully de-orbit the spacecraft). These wide angle antennas would continue to operate even if struck and bent.

Based on the above structural design and critical component redundancy, EchoStar believes this satellite has a limited probability of becoming a source of debris from small body collisions.

#### **A.4.2 Accidental Explosion Assessment (§25.144(d)(14)(ii))**

In order to ensure that the spacecraft does not explode on orbit the satellite controller takes specific precautions. All batteries and fuel tanks are monitored for pressure or temperature variations. Alarms in the Satellite Control Center (“SCC”) inform controllers of any variations. Additionally, long term trending analysis will be performed to monitor for any unexpected trends.

Operationally, batteries are operated utilizing the manufacturer’s automatic recharging scheme. Doing so ensures that charging terminates normally without building up additional heat. As this process occurs wholly within the spacecraft, it also affords protection from ground command link failures.

In order to protect the propulsion system, fuel tanks have been operated in a “blow down” mode. This means that at the completion of the orbit raising phase of the mission, the pressurant was isolated from the fuel system, thereby causing the pressure in the tanks to decrease over the life of the spacecraft. This also protects against a pressure valve failure causing the fuel tanks to become over pressurized.

In order to ensure that the spacecraft has no explosive risk after it has been successfully de-orbited, all stored energy onboard the spacecraft will be removed. Upon successful de-orbit of the spacecraft, all propulsion lines and latch valves will be vented and left open. All battery chargers will be turned off and batteries will be left in a permanent discharge state. These steps will ensure that no buildup of energy can occur resulting in an explosion in the years after the spacecraft is de-orbited.

Based on the above structural design and planned flight control precautions during and after the mission completion, EchoStar believes this satellite has a limited probability of becoming a source of debris from accidental explosions.

**A.4.3 Safe Flight Profiles**  
**(§25.144(d)(14)(iii))**

In considering current and planned satellites that may have a station-keeping volume that overlaps the ECHOSTAR-15 satellite, EchoStar has reviewed the lists of FCC-licensed satellite networks, as well as those that are currently under consideration by the FCC. In addition, non-U.S. networks for which a request for coordination has been published by the International Telecommunication Union (“ITU”) within  $\pm 0.15^\circ$  of  $61.65^\circ$  W.L. have been reviewed.

As already mentioned, the ECHOSTAR-16, ECHOSTAR-12 and ECHOSTAR-3 satellites operate at the nominal  $61.65^\circ$  W.L. orbital location, each having an east-west station-keeping tolerance of  $\pm 0.05^\circ$ . These satellites are operated by EchoStar and can be internally coordinated to ensure their safe operation.

There are no pending applications before the Commission to use an orbital location within  $\pm 0.15^\circ$  from  $61.65^\circ$  W.L. EchoStar is not aware of any satellite with an overlapping station-keeping volume with the ECHOSTAR-15 satellite and that is either in orbit or progressing towards launch pursuant to an ITU filing.

Based on the preceding, EchoStar seeks to locate and operate the ECHOSTAR-15 satellite at  $61.65^\circ$  W.L., with an east-west station-keeping tolerance of  $\pm 0.05^\circ$ , in order to eliminate the possibility of any station-keeping volume overlap with the adjacent EchoStar satellites. EchoStar therefore concludes that physical coordination of the ECHOSTAR-15 satellite with another party is not required at the present time.

**A.4.4 Post Mission Disposal Plan**  
**(§25.144(d)(14)(iv))**

At the end of the operational life of the ECHOSTAR-15 satellite, EchoStar will maneuver the satellite to a disposal orbit with a minimum perigee of 330 km above the normal GSO operational orbit. This proposed disposal orbit altitude exceeds the minimum required by §25.283, which is calculated below.

The input data required for the calculation is as follows:

Total Solar Pressure Area “A” = 111 m<sup>2</sup>

(includes area of solar array, satellite body and deployed antennas)

“M” = Dry Mass of Satellite = 2364 kg

“C<sub>R</sub>” = Solar Pressure Radiation Coefficient (worst case) = 2

Using the formula given in §25.283, the Minimum Disposal Orbit Perigee Altitude is calculated as follows:

$$\begin{aligned} &= 36,021 \text{ km} + 1000 \times C_R \times A/M \\ &= 36,021 \text{ km} + 1000 \times 2 \times 111/2364 \\ &= 36,115 \text{ km} \\ &= 329 \text{ km above GSO (35,786 km)} \end{aligned}$$

Adequate margin has already been accounted for in the calculation of the designed disposal orbit of 330 km above GSO, which includes margin relative to the above calculation. Attaining the altitude of 330 km above the GSO orbit will require approximately 12 kg of propellant, which will be reserved, taking account of all fuel measurement uncertainties, to perform the final orbit raising maneuvers.

Propellant tracking is accomplished using a bookkeeping method. Using this method, the ground control station tracks the number of jet seconds utilized for station keeping, momentum control and other attitude control events. From the number of jet seconds, the amount of fuel used is determined. This process has been calibrated using data collected from thruster tests conducted on the ground and has been found to be accurate to within a few months of life on the spacecraft.

In addition to the bookkeeping method, a pressure, volume and temperature (PVT) test is done to support the findings of the bookkeeping method. Lastly, propellant depletion gauges allow for monitoring of the propellant through the telemetry.

#### **A.5 Interference Analysis**

The ECHOSTAR-15 satellite at 61.65° W.L. will operate under authority of the United States. The underlying Article 2A satellite network filing, USABSS-17, which has been recorded in the Master International Frequency Register (MIFR) at the nominal location of 61.5° W.L.

EchoStar is not seeking operating authority of the communications payload on ECHOSTAR-15. Accordingly, no interference analysis is provided for the operations of the communication payload.

The next adjacent satellites with potential TT&C frequency overlap with ECHOSTAR-15 are NIMIQ-5 (nominally located at 72.7° W.L., 11.1° away) and INTELSAT 805 (nominally located at 55.5° W.L., 6° away). Given this large orbital separation and the use of large earth stations for both command and telemetry, negligible interference will be received from them or caused by the ECHOSTAR-15 satellite.

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**CERTIFICATION OF PERSON RESPONSIBLE FOR PREPARING  
ENGINEERING INFORMATION**

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this application, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this application and that it is complete and accurate to the best of my knowledge and belief.

/s/ Zachary Rosenbaum

Zachary Rosenbaum

Senior Manager, Advanced Programs and Spectrum  
Management



## EXHIBIT 1

### REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION (Response to Question 8, FCC Form 312)

Pursuant to Section 25.120(b)(3) of the Commission's rules,<sup>1</sup> EchoStar Satellite Operating Corporation and EchoStar Broadcasting Corporation (together with their affiliates, "EchoStar") request special temporary authorizations ("STAs"), for a 30-day period commencing at the end of September 2015, to: (i) move the EchoStar 15 satellite (Call Sign S2811) from the 45.1° W.L. orbital location to the 72.6° W.L. orbital location, and operate the satellite as an in-orbit spare; and (ii) operate associated earth stations (Call Signs E080007 and E080120) to provide telemetry, tracking, and control ("TT&C") service during EchoStar 15's relocation and operations as an in-orbit spare at 72.6° W.L.<sup>2</sup> EchoStar is requesting this STA to allow EchoStar 15 to operate as an in-orbit spare at 72.6° W.L. in order to provide back-up capacity for DISH Network, L.L.C. ("DISH").

#### I. BACKGROUND

HNS Americas Comunicações Ltda. ("HNSA"), a wholly owned, indirect subsidiary of EchoStar Corporation, holds an authorization to provide Broadcast Satellite Service ("BSS") to Brazil from the nominal 45° W.L. orbital location.<sup>3</sup> Accordingly, EchoStar has been operating the EchoStar 15 satellite in accordance with Brazil's Region 2 BSS plan for the 45° W.L. cluster, as well as in conformity with HNSA's authorization and applicable Brazilian laws, rules, and

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<sup>1</sup> See 47 C.F.R. § 25.120(b)(3).

<sup>2</sup> EchoStar shortly will file applications for regular authority to operate EchoStar 15 as an in-orbit spare at 72.6° W.L. and the associated earth stations for TT&C service.

<sup>3</sup> A certified translation of the Brazilian authorization is attached to EchoStar's previously granted modification application to change EchoStar 15's assigned orbital location from 44.9° W.L. to 45.1° W.L. See EchoStar, Application for Minor Modification, Exh. 1 (Term of Right of Exploration), IBFS File No. SAT-MOD-20130503-00066 (filed May 3, 2013).

regulations, while HNSA designs and constructs a new, purpose-built satellite for the orbital location, consistent with HNSA's Brazilian authorization.

In late 2012, the Commission authorized EchoStar to relocate and operate EchoStar 15 at 44.9° W.L.<sup>4</sup> In June 2013, the Commission modified that authorization to permit operations on a regular basis at 45.1° W.L. instead of 44.9° W.L., in order to accommodate EchoStar's operational preference to position EchoStar 15 at 45.1° W.L. as an interim satellite during the design and construction of a new satellite.<sup>5</sup> EchoStar 15 currently operates at 45.1° W.L. as authorized. Recently, DISH, an affiliate and customer of EchoStar, has requested that a spare satellite be made available at the nominal 72° W.L. orbital location to provide backup capacity for its satellite television network, and EchoStar has determined that moving EchoStar 15 to 72.6° W.L. would be an efficient use of its satellite fleet to accommodate the request.

## **II. THE REQUESTED STA OPERATIONS WILL SERVE THE PUBLIC INTEREST AND WILL CAUSE NO HARMFUL INTERFERENCE**

Grant of this STA request will serve the public interest by allowing EchoStar the flexibility to manage its satellite fleet efficiently and operate the EchoStar 15 satellite an in-orbit spare that will be readily available for backup service, if required. At the same time, the proposed operations will cause no harmful interference to other authorized services because EchoStar 15 will operate only on Ku BSS TT&C frequencies as an in-orbit spare, and there are no satellites operating within two degrees of 72.6° W.L. on overlapping TT&C frequencies, as discussed in Attachment A (Technical Information). Furthermore, as noted below, EchoStar 15

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<sup>4</sup> See EchoStar, *Stamp Grant*, IBFS File No. SAT-STA-20121022-00185 (granted Nov. 19, 2012) (authorizing relocation to 44.9° W.L. pursuant to STA); EchoStar, *Stamp Grant*, File No. SAT-MOD-20120814-00130 (granted Dec. 13, 2012) (authorizing operations at 44.9° W.L.).

<sup>5</sup> See ESOC, *Stamp Grant*, IBFS File No. SAT-MOD-20130503-00066 (granted June 20, 2013). On May 9, 2013, the FCC granted special temporary authority to drift and operate EchoStar 15 at 45.1° W.L. See ESOC, *Stamp Grant*, IBFS File No. SAT-STA-20130502-00065 (granted May 9, 2013).

will operate at 72.6° W.L. on an unprotected and non-harmful interference basis. In the event that EchoStar 15's communications payload is required to provide backup service, EchoStar will seek appropriate authorization prior to commencing service.

### **III. OPERATIONAL PARAMETERS**

EchoStar will move and operate EchoStar 15 at 72.6° W.L. subject to the conditions typically imposed on U.S.-licensed satellites operating in accordance with non-U.S. ITU filings, including the following:

1. All authorized operations will be on an unprotected and non-harmful interference basis (*i.e.*, EchoStar will not cause harmful interference to, and will not claim interference protection from, any other lawfully operating station).
2. In the event of any harmful interference resulting from the authorized operations, EchoStar will cease operations immediately upon notification of such interference and will immediately inform the Commission in writing of such interference.
3. EchoStar will coordinate all TT&C operations with other potentially affected in-orbit satellite operators.
4. EchoStar will maintain the EchoStar 15 at 72.6° W.L. with an east-west longitudinal station-keeping tolerance of +/-0.05 degree.
5. EchoStar will not operate EchoStar 15's communications payload during the satellite's drift to and operations at 72.6° W.L., absent prior FCC authorization to do so.

### **IV. CONCLUSION**

Based upon the foregoing, EchoStar urges the Commission to grant the requested 30-day STAs to allow it to commence moving EchoStar 15 by the end of September 2015 and to commence operations as an in-orbit spare at 72.6° W.L. by November 17, 2015.