



File # SAT-STA-20060303-00022
with attached conditions

Call Sign S2232 Grant Date 3/28/2006
(or other identifier)

Term Dates
From 3/29/2006 To 4/28/2006

Approved: [Signature]

Robert G. Nelson

Chief Satellite Division
Approved by OMB
3060-0678

Date & Time Filed: Mar 3 2006 7:45:38:903PM
File Number: SAT-STA-20060303-00022
Callsign:

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Application for Special Temporary Authority to Move EchoStar 6 from 110.2W to 110.35W for Traffic Transfer Purposes

I. Applicant			
Name:	EchoStar Satellite Operating Corporation	Phone Number:	303-723-1000
DBA Name:		Fax Number:	303-723-1699
Street:	9601 South Meridian Boulevard	E-Mail:	
City:	Englewood	State:	CO
Country:	USA	Zipcode:	80112 -
Attention:	David K Moskowitz		

ATTACHMENT
Conditions of Authorization: SAT- STA-20060303-00022
Call Sign: S2232
Grant Date: March 28, 2006

EchoStar Satellite Operating Corporation's ("EchoStar") request for special temporary authority (STA), File No. SAT-STA-20060303-00022, IS GRANTED. Accordingly, EchoStar IS AUTHORIZED for a period of 30 days commencing on March 29, 2006, to (1) relocate its EchoStar 6 satellite from 110.2° W.L. to 100.35° W.L. and (2) operate the satellite at 110.35° W.L. with +/- 0.05 longitudinal stationkeeping in accordance with the terms, conditions, and technical specifications set forth in its application, Federal Communication Commission (Commission) rules, and this Attachment:

1. EchoStar shall coordinate all drift orbit operations with other potentially affected in orbit operators.
2. During the drift to and while operating at the 110.35° W.L. orbital location, no harmful interference shall be caused by EchoStar 6 to any other lawfully operating space station or other radiocommunication system.
3. In the event of any harmful interference as a result of EchoStar 6's operations during the relocation to or while operating at the 110.35° W.L. orbital location, EchoStar shall cease operations immediately upon notification of such interference and shall inform the Commission, in writing, immediately of such an event.
4. EchoStar is required to accept interference from other lawfully operating space stations or other radiocommunication systems.
5. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at EchoStar's own risk.
6. EchoStar is afforded thirty days from the date of release of this action to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.
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 immediately.

2. Contact	
Name: Pantelis Michalopoulos	Phone Number: 202-429-6494
Company: Steptoe & Johnson LLP	Fax Number: 202-429-3902
Street: 1330 Connecticut Ave., NW	E-Mail: pmichalo@steptoe.com
City: Washington	State: DC
Country: USA	Zipcode: 20036 -1795
Attention:	Relationship: 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 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 110.35W	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.)

See attached narrative and technical appendix.

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
David K. Moskowitz

11. Title of Person Signing
Executive Vice President and General Counsel

12. Please supply any need attachments.

Attachment 1: STA Narrative

Attachment 2: Attachment A

Attachment 3:

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

In the Matter of)	
)	
ECHOSTAR SATELLITE OPERATING CORPORATION)	File No. SAT-STA-2006 _____
)	
For Special Temporary Authority to Move EchoStar 6 to 110.35° W.L. and to Operate Temporarily For Traffic Transfer Purposes)	
)	

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

By this application, EchoStar Satellite Operating Corporation (“EchoStar”) respectfully requests special temporary authority (“STA”) to move its EchoStar 6 satellite from its current orbital location of 110.2° W.L. to 110.35° W.L. and to temporarily operate at this location while traffic is transitioned to the new EchoStar 10 satellite. The instant request is for a 30-day STA starting on or around March 22, 2006, or such later date as EchoStar has started to relocate its EchoStar 10 satellite to 110.2° W.L. with Commission authority. EchoStar is also filing a request for temporary authority to move EchoStar 6 to 110.4° W.L. after traffic transfer is complete, where EchoStar will store the satellite as an in-orbit spare for 180 days.

Allowing EchoStar 6 to move to, and temporarily operate at, 110.35° W.L. will serve the public interest as it will enable EchoStar to safely maintain its satellites and minimize disruption to existing customers receiving service from the 110° W.L. orbital location during the transition of traffic from EchoStar 6 to EchoStar 8 and from EchoStar 8 to EchoStar 10. Following completion of traffic transfer, EchoStar 6 will be moved to 110.4° W.L. subject to separate Commission authority, where it will be stored as an in-orbit spare operating only on TT&C

frequencies. The proposed temporary operations at 110.35° W.L. will not cause harmful interference to any authorized spectrum user. EchoStar will also coordinate all drift orbit operations with other potentially affected in-orbit operators.

I. DISCUSSION

EchoStar is currently operating two satellites at 110° W.L. EchoStar 8 is a spot- and CONUS-beam satellite operating on 20 of EchoStar's 29 assigned channels at the 110.0° W.L. orbital location.¹ EchoStar 6 is a CONUS-beam satellite operating on nine of those frequencies at the 110.2° W.L. orbital location.² EchoStar has requested authority to provide DBS service from the nominal 110° W.L. orbital position using the EchoStar 10 satellite, and plans to locate the satellite at the 110.2° W.L. orbital location. On February 3, 2006, EchoStar received Special Temporary Authority to launch EchoStar 10 and to test it at the 138.5° W.L. orbital location.³ Testing is due to be completed on March 21, 2006.

Once EchoStar 10 moves to the 110.2° W.L. orbital location with the Commission's approval, EchoStar plans to transition spot beam operations from EchoStar 8 to EchoStar 10. This will free up capacity on EchoStar 8 for CONUS operations, and in turn will permit EchoStar to transfer the EchoStar 6 traffic to EchoStar 8. During traffic transfer, EchoStar proposes to operate EchoStar 6 at 110.35° W.L. This will allow EchoStar to safely maintain

¹ *EchoStar Satellite Corporation, Application for Minor Modification of Direct Broadcast Satellite Authorization, Launch and Operating Authority for EchoStar VIII, Order and Authorization, 17 FCC Rcd 11326 (2002).*

² *EchoStar Satellite Corporation, Application for Minor Modification of Four DBS Space Station Authorizations To Operate on 11 Channels at 119° W.L., To Operate on 10 Channels at 119° W.L., To Operate on 28 Channels at 110° W.L., To Operate on 1 Channel at 110° W.L., Application for Renewal of Special Temporary Authority to Operate a Direct Broadcast Satellite at the 110° W.L. Orbital Location, Memorandum Opinion and Order, 18 FCC Rcd 15211 (2003).*

³ See Stamp Grant, File No. SAT-STA-20060104-00004 (granted Feb. 3, 2006).

three satellites at the 110° W.L. location during traffic transfer. EchoStar expects that the move and traffic transfer operations will take no more than 30 days. Upon completion of traffic transfer, EchoStar 6 will cease operation of its communications payload. EchoStar is simultaneously applying for temporary authority to then move the satellite to 110.4° W.L. and to maintain it there as an in-orbit spare using only the satellite's TT&C frequencies.

EchoStar recognizes that its plan will result in operating EchoStar 6 outside of the 110° W.L. DBS "cluster" allotted to the United States by the International Telecommunication Union ("ITU").⁴ Under the current ITU Region 2 BSS Plan, the United States has the authority to allow satellite operators to provide Broadcast Satellite Service ("BSS") (*i.e.*, DBS service in the United States) at orbital locations within plus/minus 0.2° of the designated orbital location, known as clusters.⁵ Under this plan, the United States has sole authority over the BSS frequencies located at the 110° W.L. cluster.⁶ This cluster consists of orbital locations from 109.8° W.L. to 110.2° W.L. In order to operate its satellite permanently outside of the authorized cluster, an operator must seek to modify the ITU Region 2 BSS Plan.⁷

However, EchoStar is not seeking to operate permanently on the DBS frequencies at 110.35° W.L. Rather, it is only seeking temporary authority to operate EchoStar 6 at 110.35° W.L. while traffic is transferred to its new EchoStar 10 satellite. The Commission has previously granted temporary authority to operate outside of an orbital location cluster on the condition that operations do not cause harmful interference to lawfully operating satellite

⁴ See ITU Regulations, Appendix 30, Annex 7, Section B.

⁵ *Id.*

⁶ ITU Regulations, Appendix 30, Art. 10.

⁷ ITU Regulations, Appendix 30, Art. 4.2.

systems and that the satellite system operate without protection from lawful systems.⁸ In fact, in very similar circumstances, the Bureau recently approved a similar request by DIRECTV for operation of the DIRECTV 6 satellite outside of the 110° W.L. cluster (east of the cluster).⁹

For the reasons set forth below, the temporary operation of EchoStar 6 at 110.35° W.L. will not cause harmful interference to any authorized user of the spectrum, and would be in the public interest. Accordingly, the Commission should grant the requested temporary authority, first, to operate EchoStar 6 at 110.35° W.L. while DBS traffic is transferred to EchoStar 10.

II. GRANT OF THIS APPLICATION IS IN THE PUBLIC INTEREST

The Commission has a long-standing policy of granting Special Temporary Authority where such authorization will not cause harmful interference and will serve the public interest, convenience and necessity. *See e.g., In the Matter of Newcomb Communications, Inc.*, 8 FCC Rcd. 3631, 3633 (1993); *In the Matter of Columbia Communications Corp.*, 11 FCC Rcd. 8639, 8640 (1996); *In the Matter of American Telephone & Telegraph Co.*, Order, 8 FCC Rcd. 8742 (1993). The requested operations meet both of these tests.

Temporary operation of EchoStar 6 at 110.35° W.L will not cause harmful interference to any other U.S.-licensed satellite operator. Operating EchoStar 6 at these orbital locations instead of 110.2° W.L. would, if anything, reduce any potential for interference with DIRECTV 5 at 109.8° W.L. and any BSS satellites further east. In addition, the closest operational BSS satellites to the west of EchoStar 6's proposed location (except other EchoStar satellites) are two

⁸ See Letter from Thomas S. Tycz, Chief, Satellite and Radio Communications Division, FCC, to David K. Moskowitz, Senior Vice President and General Counsel for EchoStar Satellite Corporation, at 2, dated Jan. 14, 2000 (granting authority to operate the EchoStar 4 satellite at 119.35° W.L., outside of the 119° W.L. cluster).

⁹ See, e.g., *DIRECTV Enterprises, LLC*, DA-05-2654, Order and Authorization, File Nos. SAT-A/O-20050504-00093 and SAT-STA-20050518-00105, at ¶¶ 10, 15-16 (rel. Oct. 5, 2005) ("DIRECTV 6 STA").

DIRECTV satellites located at 119° W.L. Temporarily operating EchoStar 6 a mere 0.15° closer to 119° W.L. (and locating the satellite with only its TT&C beams operating a mere 0.2° closer) will not appreciably increase the interference experienced by the satellites located at that orbital location. This is demonstrated in the technical showing in *Attachment A*.¹⁰

The requested temporary operation of EchoStar 6 at 110.35° W.L. for purposes of traffic transfer is also in the public interest because it will allow EchoStar to minimize disruptions of service to its existing customers that receive service from 110° W.L. as EchoStar 10 is brought into use at that location.

Finally, EchoStar notes again that the International Bureau recently granted temporary authority to DIRECTV for a similar move for the same purpose, subject to certain conditions, which are acceptable to EchoStar.¹¹

EchoStar accordingly seeks authority for a period of 30 days to move and temporarily operate EchoStar 6 at 110.35° W.L. for the purposes of traffic transfer, subject to the following conditions:

- a) EchoStar shall coordinate all drift orbit operations with other potentially affected in-orbit operators.
- b) During relocation of the EchoStar 6 satellite, operations shall be on a non-harmful interference basis, meaning that EchoStar shall not cause interference to, and shall not claim protection from interference caused to it by any other lawfully operating satellites.
- c) In the event that any harmful interference is caused as a result of operations during the relocation of the EchoStar 6 satellite, EchoStar shall cease operations immediately upon notification of such interference and shall inform the Commission immediately, in writing, of such event.

¹⁰ The technical showing conservatively assumes the greater move of 0.2 degrees to 110.4° W.L. in light of the STA request simultaneously filed by EchoStar to move the satellite to 110.4° W.L. post-transition.

¹¹ See DIRECTV 6 STA at ¶¶ 15-16.

ATTACHMENT A
Technical Appendix

Potential Interference Issues

The EchoStar-6 satellite operates in the frequency bands covered by Appendices 30 and 30A of the Radio Regulations. These bands are 12.2 – 12.7 GHz (space-to-Earth) and 17.3 – 17.8 GHz (Earth-to-space). Operational co-frequency satellites within 10 degrees of the 110°W orbital location, aside from EchoStar's, are the DIRECTV DBS satellites at 101°W and 119°W.^{1, 2}

The result of the requested shift for the EchoStar-6 satellite from 110.2°W to 110.35°W and then to 110.4°W provides a greater orbital separation from the DIRECTV satellites at the 101°W location and therefore there is no negative impact to these operations. With the proposed shift, the EchoStar-6 satellite will move closer to the US-assigned 119°W orbital location where both EchoStar and DIRECTV satellites operate within a ± 0.2 degree cluster. Currently, there are two operational satellites at the 119°W cluster - EchoStar-7 located at 118.9°W and DIRECTV-7S located at 119.2°W. Currently the orbital separation between the EchoStar-6 satellite and the DIRECTV-7S satellite is therefore nominally 9 degrees, or 8.9 degrees taking into account station-keeping tolerances of both satellites. With the requested shift of EchoStar-6 to 110.35°W and then 110.4°W the orbital separation would be nominally 8.85 to 8.8 degrees, or 8.75 to 8.7 degrees taking into account the station-keeping tolerances of both satellites. Taking the worst case of EchoStar 6 at 110.4°W, the result of the shift in terms of receive earth station off-axis gain is a difference of less than 0.25 dB and the off-axis discrimination of the receiving earth station is still greater than 29 dB. Similarly the large feeder link earth stations used by EchoStar provide sufficient isolation at these orbital separations to prevent any uplink interference effects. Therefore, the proposed shift of EchoStar-6 from 110.2°W to 110.35 and then to 110.4°W will result in negligible impact to the DIRECTV operations at the 119°W location.

In addition to these operational satellites, a search using the ITU's on-line databases show there are several AP30/30A BSS filings at "tweener" orbital locations, e.g. 105.5°W and 114.5°W. There is no indication, however, that these satellites will be operational in the time-frame of the requested temporary operation of EchoStar-6 satellite at the 110.35°W orbital location. At the 110.4°W orbital location, the EchoStar 6 satellite will be closer to the 114.5°W orbital location. However, the EchoStar 6 satellite will not be providing service from this location so only its TT&C frequencies will be operating. If in the future

¹ Other operational co-frequency DBS satellites, e.g. the Canadian network at 91°W are further removed. The off-axis discrimination of the receive earth stations at separations greater than 10 degrees is 31 dB or greater (assuming an equivalent 45 cm dish antenna that meets ITU-R BO.1213 reference pattern). Thus, the requested shift of 0.2 degrees for the EchoStar-6 satellite would have an even more attenuated impact on operations of DBS satellites operating more than 10 degrees away than what will be seen to be a negligible effect on the satellites at 119°W.

² This annex covers both the proposed transitional operation of EchoStar 6 at 110.35° W.L. and the subsequent proposed temporary operation at 110.4° W.L. For simplicity, we will use the 110.4° W.L. position in this analysis.

a satellite is located at the 114.5°W orbital location, successful coordination of the TT&C frequencies should be possible given the narrow bandwidths and the larger earth station used by EchoStar for its TT&C operations. There are also many filings for use of the Region 2 17.3 – 17.8 GHz BSS downlink allocation. These satellites cannot be brought into use until 1 April 2007. Moreover, the issue with these networks is 17 GHz feeder link earth station interference into receiving earth stations, and this would be unaffected by the precise orbital location of the EchoStar 6 satellite. Similarly, there are FSS Ka-band filings that include the 17 GHz spectrum in the space-to-Earth direction. The ITU databases also includes FSS filings for the 12 GHz band in Regions 1 and 3. Because of the large geographic separation of the service areas the up to 0.2° shift of EchoStar 6 would not impact these networks either.

Collision Avoidance Issues

In considering current and planned satellites that may have a station-keeping volume that overlapping the EchoStar-6 satellite's new proposed locations at 110.35°W and 110.4°W, we have reviewed the lists of FCC licensed satellite networks, as well as those that are currently under consideration by the FCC. In addition, non-USA networks for which a filing has been submitted to the ITU in the vicinity of 110° W have also been reviewed.

Only those networks that either operate, or are planned to operate, and have an overlapping station-keeping volume with the EchoStar-6 satellite, have been taken into account in the analysis. For purposes of calculating potential station-keeping volume overlap, US satellites have been assumed to have a maximum east-west excursion of $\pm 0.05^\circ$ from their nominal location, while non-US satellite networks have been assumed to have a maximum excursion of $\pm 0.1^\circ$ from their nominal location.

Currently there are four operational US licensed satellites within $\pm 0.5^\circ$ of 110°W.L. These are the DIRECTV-6 satellite at 109.5°W, the DIRECTV-5 satellite at 109.8°W, the EchoStar-6 satellite at 110.2°W and the EchoStar-8 satellite at 110.0°W. Additionally, EchoStar has requested authority to provide DBS service from the nominal 110° W.L. orbital position using the EchoStar-10 satellite, and plans to locate the satellite at the 110.2° W.L. orbital location. Taking into account the maximum east-west excursion of $\pm 0.05^\circ$, none of these satellites have the potential to overlap with the station-keeping volume of the EchoStar-6 satellite at the 110.35°W or 110.4°W orbital locations.

In addition to these operational satellites a review of the ITU on-line databases include the following non-USA filings at the 110°W orbital location: EMARSAT-5B/M from the United Arab Emirates, INMARSAT-S7 from the United Kingdom and PAS-ENDEAVOUR-110W from Australia. A review of the FAA Quarterly Launch Report does not indicate that these satellites will be launched in the near future. In addition to these filings there are US filings for Region 2 17 GHz BSS operations. The earliest these networks can be brought into use is 1 April 2007, however. It is noted that, with the assumed station-keeping maximum excursions stated above, there would be no overlapping station-keeping volume with the EchoStar 6 satellite at 110.35°W and 110.4°W orbital locations.

CERTIFICATION OF PERSON RESPONSIBLE
FOR PREPARING ENGINEERING INFORMATION

I hereby declare under penalty of perjury that I am the technically qualified person responsible for preparation of the engineering information contained in the foregoing submission, 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 pleading, and that it is true and correct to the best of my knowledge and belief.

_____/s/_____
Richard J. Barnett, PhD, BSc
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Chevy Chase, Maryland 20815
(301) 656-8969

Dated: March 3, 2006