STEPTOE & JO

ATTORNEYS

Call Sign: S2441 IBFS Nos. SAT-LOA-20020328-00051 SAT-AMD-20080114-00019 SAT-AMD-20080213-00042

SAT-AMD-20051118-00246

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Pantelis Michalopoulos 202.429.6494 pmichalo@steptoe.com

BY HAND DELIVERY

Magalie Roman Salas

P.O. Box 358210

Secretary

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SAT-LOA-20020328-00050

EchoStar Satellite Corporation

S2441

SAT-LOA-20020328-00051

EchoStar Satellite Corporation

EX-2

S2442

SAT-LOA-20020328-00052

EchoStar Satellite Corporation

Re:

Pittsburgh, PA 15251-5210

Federal Communications Commission International Bureau - Satellites

Application of EchoStar S

Construct, Launch and Or

Comprised of Three Satellites in the 17 GHz and 25 GHz Bands,

File No.

Dear Ms. Salas:

On behalf of EchoStar Satellite Corporation ("ESC"), a Direct Broadcast Satellite ("DBS") permittee, enclosed please find for filing an original and four copies of an application for authority to construct, launch and operate a direct broadcast satellite system comprised of three satellites in the 17 GHz and 25 GHz bands. Also enclosed is a completed FCC Form 159 and a check in the amount of \$89,280.00 for the applicable "Construction Permit and Launch Authority," "Authorization to Construct" and "License to Operate" filing fees. We are also enclosing an additional copy of this transmittal letter, which we ask you to date stamp and return with our messenger.

Please do not hesitate to contact me should you have any questions.

Respectfully submitted.

Pantelis Michalopoulos

Attorney for EchoStar Satellite Corporation

Enclosures

File# From GRANTED LOS ANGELES International Bureau

To See Co LONDON

WASHINGTON

PHOENIX

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 offaxis gain $G_{COI}(\varphi)$ 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 ' $G_{CO2}(\varphi)$ ' specified in Section 25.224(a)(1) at that angular separation. Then, perform the subtraction $G_{CO2}(\varphi)$ - $G_{CO1}(\varphi)$. 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° 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 onstation 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. 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. 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.

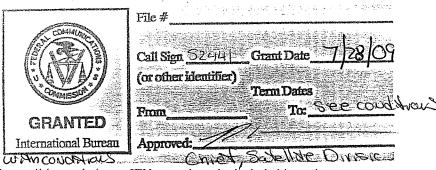
- ii. Uplink Transmissions. Telecommand transmissions in the Earth-to-space direction may be conducted in an 11-megahertz band segment at 24.750-24.761 GHz and an 11-megahertz band segment at 25.139-25.150 GHz. On our own motion, we grant a limited waiver of § 25.202(g) of the Commission's rules, 47 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 onstation 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.



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.

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REMITTANCE ADVICE (Continuation Sheet)

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Before the FEDERAL COMMUNICATIONS COMMISSION Washington, DC 20554

In the Matter of:	
ECHOSTAR SATELLITE CORPORATION) File No
Application for Authority to Construct, Launch and Operate a Direct Broadcast Satellite System Comprised of Three Satellites in the 17 GHz and 25 GHz Bands.))))))

APPLICATION

Pursuant to Sections 308, 309 and 319 of the Communications Act, as amended, 47 U.S.C. §§ 308, 309, 319, and Section 100.13 of the Commission's Rules, 47 C.F.R. § 100.13, EchoStar Satellite Corporation, a wholly-owned subsidiary of EchoStar Communications Corporation ("EchoStar"), hereby applies for authority to construct, launch and operate a new Direct Broadcast Satellite ("DBS") system comprised of three satellites using the 17 GHz and 25 GHz Broadcast-Satellite Service ("BSS") frequency bands ("DBS Expansion Band") recently allocated by the Commission to provide new and innovative DBS services. Subject to a decision by the Commission to develop an orbital spacing plan for the DBS Expansion Band,

¹ <u>See</u> In the Matter of Resignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, Report and Order, 15 FCC Rcd 13430 (2000) (the "DBS Expansion Allocation Order"), reconsideration denied in part First Order on Reconsideration, FCC 01-323 (rel. Nov. 1, 2001) ("18 GHz Reconsideration Order").

EchoStar intends to launch these satellites (designated EX-1, EX-2 and EX-3) into adjacent orbital locations at 110° W.L., 114.5° W.L. and 119° W.L., respectively, assuming a 4.5° separation between each satellite.²

As the Commission is well aware, EchoStar is a leading provider of DBS services in the Multichannel Video Programming Distribution ("MVPD") market with over 7 million subscribers. It is also an applicant, along with Hughes Electronics Corporation ("Hughes") and General Motors Corporation, to obtain the Commission's approval to merge their businesses into a combined entity that will be named EchoStar Communications Corporation ("New EchoStar"). Even with this proposed merger, EchoStar anticipates that by the time the expansion DBS spectrum becomes available in April 2007, additional channel capacity will be needed to serve its subscribers with new and innovative DBS and other spectrum intensive services, such as more High Definition Television ("HDTV") and interactive multimedia offerings. These services will complement the existing DBS services currently being offered over EchoStar's current fleet of DBS satellites using the 12.2-12.7 GHz band. While the extent to which the DBS Expansion Band can be fully integrated with EchoStar's existing DBS services remains uncertain at this time, this spectrum presents the potential for such integrated services starting in 2007.

 $^{^2}$ The Commission has indicated that it will address the orbital spacing in this band in a future proceeding that relates to service rules. <u>Id.</u> ¶ 100. EchoStar reserves the right to amend this application to reflect different orbital spacing in the DBS Expansion Band once the Commission institutes this rulemaking proceeding.

³ <u>See Consolidated Application of EchoStar Communications Corporation, General Motors Corporation, Hughes Electronics Corporation for Authority to Transfer Control, CS Docket No. 01-348 (filed Dec. 3, 2001) ("Merger Application").</u>

I. INTRODUCTION

In the DBS Expansion Allocation Order, the Commission allocated the 17.3-17.7 GHz band to the Broadcasting-Satellite Service ("BSS") and the 24.75-25.25 GHz band to the Fixed-Satellite Service ("FSS") for BSS feeder links (Earth-to-space), effective April 1, 2007.⁴ In so doing, the Commission noted that BSS/DBS is a rapidly growing service and that additional DBS spectrum will be needed within the next decade.⁵ While this allocation will not take effect for another five years, the Commission wisely recognized that time was necessary "to provide all parties with sufficient notice . . . to design their systems to use this spectrum in the most efficient manner."

The new DBS system proposed by EchoStar will consist of three state-of-the-art satellites, with one satellite nominally to be located at the 110° W.L., 114.5° W.L. and 119° W.L. orbital locations. Each satellite will be designed so that it also could be used as an in-orbit spare for the other two orbital locations in case of an in orbit failure or anomaly. Each satellite will provide DBS coverage to the continental United States ("CONUS"), Hawaii, Alaska, Puerto Rico and the U.S. Virgin Islands, plus portions of Canada, Mexico, and many Caribbean nations using the 17.3-17.8 GHz band for BSS downlinks. The satellites will use the 24.75-25.25 GHz

⁴ <u>See</u> DBS Expansion Allocation Order.

⁵ *Id.* ¶ 97.

⁶ <u>Id.</u> ¶ 99.

⁷ Although the Commission only allocated 400 MHz at 17.3-17.7 GHz to BSS in the United States (which is inconsistent with the ITU Region 2 allocation of 500 MHz of BSS spectrum at 17.3-17.8 GHz), it further indicated that it may re-examine the availability of all or part of the 17.7-17.8 GHz band for BSS applications in the future. <u>See DBS Expansion</u> (Continued ...)

band for BSS feeder uplinks, and EchoStar currently plans to operate the feeder link and TT&C earth stations associated with its DBS Expansion Band system in Cheyenne, Wyoming and Gilbert, Arizona, where EchoStar's existing earth station complexes are located.⁸

While the extent to which this spectrum can be fully integrated with EchoStar's conventional DBS services is not entirely known at this time, the primary intended use of the proposed satellites may well be to supplement EchoStar's MVPD offerings to residential subscribers in the United States. Additional services also will be offered to business users and international consumers as regulatory approvals are obtained in other North American countries. Some of the types of programming that EchoStar anticipates providing over this system include more bandwidth-intensive HDTV programming and a wider variety of entertainment, education, informational and ethnic programming. In addition, it is anticipated that new data and multimedia services will be offered using this expansion spectrum.

EchoStar's proposed expansion system is another potentially important component in maintaining its ability to compete in the robust MVPD market. Even with the extraordinary efficiency and spectrum capacity gains that will result from the proposed merger with Hughes, EchoStar anticipates that there will be a growing number of digital cable systems and other MVPD competitors that likely will have more effective capacity than New EchoStar by

Allocation Order, at ¶ 99; 18 GHz Reconsideration Order, at ¶¶ 30-31. Although EchoStar intends to use the 17.7-17.8 GHz band to provide service to the United States if this spectrum becomes available domestically, at a minimum EchoStar plans to use this band for international BSS services to other portions of North America, including Canada, Mexico and the Caribbean, and therefore needs Commission authority to operate in the 17.7-17.8 GHz band subject to U.S. and foreign spectrum allocations and relevant regulatory requirements.

⁸ Current plans are for the transfer orbit and on-station TT&C links to operate in the 12.2-12.7 GHz and 17.3-17.8 GHz bands, or the 17.3-17.8 GHz and 24.75-25.25 GHz bands. Separate applications for these earth stations will be submitted to the Commission at a later date.

the latter part of this decade as a result of fiber optic and advanced terrestrial wireless system upgrades. Accordingly, the prompt approval of this application will further the public interest by promoting more effective competition with the dominant cable operators in the MVPD market.

While the Commission has not adopted any special service rules for the DBS Expansion Band, EchoStar's application and the proposed expansion system specifications fully satisfy all possibly relevant requirements of the Commission's Rules. EchoStar is legally, technically, financially and otherwise qualified to construct, launch and operate the requested DBS expansion system. EchoStar's ownership structure complies fully with the DBS alien ownership rules. The proposed system is also technically capable of providing, and will provide, expanded DBS service to Alaska and Hawaii. EchoStar is prepared to complete construction of the first satellite within four years of the grant of this application and place the entire expansion DBS system into operation within six years from the grant date. To the extent that new service rules are adopted by the Commission before this application is acted upon, EchoStar requests leave to supplement and amend this application to comply with such rules in accordance with standard Commission practice.

Since the DBS Expansion Band is not a planned BSS frequency band, EchoStar urges the Commission to submit promptly to the International Telecommunication Union

⁹ See 47 C.F.R. Part 100.

¹⁰ <u>See</u> 47 C.F.R. § 100.11.

¹¹ <u>See</u> 47 C.F.R. § 100.53(b).

("ITU") the attached Advanced Publication information to begin the process of coordinating the proposed system with other Administrations.¹²

The following information is provided to the Commission in support of this application:

II. APPLICANT NAME AND CONTACT INFORMATION

Name, address and phone number of applicant:

EchoStar Satellite Corporation 5701 South Santa Fe Littleton, CO 80102 (303) 723-1000

Names, addresses and phone numbers of persons to be contacted:

EchoStar Satellite Corporation Attn: Mr. David K. Moskowitz 5701 South Santa Fe Littleton, CO 80102 (303) 723-1000

Philip L. Malet
Pantelis Michalopoulos
Carlos M. Nalda
Todd Lantor
Steptoe & Johnson LLP
1330 Connecticut Avenue, N.W.
Washington, DC 20036
(202) 429-3000

III. OWNERSHIP INFORMATION

The applicant, EchoStar Satellite Corporation, is a Colorado corporation wholly owned through two intermediate parent corporations by EchoStar Communications Corporation ("ECC"), a Nevada corporation. ECC is controlled through a family trust by Mr. Charles W.

¹² <u>See</u> Attachment B, hereto. This attachment also includes a letter confirming that EchoStar will be responsible for paying all fees imposed by the ITU for coordinating these satellites. <u>Id.</u>

Ergen, its founder, Chairman and Chief Executive Officer. An organizational chart and relevant ownership information is provided as Attachment C to this application. ECC is the holding company for a group of companies that deliver a complete range of satellite-related products and services to consumers throughout the world. ECC's subsidiaries hold several DBS authorizations and own and operate six operational DBS satellites operating in the 12.2-12.7 GHz band at the 61.5° W.L., 110° W.L., 119° W.L., and 148° W.L. orbital positions. A seventh satellite is currently undergoing in-orbit testing. Through its DISH Network brand, EchoStar provides DBS services in the United States to more than 7 million subscribers. 13

IV. SERVICES TO BE PROVIDED

The primary use of the proposed system is expected to be the provision of MVPD services in the United States. It is anticipated that most of the capacity on these satellites will be used for serving the U.S.; however, at least some of the beam coverage will extend beyond the United States into portions of Canada, Mexico and the Caribbean. Subject to obtaining any necessary international regulatory approvals, EchoStar also may provide MVPD services in other ITU Region 2 countries.

As the Commission is aware, an application filed in December 2001, requests authority for the merger of EchoStar and Hughes, with the merged entity renamed EchoStar Communications Corporation ("New EchoStar"). As explained in detail in that application, the

¹³ A complete list of EchoStar's FCC authorizations, subsidiaries, and pending applications before the Commission is contained in the Merger Application at Attachments C, D, and G, and is incorporated herein by reference. In addition, on February 25, 2002, EchoStar and Hughes jointly filed an application for authority to launch and operate a new spot-beam DBS satellite at 110° W.L. in the 12.2-12.7 GHz band. This satellite will be used by New EchoStar for its "Local Channels, All Americans" plan which would offer to every U.S. consumer access to satellite-delivered local television signals to all 210 DMAs in the United States, including those in Alaska and Hawaii. <u>See</u> Application for Authority to Launch and Operate New EchoStar 1 (USABBS-16), File No. _____ (filed Feb. 25, 2002).

merger and related transactions will create an integrated, full-service satellite company better able to compete effectively in the MVPD market. One of the most compelling efficiencies of the proposed merger will be the elimination of the duplicative use of the DBS spectrum, which will free up substantial satellite capacity and spectrum that will be used to facilitate the offering of new and expanded programming choices to consumers and more meaningful competition to the dominant cable providers. Even with this expanded capacity, EchoStar anticipates that by April 2007, it will need even more spectrum resources to serve DBS subscribers with new and innovative program offerings.

Some of this programming, such as HDTV, is extremely spectrum intensive, requiring many times more bandwidth than standard NTSC video signals. To date, EchoStar has only been able to offer its subscribers a limited amount of HDTV programming due to the constraints on its spectrum capacity. Even with the merger with Hughes, New EchoStar can only commit today to offering 10-12 HDTV channels to its combined subscriber base. With the addition of the DBS Expansion Band, however, there will be enough capacity available to offer DBS subscribers significantly more HDTV and other programming.

EchoStar further anticipates that it will be able to offer a wider range of niche programming, including more international, foreign language, informational and educational programs, to its DBS subscribers if it had access to the DBS Expansion Band. There are approximately 8.0 million households in the United States headed by persons of foreign nationality, encompassing 22.6 million foreign-born persons living in the United States.

¹⁴ <u>See Merger Application at 22-36.</u>

¹⁵ <u>Id</u>. at 37-49.

^{16 &}lt;u>Id.</u> at 29.

Generally, it is not cost effective for traditional broadcasters or cable companies to serve these households because of the generally low number of such niche customers in any particular local market. These customers, along with other customers interested in receiving international and other cultural programming, create an opportunity to provide more foreign language and international content over the DISH Network.

Specialized programming and other services could also be made available to business users that are a potential large untapped market for MVPD services. EchoStar estimates that there are approximately 8 million businesses and over 200,000 schools, libraries and other institutions that desire access to high quality video, audio and data programming services. EchoStar believes that with the increased capacity provided by the DBS Expansion Band, more specialty services, data, informational, educational, foreign language and other niche programming can be directed toward this market in order to attract new subscribers.

V. PUBLIC INTEREST CONSIDERATIONS

The prompt grant of EchoStar's application for authority to construct, launch and operate a new DBS Expansion Band system is clearly in the public interest. The proposed system will benefit the public in many important respects. Most significantly, EchoStar expects that it will be able to offer a whole range of new and innovative services that otherwise could not have been made available even taking into account the planned merger with Hughes. By accessing new DBS spectrum made available by the Commission, EchoStar will better be able to serve its subscribers and compete more effectively in the MVPD market. EchoStar also will be able to provide enhanced service to more of Alaska and Hawaii.

It is well documented that there is a shortage of spectrum available for DBS in the United States. There is simply no more full-CONUS capacity in the 12.2-12.7 GHz band available to support the expansion of DBS services. Nevertheless, as the Commission has

acknowledged, the demand for additional DBS capacity only continues to grow.¹⁷ In contrast, cable operators have aggressively upgraded the capacity of their systems to allow for the digital retransmission of video programming.¹⁸ The rollout of new digital cable upgrades and related facilities has compounded cable's incumbency advantages, and allows cable operators to offer a bundle of video and services. Access to the DBS Expansion Band provides EchoStar with a unique opportunity to meet the growing need for DBS capacity, and will enable EchoStar to compete more effectively in the highly competitive MPVD market.

Consistent with the Commission's stated goals for use of the DBS Expansion

Band, EchoStar's proposed system also will help foster the development of next-generation DBS services and satellite telecommunications technologies needed to implement them. Thus, grant of this application will assist the United States in enhancing its global leadership role in advanced satellite systems and services.

In addition, EchoStar's Expansion DBS System is designed to maximize the efficient use of orbital and spectrum resources. By operating in orbital locations that overlap the United States' existing Ku-band DBS orbital assignment plan, the EchoStar Expansion DBS System will be able to provide advanced DBS services that complement existing services without necessarily requiring customers to access additional orbit locations. In addition to

¹⁷ <u>See DBS Expansion Allocation Order</u> at ¶ 79 ("We note that BSS is a rapidly growing service, and that additional spectrum may be required for BSS within the next decade.")

¹⁸ <u>See</u> Annual Assessment of the Status of Competition in the Market for the Delivery of MVPD Competition Report, 16 FCC Rcd. 6005, 6009 (2001) ("[v]irtually all the major MSOs offer Internet access via cable modems in portions of their nationwide service areas... Many cable operators also are planning to integrate telephony and high-speed data access.")

¹⁹ <u>See DBS Expansion Allocation Order</u> at ¶ 2 ("The 18 GHz band currently serves a variety of communications needs and has the potential to provide consumers, both business and residential, with exciting new services in the years to come.")

maximizing operational and service flexibility, co-locating Ku-band and DBS Expansion Band satellites also will enable DBS operators to minimize intersystem interference and utilize the CONUS arc in an extremely efficient manner.

By enhancing competition in the MPVD market, boosting the competitiveness of DBS industry and facilitating the efficient use of orbital and spectrum resources, the proposed EchoStar DBS Expansion System will serve the public interest and simultaneously adhere to the Commission's stated policy goals for this band.²⁰ Accordingly, the Commission should not only grant this application because it is in the public interest, it should do so expeditiously to enable service in this band to begin by April 2007.

VI. DESCRIPTION OF PROPOSED SYSTEM AND INTERFERENCE ANALYSIS

A detailed technical description of EchoStar's proposed DBS Expansion Band system is set forth in Attachment A, hereto.

VII. ORBITAL ARC CONSIDERATIONS

EchoStar nominally requests three adjacent orbital locations within the 110° W.L. and 119° W.L. range for its DBS Expansion Band system separated by 4.5 degrees. This separation distance is dictated by the size of the receive antennas (nominally 45 cm) and adjacent satellite interference considerations. The requested orbital arc best matches EchoStar's existing DBS satellite resources which include the provision of its core national and local programming from Ku-band DBS satellites located at 110° W.L. and 119° W.L. EchoStar's planning with

²⁰ <u>See DBS Expansion Allocation Order</u> at ¶ 1 ("With this Report and Order, we adopt rules that will permit the efficient use of spectrum for existing and future users, and will facilitate the deployment of new services in the 17.7-20.2 GHz band.")

respect to this future spectrum is necessarily subject to change at this time. As with other aspects of the proposed system, EchoStar requests the right to revise its proposed orbital positions and the appropriate spacing in the DBS Expansion Band when the Commission institutes its rulemaking proceeding on service rules for this band.

VIII. LEGAL QUALIFICATIONS

EchoStar's legal qualifications are set forth in the Merger Application, which is incorporated herein by reference. ²¹ EchoStar is not owned or controlled by aliens and further complies with all of the restrictions on alien and foreign government ownership set forth in the Communications Act of 1934, as amended, ²² and the Commission's Rules. ²³

IX. TECHNICAL QUALIFICATIONS -- DUE DILIGENCE MILESTONES

EchoStar's application satisfies the Commission's coverage rules for new DBS licensees. EchoStar's satellites will be capable of serving CONUS, Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands.²⁴ EchoStar is also prepared to comply with the Commission's due diligence requirements by completing contracting of the proposed system within one year of the grant of a construction permit, completing construction of the first satellite within four years of the grant, and placing the entire DBS Expansion Band system in operation within six years of the grant.²⁵

²¹ <u>See Merger Application at Volume III.</u>

²² <u>See</u> 47 U.S.C. § 310.

²³ See 47 C.F.R. § 100.11.

²⁴ <u>See</u> 47 C.F.R. § 100.53(e).

²⁵ <u>See</u> 47 C.F.R § 100.19.

X. SYSTEM COSTS AND FINANCIAL QUALIFICATIONS

EchoStar estimates that the cost of constructing and launching each satellite and operating it for one year will be as follows:

Construction, Launch and Insurance \$250-300 million

Other Miscellaneous Costs \$25-50 million

First Year Operational Costs \$10-15 million

TOTAL Estimated Costs (per satellite) \$285-365 million

While the Commission does not require a prior demonstration of financial fitness for DBS system applicants, EchoStar is a publicly traded company that clearly has the financial capacity to fund these costs. EchoStar's financial qualifications are a matter of public record.

XI. STATUS OF OPERATIONS

EchoStar intends to operate this DBS Expansion Band system on a non-broadcast, non-common carrier basis.

XII. WAIVER PURSUANT TO SECTION 304 OF THE ACT

In accordance with Section 304 of the Communications Act of 1934, as amended, 47 U.S.C. § 304, the parties to this application 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.

XIII. ANTI-DRUG CERTIFICATION

The undersigned hereby certifies that pursuant to Section 1.2002 of the Commission's Rules, 47 C.F.R. § 1.2002, no party to this application is subject to a denial of

federal benefits pursuant to the authority granted in Section 5301 of the Anti Drug Abuse Act of 1988, 21 U.S.C. § 853a.

XIV. CONCLUSION

For the foregoing reasons, EchoStar respectfully requests that the Commission promptly approve this application as in the public interest, convenience and necessity.

Respectfully submitted,

EchoStar Satellite Corporation

David K. Moskowitz

Senior Vice President and General Counsel

EchoStar Satellite Corporation

5701 South Santa Fe Littleton, CO 80120 (303) 723-1000

Dated: March 28, 2002

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(202) 429-3000

DECLARATION

I, David K. Moskowitz, hereby declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

David K. Moskowitz

Senior Vice President and

General Counsel

EchoStar Satellite Corporation

5701 South Santa Fe Littleton, CO 80120 (303) 723-1000

Dated: March 28, 2002