

EchoStar@110.4°W.Lo

Approved by OMB
3060-0678

Call Sign: S2441
SAT-LOA-20020328-00051
SAT-AMD-20080114-00019
SAT-AMD-20080213-00042
SAT-AMD-20051118-00246

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FCC APPLICATION FOR SPACE AND EARTH STATION: MOD OR AMD - MAIN FORM
FCC Use Only

FCC 312 MAIN FORM FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Amendment to Incorporate an Orbital Debris Mitigation Plan into Application to Operate in Expansion DBS Bands

1-8. Legal Name of 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



File #
Call Sign S2441 Grant Date 7/28/09
(or other Identifier) Term Dates
From To: See conditions
Approved: Chief, Satellite Division

Attachment to Grant
IBFS File Nos. SAT-LOA-20020328-00051, SAT-AMD-20050118-00246,
SAT-AMD-20080114-00019, and SAT-AMD-20080213-00042
Call Sign: S2441
July ~~28~~, 2009

EchoStar Corporation's (EchoStar) request for authority to construct, launch, and operate a 17/24 GHz Broadcasting-Satellite Service (BSS) space station, EchoStar EX-1, at the 110.4° W.L. orbital location, which is offset 0.6° from the 111° W.L. location specified in Appendix F to the *17/24 GHz BSS Report and Order*, FCC 07-76, 22 FCC Rcd 8842 (rel. May 4, 2007), IS GRANTED.¹ Accordingly, EchoStar is authorized to operate its BSS space station, EchoStar EX-1, at the 110.4° W.L. orbital location, using the 17.3-17.8 GHz (space-to-Earth) and the 24.75-25.25 GHz (Earth-to-space) frequency bands, with the 17.7-17.8 GHz (space-to-Earth) frequency band limited to international service only, at a reduced power and without full interference protection, in accordance with the terms and conditions contained in its application, the Federal Communication Commission's rules not waived herein, and the conditions of this attachment.

1. EchoStar may operate its EchoStar EX-1 space station at the 110.4° W.L. orbital location, up to power flux density (PFD) levels that are reduced from those specified in 47 C.F.R. §§ 25.208(c) and 25.208(w) in accordance with the following calculation methodology: For a given location on the surface of the Earth at which the required PFD reduction value needs to be determined, calculate the topocentric angular separation ' ϕ ' of the 107.0° W.L. and 111° W.L. geostationary orbital locations, and the corresponding off-axis gain $G_{CO1}(\phi)$ of the antenna specified in Section 25.224(a)(1) at that angular separation. For the same location on the surface of the Earth, also calculate the topocentric angular separation of the 107° W.L. and 110.4° W.L. geostationary orbital locations, and the gain of the antenna ' $G_{CO2}(\phi)$ ' specified in Section 25.224(a)(1) at that angular separation. Then, perform the subtraction $G_{CO2}(\phi) - G_{CO1}(\phi)$. The result is the required reduction in the PFD from the value specified in the applicable subsection of Section 25.208(c), or in Section 25.208(w). EchoStar EX-1's space station transmissions shall meet the reduced PFD limits under all atmospheric conditions. The PFD levels of EchoStar EX-1's transmissions shall not exceed the maximum PFD levels stated in its application.
2. EchoStar shall maintain its 17/24 GHz BSS space station within an east-west longitudinal station-keeping tolerance of $\pm 0.05^\circ$ of the assigned 110.4° W.L. orbital location.
3. EchoStar, when designing its system, is reminded to take into consideration the geographic service requirements of Section 25.225 of the Commission's rules. 47 C.F.R. § 25.225.

¹ The application was placed on Public Notice as accepted for filing on July 2, 2008. Policy Branch Information, Satellite Space Applications Accepted for Filing, *Public Notice*, Report No. SAT-00535 (rel. July 2, 2008). Comments were filed by Pegasus Development DBS Corporation (Pegasus) and SES Americom Inc. (SES) on August 1, 2008. No petitions to deny were filed against this application. In a comment filed on all pending 17/24 GHz BSS applications, Pegasus sought a "clarification" regarding Commission policies relating to 47 C.F.R. §§ 25.158(c) (prohibition on transfer of place in application queue) and 25.165 (bond requirement). The issues raised by Pegasus are not relevant to the processing of this application but, instead, relate to a request to assign an application to Pegasus from DIRECTV Enterprises, LLC (DIRECTV). IBFS File No. SAT-AMD-20080916-00188. Accordingly, we will not address Pegasus's comment in this grant.

4. EchoStar's request for a waiver of Section 25.202(g) of the Commission's rules, 47 C.F.R. § 25.202(g) IS GRANTED. Section 25.202(g) requires that "telemetry, tracking and telecommand functions for U. S. domestic satellites shall be conducted at either or both edges of the allocated band(s). Frequencies, polarization, and coding shall be selected to minimize interference into other satellite networks and within their own satellite system." EchoStar seeks a waiver of this rule in two respects. First, EchoStar seeks to operate its telemetry, tracking, and telecommand (TT&C) links at the edges of the 12.2-12.7 GHz (space-to-Earth) Direct Broadcast Satellite (DBS) service band and associated 17.3-17.8 GHz (Earth-to-space) feeder-link frequency band for launch, in-orbit testing, transfer orbit, and emergency on-station TT&C communications (*Launch, In-Orbit Testing, Transfer Orbit, and Emergency on-Station TT&C Waiver*). Second, EchoStar seeks to operate its telemetry downlink at the edges of the 12.2-12.7 GHz (space-to-Earth) frequency band for regular on-station TT&C communications (*On-Station TT&C Waiver*). EchoStar IS AUTHORIZED for launch, in-orbit testing, transfer orbit, and emergency on-station TT&C communications to operate the telecommand links of EchoStar EX-1 using one megahertz of bandwidth at each of the uplink center frequencies (17.309 GHz and 17.791 GHz) with horizontal polarization and to operate the telemetry and ranging links of EchoStar EX-1 using one megahertz of bandwidth at each of the downlink center frequencies (12.205 GHz and 12.694 GHz) with vertical polarization. EchoStar IS FURTHER AUTHORIZED for regular on-station TT&C communications to operate the telemetry and ranging links of EchoStar EX-1 using one megahertz of bandwidth at each of the downlink center frequencies (12.205 GHz and 12.694 GHz) with vertical polarization. This grant is based on the following findings:
- a) *Launch, In-Orbit Testing, Transfer Orbit, and Emergency On-Station TT&C Waiver*. The 17/24 GHz BSS is a new radiocommunication service and there are presently no global TT&C networks available in the 17.3-17.8 GHz (space-to-Earth) and the 24.75-25.25 GHz (Earth-to-space) frequency bands. In contrast, global TT&C networks exist in the 12.2-12.7 GHz (space-to-Earth) DBS frequency band and associated 17.3-17.8 GHz (Earth-to-space) frequency band. EchoStar has successfully coordinated its DBS space station operations utilizing the same frequency bands for TT&C as proposed for use on EchoStar EX-1. Nothing suggests that EchoStar will be unable to coordinate its limited term launch, in-orbit testing and emergency TT&C operations with all potentially-affected operators. Therefore, we conclude that grant of EchoStar's *Launch, In-Orbit Testing, and Emergency on-Station TT&C Waiver* will not cause interference to other licensed operations and will otherwise serve the public interest.
 - b) *On-Station Downlink TT&C Waiver*. EchoStar intends to operate its 17/24 GHz BSS TT&C earth stations at the same geographic sites as the TT&C earth stations used for its DBS space stations. As a result, there is a potential for unacceptable interference between the co-located DBS uplink transmitters and the 17/24 GHz BSS telemetry downlink receivers. In particular, the interference from the high-power command and feeder-link earth station transmitters communicating with EchoStar's DBS space stations could cause overloading of sensitive telemetry earth station receivers communicating with EchoStar's 17/24 GHz BSS space stations on nearby frequencies at the same sites. This could result in an inability to receive telemetry and tracking signals from EchoStar's 17/24 GHz BSS space station. The 12 megahertz guardband set aside at both the lower and the upper edge of the 12.2-12.7 GHz DBS telemetry downlink frequency band can accommodate a number of typically one-megahertz-wide

telemetry downlink signals. Therefore, we conclude that grant of EchoStar's *On-Station Downlink TT&C Waiver* to operate in the 12.2-12.7 GHz band will not cause interference to other licensed operations and will otherwise serve the public interest.

As a condition of granting these waivers, EchoStar shall coordinate all the TT&C operations permitted pursuant to condition No. 4 with all potentially-affected operators of other radiocommunication systems. In the absence of a coordination agreement regarding such TT&C operations, EchoStar's TT&C operations permitted pursuant to condition No. 4 shall be on a non-harmful interference basis (*i.e.*, EchoStar shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating radiocommunication system). Additionally, EchoStar must accommodate future space station networks that are compliant with Section 25.202(g) of the Commission's rules. Further, in the event on-station emergency TT&C operations are conducted in the 17.3-17.8 GHz (Earth-to-space) frequency band, EchoStar's authority to conduct such operations is limited to five consecutive days ending at 12:00 midnight on the fifth day. If additional time is needed, EchoStar must file a request with the Commission for authorization to continue such operations. EchoStar shall notify the Commission, in writing, within two days of beginning on-station emergency TT&C operations in the 17.3-17.8 GHz (Earth-to-space) frequency band, stating the reasons for commencing such operations.

5. *Division of Spectrum at the 111° W.L. Appendix F Orbital Location.*² Grant of this application is subject to the provisions regarding division of spectrum contained in Section 25.158(d) of the Commission's rules. Accordingly, in the event that applications relating to call sign S2243 at the 111° W.L. Appendix F orbital location are also granted, the available bandwidth at the orbital location will be divided among the licensees at this location.³ The following procedures apply to the selection of spectrum by EchoStar:

a. *Ensuring Contiguous Bandwidth Selections.* Section 25.158(d)(6) requires that the each licensee's bandwidth selection shall not preclude other licensees from selecting contiguous bandwidth. To implement this requirement in the selection of bandwidth at this location, operations for telemetry, tracking, and telecommand (TT&C), service-link, and feeder-link band will be as follows:

i. *Downlink Transmissions.* Telemetry and beacon transmissions in the space-to-Earth direction may be conducted in an 11-megahertz band segment at 17.300-17.311 GHz and an 11-megahertz band segment at 17.689-17.700 GHz. The remaining portions of the 17.3-17.7 GHz band may be used by EchoStar for service links in the space-to-Earth direction.

² For purposes of this condition, the 111° W.L. Appendix F orbital location means the precise 111° W.L. geostationary orbital location and other geostationary orbital locations offset from the 111° W.L. orbital location.

³ At the 111° W.L. Appendix F orbital location, EchoStar applied for authority to operate in the 17.3-17.8 GHz (space-to-Earth) and the 24.75-25.25 GHz (Earth-to-space) frequency bands. In contrast, DIRECTV applied for authority to operate in the 17.3-17.7 GHz (space-to-Earth) and the 24.75-25.15 GHz (Earth-to-space) frequency bands. Accordingly, there is no need to divide the 17.7-17.8 GHz (space-to-Earth) and the 25.15-25.25 GHz (Earth-to-space) frequency bands at this orbital location, and those bands are not subject to this condition.

ii. *Uplink Transmissions.* Telecommand transmissions in the Earth-to-space direction may be conducted in an 11-megahertz band segment at 24.750-24.761 GHz and an 11-megahertz band segment at 25.139-25.150 GHz. On our own motion, we grant a limited waiver of § 25.202(g) of the Commission's rules, 47 C.F.R. § 25.202(g), to permit TT&C operations in the 25.139-25.150 GHz band segment. Section 25.202(g) requires that "telemetry, tracking and telecommand functions for U.S. domestic satellites shall be conducted at either or both edges of the allocated band(s)." The allocated uplink band for this service is the 24.75-25.25 GHz band. The 25.139-25.150 GHz uplink band segment is a necessary counterpart to the 17.689-17.700 GHz downlink band segment. We grant this limited waiver to allow productive use of the 25.139-25.150 GHz uplink band segment that would otherwise be unused. This waiver only applies to use of the 25.139-25.150 GHz uplink band segment at the 111° W.L. Appendix F orbital location. The remaining portions of the 24.75-25.15 GHz band may be used by EchoStar for feeder links in the Earth-to-space direction.

b. *Selection Process.* EchoStar will be allowed to select the particular band segments it wishes to use (its "Selected Assignments") no earlier than 60 days before it plans to launch its satellite, and no later than 30 days before that date, by submitting a letter to the Secretary of the Commission. EchoStar shall serve copies of this letter to the other 17/24 GHz BSS Licensee at the 111° W.L. Appendix F orbital location, pursuant to Section 1.47 of the Commission's rules.

i. *Selection of Downlink TT&C.* We note that EchoStar intends to conduct on-station downlink TT&C pursuant to condition 4(b), above. If EchoStar files a modification and is granted authority to conduct downlink TT&C at the edges of its service bands, EchoStar may make up to two telemetry and/or beacon downlink frequency channel selections in the 17.3-17.7 GHz TT&C band segments with a bandwidth of one megahertz each: one in the 17.300-17.311 GHz TT&C band segment, and one in the 17.689-17.700 GHz TT&C band segment.

ii. *Selection of Uplink TT&C.* In the 24.75-25.15 GHz TT&C band segments, EchoStar may make up to two telecommand uplink frequency channel assignment selections with a bandwidth of one megahertz each: one in the 24.750-24.761 GHz TT&C band segment, and one in the 25.139-25.150 GHz TT&C band segment.

iii. *Selection of Spectrum within the 17.3-17.7 GHz band for Service-Link Operations and within the 24.75-25.15 GHz band for Feeder-Link Operations.* In the 17.3-17.7 GHz band segment, the Selected Assignment shall give EchoStar access to $1/m$ of the quantity of spectrum in the band segment, for transmission on a primary basis, where "m" is the number of 17/24 GHz BSS Licensees authorized to provide service in the band segment at the 111° W.L. Appendix F orbital location at the time the Selected Assignment is chosen. In the 17.3-17.7 GHz band segment, the Selected Assignment shall be chosen such that the lower band edge of the assignment is an integer multiple of $378/m$ megahertz from the band edge of the lower TT&C band segment, at 17.311 GHz, and the upper band edge of the assignment is $378/m$ megahertz above the lower band edge of the

assignment. The edges of the corresponding feeder-link Selected Assignment shall be 7450 MHz above the lower and upper band edges of the service-link Selected Assignment.

- c. *Operations Within and Outside of the Selected Assignments.* EchoStar shall operate on a primary basis relative to the other 17/24 GHz BSS Licensee within its Selected Assignments. EchoStar may also operate in other portions of the 17.3-17.7 GHz and 24.75-25.15 GHz frequency bands outside its own Selected Assignments on a secondary basis with respect to operations of the other 17/24 GHz BSS Licensee in its respective Selected Assignments. Each 17/24 GHz BSS Licensee at the 111° W.L. Appendix F orbital location that launches a satellite to that location shall serve a Notice of Successful Launch, by letter to the Chief, Satellite Division, International Bureau, Federal Communications Commission. Copies of the letter shall be served on the other 17/24 GHz BSS Licensee at the 111° W.L. Appendix F orbital location, pursuant to Section 1.47 of the Commission's rules. Within one week of receiving written notice of a successful launch, any 17/24 GHz BSS Licensee operating at the 111° W.L. Appendix F orbital location within the Selected Assignments of the newly launched satellite will be required to cease operations on such selected assignments.
6. EchoStar's authorization for a 17/24 GHz BSS space station at the 110.4° W.L. orbital location will be null and void with no further action on the Commission's part if the space station is not constructed, launched, and placed into operation in accordance with the technical parameters and terms and conditions of this authorization by these specified time periods following the date of authorization:
 - a) Execute a binding contract for construction within one year (July 28, 2010);
 - b) Complete the Critical Design Review within two years (July 28, 2011);
 - c) Commence construction within three years (July 28, 2012);
 - d) Launch and begin operations within five years (July 28, 2014); and
 - e) EchoStar must file a bond with the Commission in the amount of \$3 million, pursuant to the procedures set forth in Public Notice, DA 03-2602, 18 FCC Rcd 16283 (2003), within 30 days of the date of this grant (August 27, 2009).
7. EchoStar must complete coordination of the physical operations of the space station with operators of space stations with overlapping station-keeping volumes within two years and two months of grant of this authorization. EchoStar shall notify the Chief, Satellite Division, International Bureau, Federal Communications Commission, in writing, within ten business days of completion of such coordination. Failure to meet this condition shall render this authorization null and void.
8. EchoStar shall file as a modification, no later than ten business days after completion of Critical Design Review, a revised statement detailing the post-mission disposal plans for the space station at end of life, including the quantity of fuel that will be reserved for post-mission disposal maneuvers. The statement must disclose the perigee altitude selected for a post-mission disposal orbit and demonstrate that the perigee altitude for a post-mission disposal orbit meets the requirements of Section 25.283(a) of the Commission's rules, 47 C.F.R. § 25.283(a).

9. This authorization and all conditions contained herein are subject to the final outcome of the Commission's rulemaking in IB Docket No. 06-123 and any requirements subsequently adopted therein.
10. EchoStar shall prepare the necessary information that may be required, for submission to the International Telecommunication Union (ITU) to initiate and complete the advance publication, international coordination, due diligence, and notification process of this space station, in accordance with the ITU Radio Regulations. EchoStar shall be held responsible for all cost recovery fees associated with these ITU filings. No protection from interference caused by radio stations authorized by other Administrations is guaranteed unless coordination and notification procedures are timely completed or, with respect to individual Administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination of the frequency assignments with other Administrations. 47 C.F.R. § 25.111(b).⁴
11. The license term for this 17/24 GHz BSS space station (Call Sign: S2441) is fifteen years and will begin to run on the date that EchoStar certifies to the Commission that the satellite has been successfully placed into orbit and its operation fully conforms to the terms and conditions of this authorization. 47 C.F.R. § 25.121(a). EchoStar shall file this certification with the Chief, Satellite Division, International Bureau, Federal Communications Commission, within ten business days of the space station being put into operation.
12. On June 30 of each year, EchoStar shall file a report with the International Bureau and the Commission's Columbia Operations Center in Columbia, Maryland, containing the information current as of May 31 of that year pursuant to Section 25.210(l) of the Commission's rules. 47 C.F.R. § 25.210(l).
13. EchoStar is afforded 30 days from the date of release of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.
14. This action 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. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.

Call Sign: S2441
 SAT-LOA-20020328-00012
 SAT-AMD-20080114-00019
 SAT-AMD-20080213-00042
 SAT-AMD-20051118-00246

IBFS Nos.



File # _____

Call Sign S2441 Grant Date 7/28/09
 (or other identifier)

Term Dates
 From _____ To: see conditions

Approved: _____
 Chief, Satellite Division

⁴ In its comments, SES requests that certain conditions relating to ITU procedures be included in each 17/24 GHz BSS authorization. Most of the conditions sought by SES are included in condition No. 10 of this grant, which is a standard condition on space station authorizations. SES, however, also seeks to impose a customer notification requirement. We see no reason to impose such a condition on this authorization at this time.

9-16. Name of Contact Representative

Name: Pantelis Michalopoulos **Phone Number:** 202-429-6494
Company: Steptoe & Johnson LLP **Fax Number:** 202-439-3902
Street: 1330 Connecticut Avenue, NW **E-Mail:** pmichalo@steptoe.com
City: Washington **State:** DC
Country: USA **Zipcode:** 20036-1795
Attention: Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) b1. Application for License of New Station
- (N/A) b2. Application for Registration of New Domestic Receive-Only Station
- (N/A) b3. Amendment to a Pending Application
- (N/A) b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- (N/A) b7. Notification of Minor Modification
- (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)

<p>17c. Is a fee submitted with this application? <input 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 checked="" type="radio"/> Other (please explain): This amendment is made pursuant to the FCC's new orbital debris mitigation rules and does not require a fee per the FCC's Public Notice (DA 05-2698).</p>	<p>17d. Fee Classification CWY – Space Station Amendment (Geostationary)</p>
<p>18. If this filing is in reference to an existing station, enter: (a) Call sign of station: (a) Date pending application was filed: (b) File number:</p>	<p>03/28/2002 SATLOA2002032800051</p>
<p>19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number: (a) Date pending application was filed: (b) File number:</p>	

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- a. Fixed Satellite
- b. Mobile Satellite
- c. Radiodetermination Satellite
- d. Earth Exploration Satellite
- e. Direct to Home Fixed Satellite
- f. Digital Audio Radio Service
- g. Other (please specify) DBS Service

21. STATUS: Choose the button next to the applicable status. Choose only one.

- Common Carrier
- Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
- Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

- Connected to a Public Switched Network
- Not connected to a Public Switched Network
- N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz)
- b. Ku-Band (12/14 GHz)
- c. Other (Please specify upper and lower frequencies in MHz.)
 Frequency Lower: 17000 Frequency Upper: 25000 (Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
- b. Temporary-Fixed Earth Station
- c. 12/14 GHz VSAT Network
- d. Mobile Earth Station
- e. Geostationary Space Station
- f. Non-Geostationary Space Station
- g. Other (please specify) DBS

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive
- Transmit-Only
- Receive-Only
- N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a --- authorization to add new emission designator and related service
- b --- authorization to change emission designator and related service
- c --- authorization to increase EIRP and EIRP density
- d --- authorization to replace antenna
- e --- authorization to add antenna
- f --- authorization to relocate fixed station
- g --- authorization to change frequency(ies)
- h --- authorization to add frequency
- i --- authorization to add Points of Communication (satellites & countries)
- j --- authorization to change Points of Communication (satellites & countries)
- k --- authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l --- authorization to change orbit location
- m --- authorization to perform fleet management
- n --- authorization to extend milestones
- o --- Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.

Yes No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?

Yes No

30. Is the applicant an alien or the representative of an alien?

Yes No N/A

31. Is the applicant a corporation organized under the laws of any foreign government?

Yes No N/A

32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

Yes No N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

Yes No N/A

34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.

Yes No

36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.

Yes No

Question 36

<p>37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.</p> <p style="text-align: right;">Q40</p>	

41. 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

42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.

Yes No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

EchoStar Satellite Operating Corporation* amends this Application to include an updated orbital debris mitigation plan pursuant to the Commission's Public Notice of October 13, 2005. All other information contained in the Application remains materially unchanged.
* EchoStar Satellite Operating Corporation replaced EchoStar Satellite L.L.C. as the

ODM

CERTIFICATION

The Applicant waives 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, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing
David K. Moskowitz

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

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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43. Description. (Summarize the nature of the application and the services to be provided).

EchoStar Satellite Operating Corporation* amends this Application to include an updated orbital debris mitigation plan pursuant to the Commission's Public Notice of October 13, 2005. All other information contained in the Application remains materially unchanged. * EchoStar Satellite Operating Corporation replaced EchoStar Satellite L.L.C. as the applicant in this Application on November 18, 2005. See Letter from Pantelis Michalopoulos, Counsel for EchoStar, to Marlene H. Dortch, FCC (filed Nov. 18, 2005).