

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

In the Matter of

EchoStar Satellite Operating Corporation

Application for Modification of License for the
EchoStar 6 Satellite to Extend Termination Date

File No. SAT-MOD-20140623-00074

Call Sign S2232

To: Commissioners Wheeler, Clyburn, Rosenworcel, Pai, and O’Rielly

Application for Review

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June 4, 2015

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Pursuant to 47 C.F.R. § 1.115, Spectrum Five LLC (“Spectrum Five”) seeks review of the *Order and Authorization*¹ adopted on May 4, 2015, and released on May 5, 2015 in the above-captioned docket by the International Bureau (“Bureau”) on delegated authority.

INTRODUCTION

EchoStar 6 is an aging satellite — launched in 2000 with an anticipated life of thirteen years — that has been forced to operate in a highly inclined orbit to conserve fuel. That highly inclined orbit prevents the satellite from offering direct-to-home services; indeed, EchoStar 6 has not provided service to anyone for years. In extending EchoStar 6’s license by over four years to January 31, 2019, the Bureau acted in direct conflict with the Commission’s goals of efficiently using scarce spectrum and increasing competition in the provision of video services. The *Order and Authorization* enables one of the two incumbent direct broadcasting service (“DBS”) operators to warehouse extremely valuable spectrum until 2019 while preventing new entry into, and increased competition in, the satellite video marketplace. EchoStar Satellite Operating Corporation (“EchoStar”) has not provided — or even offered — service to a single customer in the more than 25 months that its EchoStar 6 satellite has been located at (or near) the 96.2° W.L. orbital location. Indeed, measurements have shown that 31 of the 32 transponders on the satellite are turned *off*, and EchoStar did not provide the Bureau with any serious evidence that it ever intends to provide service using EchoStar 6 — purportedly, to ships traveling through the Bermuda Triangle — rather than to warehouse spectrum at a unique orbital location as EchoStar 6 limps along until it finally runs out of fuel.

The Bureau, moreover, failed to conduct any inquiry into whether EchoStar 6 is capable of operating consistent with the terms of its license in order to avoid causing harmful

¹ Order and Authorization, *EchoStar Satellite Operating Corporation*, File Nos. SAT-MOD-20140623-00074, DA 15-507 (May 5, 2015) (“*Order and Authorization*”).

interference to other U.S. and Canadian satellites. Throughout these proceedings, EchoStar has repeatedly made false claims regarding EchoStar 6's operations. Most recently, Spectrum Five's investigation revealed — and EchoStar has conceded — that EchoStar 6 was operating with excessive power levels and a mispointed antenna in violation of the terms of its Special Temporary Authority and license. Moreover, EchoStar stated EchoStar 6's inclined orbit was causing “daily EIRP variation,” contrary to the Commission's rules that satellites in inclined orbit maintain a stationary antenna pattern. Given EchoStar 6's checkered history, it was incumbent on the Bureau to ensure that these problems had been remedied. The Bureau, however, accepted EchoStar's assertions without ever requiring supporting data.

Commission review of the decision to grant the license modification is required to prevent the warehousing for years of this valuable orbital slot that is the necessary consequence of the *Order and Authorization*. This orbital location is one of the last available slots that could be used to provide DBS to the entire continental United States. Moreover, it overlaps with a U.S. licensed slot for reverse-band service at 95.15° W.L., allowing for the deployment of a dual-band satellite with more capacity than the entire fleet of satellites that each of the incumbent DBS providers uses today. As a result of the *Order and Authorization*, however, this slot will lie fallow for *years*, harming U.S. consumers and exacerbating the current spectrum shortage. The *Order and Authorization* also interferes with Spectrum Five's rights under its higher priority U.S. reverse band license to use for downlink transmissions from 95.15° W.L. the same spectrum that the Commission has now authorized EchoStar to use for uplink transmissions to EchoStar 6.

BACKGROUND

On February 20, 2013, EchoStar first sought special temporary authority (“STA”) pursuant to 47 C.F.R. § 25.120(b) to move its EchoStar 6 satellite to 96.2° W.L. and to operate at that orbital location using the 12.2-12.7 GHz band for downlink transmissions. EchoStar

asserted that it needed to move EchoStar 6 immediately “to accommodate the needs of its customer and development partner, SES Satellites (Bermuda) Ltd. [(“SES”)],” which purportedly intended “to use EchoStar 6 at 96.2° W.L. to evaluate and develop commercial service opportunities in the Caribbean, Latin American, and North Atlantic markets outside of the United States,” including “the provision of video programming and other services, including international maritime services, to consumers in Bermuda and elsewhere.”² That was not true. As EchoStar was later forced to admit, the only “emergency” requiring resort to the STA process was the impending expiration of the U.K.’s claimed international rights to provide DBS service from 96.2° W.L. Nonetheless, the Bureau granted EchoStar’s STA request.³

On February 27, 2013, EchoStar filed a request for a permanent license modification to operate EchoStar 6 at 96.2° W.L., which it has amended twice.⁴ On June 19, 2014, EchoStar filed a request to extend the EchoStar 6 license (then set to expire on August 11, 2014) until January 31, 2019.⁵ In its Modification and Extension Applications,⁶ EchoStar repeated the same text about the supposed plans of its partner to offer services using EchoStar 6.⁷

² Narrative at 2, Application for Special Temporary Authority, *EchoStar Satellite Operating Corporation; Request for Special Temporary Authority To Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File No. SAT-STA-20130220-00023 (Feb. 20, 2013) (“Initial STA Narrative”).

³ Order and Authorization, *EchoStar Satellite Operating Company; Application for Special Temporary Authority Related to Moving the EchoStar 6 Satellite from 77° W.L. Orbital Location to the 96.2° W.L. Orbital Location, and to Operate at the 96.2° W.L. Orbital Location*, 28 FCC Rcd 4229 (Int’l Bur. 2013) (“STA Bureau Order”). The Commission affirmed that decision. See Memorandum Opinion and Order, *EchoStar Satellite Operating Company; Application for Special Temporary Authority Related to Moving the EchoStar 6 Satellite from the 77° W.L. Orbital Location to the 96.2° W.L. Orbital Location, and to Operate at the 96.2° W.L. Orbital Location*, 28 FCC Rcd 10412 (2013) (“STA Order”). The D.C. Circuit dismissed Spectrum Five’s petition for review for lack of standing. See *Spectrum Five LLC v. FCC*, 758 F.3d 254 (D.C. Cir. 2014).

⁴ See IBFS File No. SAT-MOD-20130227-00026 (Feb. 27, 2013); see also IBFS File No. SAT-AMD-20130429-00063 (Apr. 29, 2013); IBFS File No. SAT-AMD-20130613-00083 (June 13, 2013).

⁵ See IBFS File No. SAT-MOD-20140623-00074 (June 23, 2014).

⁶ Application, *EchoStar Satellite Operating Corporation; Request for Modification of Authorization to Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File No. SAT-MOD-20130227-00026 (Feb. 27, 2013) (“Modification Application”); Application, *EchoStar Satellite Operating Corporation; Application for Modification to Extend the Term of the EchoStar 6 License*, IBFS File No. SAT-MOD-20140623-00074 (June 19, 2013) (“Extension Application”).

⁷ See Application Narrative at 3, *EchoStar Satellite Operating Corporation; Request for Modification of*

While its applications for a permanent license modification request were pending, EchoStar submitted eight requests to renew the initial STA for additional 60-day periods.⁸ In each, EchoStar made the same boilerplate assertions — *word-for-word* — that “EchoStar and SES ha[d] commenced commercial development activities” and that EchoStar 6, at 96.2° W.L., could offer both “multi-channel video services to . . . ships” and “direct-to-home services to significant portions of the Atlantic Ocean region.”⁹

Spectrum Five opposed the Modification and Extension Applications, as well as the STA renewal applications. With respect to the Extension Application, Spectrum Five showed — and EchoStar ultimately conceded (despite its initial, vehement denials) — that prior to October 2014, EchoStar 6 was operating in violation of the terms of the STA and in conflict with the operating characteristics it had proposed in the Modification and Extension Applications; in fact, EchoStar was operating the single, active EchoStar 6 downlink channel at *three times* the permissible power levels.¹⁰ Spectrum Five argued that the Bureau could not credit EchoStar’s

Authorization to Move EchoStar 6 to, and Operate It at, 96.2° W.L., IBFS File No. SAT-MOD-20130027-00026 (Feb. 27, 2013) (“Modification Application Narrative”); Application Narrative at 1, *EchoStar Satellite Operating Corporation; Application for Modification to Extend the Term of the EchoStar 6 License*, IBFS File No. SAT-MOD-20140623-00074 (June 19, 2013) (“Extension Application Narrative”).

⁸ IBFS File No. SAT-STA-20130510-00067 (May 10, 2013) (requested extension to July 30, 2013); IBFS File No. SAT-STA-20130716-00093 (July 16, 2013) (requested extension to September 29, 2013); IBFS File No. SAT-STA-20130912-00115 (Sept. 12, 2013) (requested extension to November 28, 2013); IBFS File No. SAT-STA-20131113-00131 (Nov. 13, 2013) (requested extension to January 27, 2014); IBFS File No. SAT-STA-20140113-00004 (Jan. 13, 2014) (requested extension to March 28, 2014); IBFS File No. SAT-STA-20140314-00031 (Mar. 14, 2014) (requested extension to May 27, 2014); IBFS File No. SAT-STA-20140513-00050 (May 13, 2014) (requested extension until July 26, 2014); IBFS File No. SAT-STA-20140711-00085 (July 11, 2014) (requested extension until September 24, 2014).

⁹ See Application Narrative at 2-3, IBFS File No. SAT-STA-20130510-00067 (May 10, 2013); Application Narrative at 2-3, IBFS File No. SAT-STA-20130716-00093 (July 16, 2013); Application Narrative at 2-3, IBFS File No. SAT-STA-20130912-00115 (Sept. 12, 2013); Application Narrative at 2-3, IBFS File No. SAT-STA-20131113-00131 (Nov. 13, 2013); Application Narrative at 2-3, IBFS File No. SAT-STA-20140113-00004 (Jan. 13, 2014); Application Narrative at 2-3, IBFS File No. SAT-STA-20140314-00031 (Mar. 14, 2014); Application Narrative at 2-3, IBFS File No. SAT-STA-20140513-00050 (May 13, 2014); Application Narrative at 2-3, IBFS File No. SAT-STA-20140711-00085 (July 11, 2014).

¹⁰ See Spectrum Five Supp. Opp’n at 1-5, *EchoStar Satellite Operating Corporation; Request for Modification to Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File No. SAT-MOD-20140623-00074 *et al.* (July 15, 2014) (“Spectrum Five Supp. Opp’n”); Letter from Scott H. Angstreich, Kellogg, Huber, Hansen, Todd, Evans & Figel, P.L.L.C., to Marlene H. Dortch, Secretary, FCC at 3-5, IBFS File Nos. SAT-MOD-20130227-00026

assertions that it had remedied these problems because EchoStar failed to provide *any data at all* to support those assertions and failed to provide reason to believe that these problems would not re-occur.¹¹ Spectrum Five also alerted the Bureau to EchoStar’s statements that EchoStar 6’s highly inclined orbit caused its power levels to fluctuate throughout the day, which indicated that EchoStar was violating § 25.280(b)’s requirement that a satellite in inclined orbit periodically adjust the satellite attitude to maintain a stationary beam pattern.¹² Finally, Spectrum Five showed that EchoStar had never provided — or even offered — service to any customer from EchoStar 6 despite being located at (or near) 96.2° for more than two years and that EchoStar had only turned on one of the satellite’s 32 transponders.¹³

On August 11, 2014, the Bureau granted the Modification Application, authorizing FSS and MSS operations from 96.2° W.L.¹⁴ Among other things, the Bureau found that EchoStar “appropriately provided information to establish that its operations will not cause harmful interference to any operating satellite.” *Modification Order* ¶ 8. That finding was based on the interference analysis EchoStar provided in support of its license Modification Application — an analysis that assumed (contrary to actual fact) that EchoStar 6 was operating consistent with the characteristics stated in the Modification and Extension Applications. With respect to the evidence that EchoStar 6 was operating at three times the permissible power levels, the Bureau

et al. (Aug. 6, 2014) (“Spectrum Five 8/6/14 Letter”); *see also* Spectrum Five Pet. for Reconsideration and Request for Referral of the Petition to the Full Commission at 17-20, *EchoStar Satellite Operating Corporation; Request for Modification of Authorization to Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Sept. 10, 2014) (“Spectrum Five Pet. for Reconsideration and Referral”).

¹¹ *See, e.g.*, Letter from Scott H. Angstreich, Kellogg, Huber, Hansen, Todd, Evans & Figel, P.L.L.C., to Marlene H. Dortch, Secretary, FCC at 4-5, IBFS File Nos. SAT-MOD-20130227-00026 *et al.* (Jan. 5, 2015).

¹² *See, e.g., id.* at 5.

¹³ *See* Spectrum Five Supp. Opp’n at 5-6; Spectrum Five 8/6/14 Letter at 1-2; Spectrum Five Pet. for Reconsideration and Referral at 20-23.

¹⁴ Order and Authorization ¶ 22, *EchoStar Satellite Corporation*, File Nos. SAT-MOD-20130227-00026 *et al.*, DA 14-1168 (Aug. 11, 2014) (“*Modification Order*”). The Bureau also stated that EchoStar 6’s operations at 96.2° W.L. from the time the initial STA expired through August 11, 2014 — “to the extent consistent with the terms of the original STA” — are “considered authorized” pursuant to 47 C.F.R. § 1.62 and 5 U.S.C. § 558(c), which govern operation pending action on a renewal application. *Id.* ¶ 20.

stated that it was “not in a position to definitively address this issue at this time, and instead will address it in the context of [EchoStar’s] application for renewal of the license for EchoStar 6.”

Id. ¶ 19. The Bureau opined that even if EchoStar “has operated EchoStar 6 at unauthorized power levels, such a violation would not rise to the level of seriousness to warrant a finding that [EchoStar] is technically or legally unqualified to hold a Commission license.” *Id.* ¶ 19 n.43.

The Bureau also determined that “grant of the requested license modifications will serve the public interest by facilitating possible development of new services in the Atlantic Ocean region.” *Id.* ¶ 1.¹⁵ Spectrum Five filed a Petition for Reconsideration and Referral of the Petition to the Full Commission of the *Modification Order*, which was fully briefed as of September 30, 2014. The Bureau has yet to rule on that petition or refer it to the Commission.

On May 5, 2015, the Bureau granted the Extension Application, authorizing EchoStar 6 to engage in FSS and MSS operations until January 31, 2019, *Order and Authorization* ¶ 9, despite the fact that EchoStar had sought permission for DBS, not FSS and MSS, operations.¹⁶

First, although the Bureau acknowledged EchoStar’s concession that it had been operating EchoStar 6 at excessive power levels and with a mispointed antenna, it found that EchoStar “has taken sufficient steps to rectify the problems.” *Id.* ¶¶ 5-6. That finding was premised solely on EchoStar’s assertions — unsupported by any reviewable data — that it had remedied the problems. *Id.* ¶ 5. EchoStar refused to submit such data voluntarily, and the Bureau never insisted that EchoStar do so. Among other things, the Bureau allowed EchoStar to state only that EchoStar 6 was “pointed more north and west than expected,” *id.* ¶ 4, without

¹⁵ The Bureau also “agree[d] with Spectrum Five” that authorizing EchoStar 6 to provide FSS/MSS service conflicts with the Commission’s Table of Frequency Allocations in 47 C.F.R. § 2.106, because EchoStar 6 operates in spectrum bands for which geostationary FSS and MSS service is not permitted. *Id.* ¶ 17. The Bureau, however, acting with no request from EchoStar and with no prior notice “waive[d] Section 2.106 of the rules to permit the operations.” *Id.* Spectrum Five has challenged this ruling in another proceeding. *See* Spectrum Five Pet. for Reconsideration and Referral at 9-17.

¹⁶ *See* Spectrum Five Pet. for Reconsideration and Referral at 9-17.

stating *where* the satellite was pointed, which would reveal the seriousness of EchoStar’s violation of the STA. Having refused to demand that EchoStar turn over any data, the Bureau also found that it had “no factual basis to question [EchoStar’s] statement[]” on March 20, 2015 that it was in compliance with § 25.280(b)(1) because “EchoStar 6’s attitude control system automatically compensates for inclination.”¹⁷ The Bureau did not address EchoStar’s prior inconsistent statement on August 15, 2014, that the satellite’s inclination causes daily variation in the power levels.¹⁸

Second, with respect to the statutory requirement that the Commission may modify a license only if it “will promote the public interest, convenience, and necessity,”¹⁹ the Bureau stated only that granting the extension would “serve the public interest by continuing to facilitate possible development of new services to the Atlantic Ocean region.” *Order and Authorization* ¶ 1. The Bureau did not cite *any* evidence to support this conclusion. Nor did it address Spectrum Five’s showing that EchoStar had not offered any services in the 25 months since the Bureau granted the initial STA, that EchoStar had turned on only one of the 32 transponders, and that EchoStar 6’s orbital inclination precluded EchoStar from offering direct-to-home service, despite EchoStar’s repeated boilerplate assertions that it could use the satellite for that purpose.

QUESTIONS PRESENTED FOR RECONSIDERATION AND REVIEW

1. Whether the Bureau’s factual finding that EchoStar had remedied the problems with EchoStar 6’s excessive power levels and mispointed antenna was arbitrary and capricious

¹⁷ *Id.* ¶ 7 (citing Letter from Derek de Bastos, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, FCC, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Mar. 20, 2015) (“EchoStar 3/20/15 Letter”). Because EchoStar 6 is operating in an inclined orbit, EchoStar must “[p]eriodically correct the satellite [antenna] attitude to achieve a stationary spacecraft antenna pattern on the surface of the Earth and centered on the satellite’s designated service area.” 47 C.F.R. § 25.280(b).

¹⁸ *See* Letter from Jennifer A. Manner, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, FCC, PowerPoint at 13, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Nov. 20, 2014) (“EchoStar 11/20/14 Letter”).

¹⁹ 47 U.S.C. § 316(a)(1); 47 C.F.R. § 25.156(a); *see also* 47 U.S.C. § 309(a) (public interest standard).

and not supported by substantial evidence, where the Bureau had no evidence to support that finding and had many reasons to question it. *See Order and Authorization* ¶ 6.

2. Whether the Bureau’s factual finding that it had no basis to question EchoStar’s compliance with § 25.280(b)(1) was arbitrary and capricious and not supported by substantial evidence, where EchoStar had made statements indicating that it was violating that provision, and the Bureau had no evidence before it other than EchoStar’s statements. *See id.* ¶ 7.

3. Whether the Bureau’s decision to extend the EchoStar 6 license was arbitrary and capricious and not supported by substantial evidence, where the record contained no evidence to support the conclusion that EchoStar would offer service using EchoStar 6 and contained evidence that EchoStar was warehousing extremely valuable spectrum and preventing others — including Spectrum Five, which holds a reverse-band license for a nearby slot and began constructing its own dual-band satellite in August 2014 — from putting this extremely valuable orbital slot to more efficient use for the benefit of U.S. consumers. *See id.* ¶ 1.

ARGUMENT

I. THE BUREAU’S FINDINGS THAT ECHOSTAR 6’S EXCESSIVE POWER LEVELS AND MISPOINTED ANTENNA HAD BEEN REMEDIED AND THAT ECHOSTAR 6 WOULD MAINTAIN A STATIONARY SPACECRAFT ANTENNA PATTERN WERE ARBITRARY AND CAPRICIOUS

In its Extension Application, EchoStar relied on the interference analysis it had previously submitted in the Modification Application.²⁰ That interference analysis assumed that EchoStar 6’s antenna would be pointed into the Atlantic Ocean at 54.8° W and 20.2° N,²¹ with periodic adjustments to account for the satellite’s highly inclined orbit, and that EchoStar 6

²⁰ *See* Extension Application Narrative at 2-3 (referencing the operating characteristics from the Modification Application).

²¹ *See, e.g.*, Modification Application Attachment Schedule S GXT 7-8, IBFS File No. SAT-MOD-20130227-00026 (Feb. 27, 2013).

would “be controlled so as not to exceed a peak downlink EIRP of 49.8 dBW.”²² On the basis of *that analysis* — and only that analysis — EchoStar had represented to the Bureau that “no USA or Canadian networks . . . nor . . . any other operational BSS network” would be affected by EchoStar 6 when operated at 96.2° W.L. in the manner EchoStar proposed.²³

While the Extension Application was pending, it became apparent — due to Spectrum Five’s investigation — that EchoStar 6 had been operating contrary to the assumptions on which its interference analysis was premised. The antenna was mispointed; the satellite was operating at excessive power levels; and EchoStar’s statements implied that EchoStar 6’s antenna pattern was fluctuating throughout the day due to the satellite’s inclined orbit.²⁴

In the *Order and Authorization*, the Bureau found that EchoStar “has taken sufficient steps to rectify the problems identified by Spectrum Five” and further that “EchoStar 6’s attitude control system automatically compensates for inclination.” *Order and Authorization* ¶¶ 6-7. The Bureau cited *no evidence* to support those findings, instead relying entirely on unsupported assurances made by EchoStar and refusing — despite Spectrum Five’s repeated requests — to require EchoStar to submit into the record the data that purportedly supported those assurances. The D.C. Circuit has made clear that this is insufficient: “an agency’s reliance on a report or study without ascertaining the accuracy of the data contained in the study or the methodology used to collect the data is arbitrary.” *District Hosp. Partners, L.P. v. Burwell*, --- F.3d ---, 2015 WL 2365718, at *9 (D.C. Cir. May 19, 2015) (quoting *New Orleans v. SEC*, 969 F.2d 1163, 1167 (D.C. Cir. 1992)). Moreover, the Bureau failed to “respond in a reasoned manner” — as it

²² See Modification Application Narrative Ex. 2, at 1-2; see, e.g., Initial STA Narrative Ex. 2, at 1-2. Because EIRP is reported on a logarithmic scale, EchoStar’s commitment to reduce the power of EchoStar 6 from 54.7 dBW to 49.8 dBW was a commitment to cut the power of the satellite by more than 300 percent.

²³ Modification Application Narrative Ex. 2, at 6-7.

²⁴ See, e.g., Spectrum Five 1/5/15 Letter at 2-5.

must — to Spectrum Five’s argument that EchoStar needed to support its assertions with data. *Reyblatt v. NRC*, 105 F.3d 715, 722 (D.C. Cir. 1997).

A. EchoStar 6’s Excessive Power Levels and Mispointed Antenna

In July 2014, Spectrum Five independently investigated EchoStar 6’s operations. It submitted power readings taken by SAT Corporation from its location at Woodbine, Maryland over two 24-hour cycles on July 7-8 and July 25-26, 2014.²⁵ Those measurements implied that EchoStar 6 was being operated with a peak EIRP at its boresight of 55-56 dBW, assuming that the boresight was pointed as required by the STA, which was *three times* greater than the power levels that EchoStar’s applications had stated would be used.²⁶

On July 30, 2014, EchoStar assured the Bureau that Spectrum Five’s data and conclusions were wrong, calling the measurements “baseless,” “pointless,” and “incorrect.”²⁷ However, on September 29, 2014 — after EchoStar had secured the license modification for EchoStar 6 — EchoStar submitted a declaration from its Chief Technology Officer conceding that Spectrum Five *was correct*. Moreover, EchoStar admitted that, when it had made its prior assurances to the Bureau, it had not conducted *any* supporting measurements and had instead based its claims entirely on “predicted EIRP” calculated from “the manufacturer’s measured payload data, antenna range data, and in-orbit test data.”²⁸ When EchoStar took actual measurements, it found that “[t]he measured EIRP did not match the predicted EIRP,” with what it described as the average margin of non-compliance with the coordination agreement being

²⁵ See Spectrum Five Supp. Opp’n Ex. A; Spectrum Five 8/6/14 Letter Ex. 2. EchoStar 6 is in an inclined orbit. The 24-hour measurement cycle captures one complete cycle from maximum to minimum north-south station-keeping.

²⁶ See *id.*

²⁷ Letter from Jaime Londono, Vice President, Advanced Programs and Spectrum Management, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, FCC, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (July 30, 2014).

²⁸ Decl. of Derek de Bastos ¶¶ 4, 6, EchoStar Satellite Operating Corporation, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Sept. 29, 2014) (“EchoStar 9/29/14 Declaration”).

approximately 1.8 dB and the worst-case being approximately 4 dB.²⁹ EchoStar, however, did not provide the Bureau with the results of those measurements.

EchoStar stated that its “initial analysis contained the following two error sources: (i) the expected output back-off appears not to have been achieved; and (ii) the antenna appears to be pointed more north and west than expected.”³⁰ But EchoStar did not explain *why* the power levels were not as low as expected or *where* the satellite had been pointed (or even if EchoStar *ever* attempted to repoint EchoStar 6 after relocation to 96.2° W.L., as required by the STA).³¹

EchoStar further told the Bureau that, “[o]n September 10, 2014, [it] reduced EchoStar 6’s EIRP level by commanding additional ALC steps in order to bring the power levels in compliance with coordination agreements” and that “the antenna will be repointed to match EchoStar 6’s coverage pattern as filed with the FCC.”³² EchoStar did not state whether those “ALC steps” were different from the ones it claimed to have taken after the Bureau granted the STA, or why EchoStar expected those steps to succeed when the prior actions had not.

EchoStar further assured the Bureau that “[o]n October 1, 2014, [it] completed operations to repoint the EchoStar 6 antenna to match the satellite coverage pattern as filed with the FCC,” and that “[o]n October 1, 2014, EchoStar conducted additional test measurements under proper reference conditions, which confirm that EchoStar 6’s EIRP level is at least 1 dB below

²⁹ *Id.* ¶ 6. The coordination agreement, negotiated by SES and DIRECTV and later ratified by the U.S. and U.K., supposedly dictates the power levels at which EchoStar 6 may operate without causing harmful interference to DIRECTV’s satellites at 101° W.L. Even though the Bureau has relied extensively on that agreement in these proceedings, it has kept it secret in violation of the Administrative Procedures Act. Spectrum Five has raised this issue in its petition for reconsideration of the *Modification Order*. See Spectrum Five Pet. for Reconsideration and Referral at 15; see also *infra* p. 22.

³⁰ EchoStar 9/29/14 Declaration ¶ 6.

³¹ To the extent EchoStar deigned to provide explanations, its evasiveness was remarkable. In response to Spectrum Five’s questions regarding what “more north and west than expected” meant, EchoStar flatly repeated “EchoStar 6 previously was pointed more north and west than expected.” Letter from Jennifer A. Manner, Vice President, Regulatory Affairs, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, FCC, at 2, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Dec. 17, 2014) (“EchoStar 12/17/14 Letter”).

³² EchoStar 9/29/14 Declaration ¶ 8.

applicable coordinated power limits.”³³ Again, EchoStar did not provide the Bureau with the results of those test measurements.³⁴

EchoStar’s decisions never to provide the Bureau with the actual measurement data — or where its satellite was mispointed — should have *alarmed* the Bureau. EchoStar claimed to have the data, and if it were favorable and supported EchoStar’s claims (and minimized the extent of EchoStar’s violations of the STA), EchoStar surely would have disclosed it. EchoStar’s decisions *not* to produce that data should have given rise to the inference that the data was *harmful* to EchoStar — and should have led the Bureau to demand it.³⁵

For example, the data may have showed that EchoStar had never attempted to repoint the satellite or reduce its power after the Bureau granted the STA. Such a willful violation of the terms of the STA would provide a sufficient basis to deny the extension.³⁶ Or the data may have showed that EchoStar 6 was malfunctioning, which would be squarely relevant to the question whether EchoStar 6 is capable of operating without causing harmful interference and whether the public interest is served by letting such a broken satellite remain at 96.2° W.L. Despite all of these red flags — and despite Spectrum Five’s specific requests that it do so — the Bureau never requested the data from EchoStar, nor did it explain why it made no such request.³⁷

³³ EchoStar 11/20/14 Letter at 3.

³⁴ The only measurement data that EchoStar *ever* provided were the ranges of EIRP observed at three earth stations located at Mount Jackson, Virginia, Allen Park, Canada, and Cheyenne Wyoming. *See* EchoStar 12/17/14 Letter at 4. This data is useless because EchoStar does not state when the measurements were taken, whether they were taken before or after it supposedly remedied EchoStar 6’s excessive power levels, and whether they presented the best case readings. In addition, because EchoStar did not provide the underlying data from which the averages were purportedly calculated, neither the Bureau nor Spectrum Five could test the validity of EchoStar’s claims.

³⁵ *International Union, UAW v. NLRB*, 459 F.2d 1329, 1336, 1338 (D.C. Cir. 1972) (“[W]hen a party has relevant evidence within his control which he fails to produce, that failure gives rise to an inference that the evidence is unfavorable to him.”).

³⁶ *See* 47 C.F.R. § 25.156(a) (requiring that an applicant be “legally, technically, and otherwise qualified”); *see also id.* § 25.160 (providing for revocation of licenses for repeated and willful violations of Commission rules).

³⁷ *See* Letter from Scott H. Angstreich, Kellogg, Huber, Hansen, Todd, Evans & Figel, P.L.L.C., to Marlene H. Dortch, Secretary, FCC at 2, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Nov. 17, 2014) (“Spectrum Five 11/17/14 Letter”) (“Spectrum Five 11/17/14 Letter”) (Bureau indicated that EchoStar had not provided data, nor had

EchoStar’s explanations (or lack thereof) for the cause of the excessive power levels and mispointed antenna also should have raised red flags with the Bureau. On November 20, 2014, EchoStar confessed to the Bureau that “the root cause . . . has yet to be determined” for the excessive power levels (*i.e.*, the “output back-off error”).³⁸ EchoStar’s inability to explain why EchoStar 6’s power levels were not responding properly to its commands provided no assurance that EchoStar 6’s problems had been fixed and should have caused the Bureau to investigate whether there were problems with the aging EchoStar 6 satellite, but the Bureau did nothing.³⁹

With respect to the antenna pointing error, EchoStar obliquely claimed that it was “the result of compounding errors and circumstances, exacerbated by the history of multiple owners/operators of this spacecraft over its lifetime and by certain antenna alignment details, which are necessary to correctly position the antenna patterns and which were omitted from the spacecraft operators’ handbook.”⁴⁰ EchoStar, however, had plenty of experience operating EchoStar 6. It had moved EchoStar 6 to 61.65° W.L. in 2010 and to 76.95° W.L. in 2011.⁴¹ During those moves, there were no reported problems with “compounding errors” or “certain antenna alignment details, which . . . were omitted from the spacecraft operators’ handbook.” The Bureau never requested that EchoStar explain this inconsistency. Nor did the Bureau even request that EchoStar clarify its vague explanation, for example by stating what it meant by

the Bureau requested it).

³⁸ EchoStar 11/20/14 Letter at 2.

³⁹ EchoStar 6 was launched on July 14, 2000, with expected life of thirteen years. Over its life, EchoStar has suffered several systems failures, including losing 22.7% of its solar array power and five transponder failures. Letter from Jennifer A. Manner, Vice President, Regulatory Affairs, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, FCC, PowerPoint at 3-4, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Dec. 3, 2014).

⁴⁰ EchoStar 11/20/14 Letter at 2.

⁴¹ See Stamp Grant, *EchoStar Satellite Operating Corp.; Application for Special Temporary Authority to Relocate EchoStar 6 to 61.65 W.L. and Operate It as an In-Orbit Spare*, IBFS File No. SAT-STA-20100203-00020 (Mar. 3, 2010); Stamp Grant, *EchoStar Satellite Operating Corp.; Application for Special Temporary Authority to Operate EchoStar 6 at 76.95 W.L.*, IBFS File No. SAT-STA-20110207-00026 (Feb. 11, 2011).

“compounding errors.” Instead, the Bureau copied EchoStar’s unsubstantiated explanation verbatim into the *Order and Authorization*.⁴²

As Spectrum Five reminded the Bureau, this was not the first time that EchoStar 6 had made false assurances to the Bureau about EchoStar 6.⁴³ Previously Spectrum Five informed the Bureau that, contrary to EchoStar’s claims, EchoStar 6 had not been relocated to 96.2° W.L. by April 13, 2013, and was not being maintained within the required 0.05° E-W station-keeping box.⁴⁴ As with Spectrum Five’s power data, EchoStar initially attacked Spectrum Five’s location data,⁴⁵ only to admit later that Spectrum Five was correct and, moreover, that it had submitted false statements and false data about the location of EchoStar 6 to the Bureau.⁴⁶ Moreover, current NORAD data *continues to show* that EchoStar 6 is not being maintained within the 0.05° E-W station-keeping box.⁴⁷ EchoStar also falsely represented that EchoStar 6 has been operating on Channel 17 continuously from December 3, 2013 to present despite data from February 2014 showing that EchoStar 6 was not operating on *any* channel.⁴⁸

Given EchoStar 6’s checkered history, the Bureau’s responsibility “to examine the relevant data” to determine whether it may be “erroneous” was paramount. *District Hosp.*

⁴² See *Order and Authorization* ¶ 5 n.17.

⁴³ See Letter from Scott H. Angstreich, Kellogg, Huber, Hansen, Todd, Evans & Figel, P.L.L.C., to Marlene H. Dortch, Secretary, FCC at 5-6, IBFS File Nos. SAT-MOD-20140623-00074 *et al.* (Oct. 7, 2014) (“Spectrum Five 10/7/14 Letter”); Spectrum Five 11/17/14 Letter at 3.

⁴⁴ Spectrum Five Opp’n at 6-10, *EchoStar Satellite Operating Corporation; Request for Renewal of Special Temporary Authorization to Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File No. SAT-STA-20140314-00031 (Apr. 14, 2014).

⁴⁵ See Letter from Paul Forness, Spacecraft Engineering Manager, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, FCC, at 2, IBFS File Nos. SAT-STA-20130510-00067 *et al.* (July 10, 2013) (“EchoStar, as an experienced, licensed operator of a substantial fleet of satellites, knows the location of all of our satellite assets. Spectrum Five’s tracking data merely consists of NORAD’s two-line elements and provides insufficient data points to support an accurate determination of the satellite’s location.”).

⁴⁶ See Letter from Jennifer A. Manner, Vice President, Regulatory Affairs, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, FCC, at 2, IBFS File Nos. SAT-STA-20130510-00067 *et al.* (Jan. 3, 2014) (admitting that the location data EchoStar submitted in July 2013 was false).

⁴⁷ See Appendix A (NORAD two-line element data).

⁴⁸ Compare EchoStar 9/29/14 Declaration ¶ 3 and Spectrum Five 10/7/14 Letter, Decl. ¶ 3 & Ex. A.

Partners, 2015 WL 2365718, at *9. The Bureau, however, abdicated that responsibility and blindly trusted EchoStar's unsupported assertions. Compounding its failure to engage in reasoned decision-making, the Bureau did not even explain why Spectrum Five was incorrect that it needed to request and investigate the data on which EchoStar's assertions were based.

B. EchoStar 6's Non-Compliance with § 25.280(b)(1)'s Requirement To Maintain a Stationary Antenna Pattern

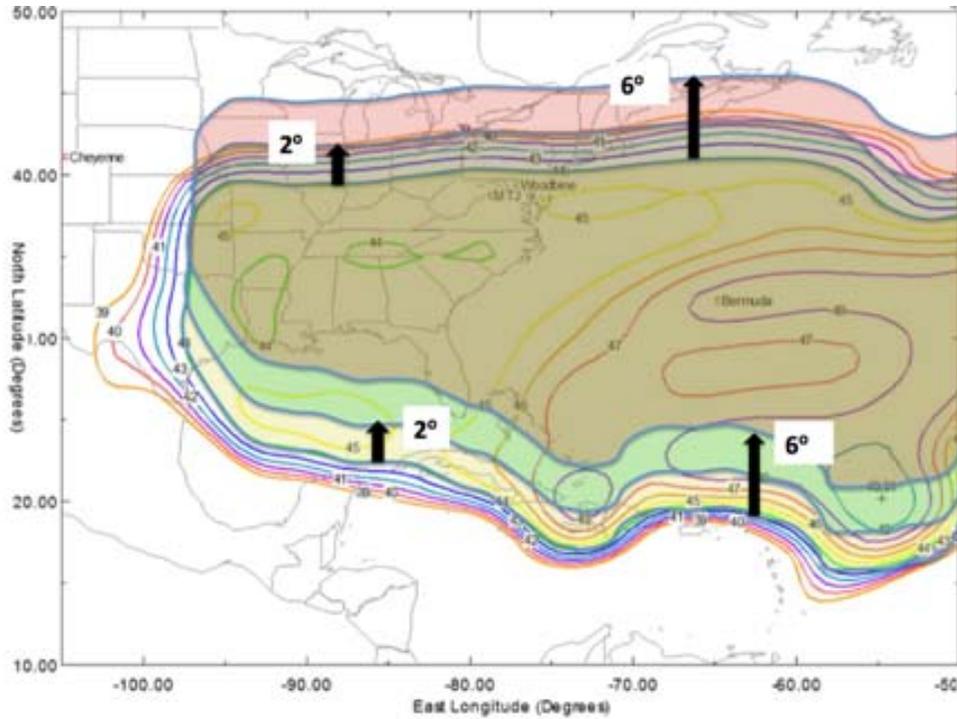
EchoStar's interference analysis assumed that EchoStar 6's antenna pattern would remain fixed. However, EchoStar suspended north-south station-keeping maneuvers December 2011 because such maneuvers would have quickly depleted EchoStar 6's scant fuel reserves.⁴⁹ As a result, EchoStar 6 is currently operating with a north-south orbital inclination of approximately 2.8°, which is growing at a rate of approximately 0.8° per year and will reach nearly 6° at the end of the current license term.⁵⁰ When a satellite operates in an inclined orbit, § 25.280(b) requires the operator to “[p]eriodically correct the satellite [antenna] attitude to achieve a stationary spacecraft antenna pattern on the surface of the Earth.”⁵¹ Because of EchoStar 6's highly (and ever increasing) inclined orbit, the failure to do so would have substantial effects. As shown in the figure below, when inclination reaches 6° the beam pattern (assuming EchoStar 6's antenna is correctly pointed in the Atlantic Ocean) would be shifted substantially throughout the day to reach as far as Toronto, likely causing interference with Canadian satellites at 91° W.L.⁵²

⁴⁹ See EchoStar Mot. To Strike at 2-3, *EchoStar Satellite Operating Corporation; Request for Modification to Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File No. SAT-MOD-20130227-00026 (Dec. 9, 2013) (explaining that north-south station-keeping requires 12 times as much fuel as forgoing station-keeping, and estimating that this allows EchoStar 6 to remain operational for approximately 52 more months).

⁵⁰ See Schedule S, at S3f, *EchoStar Satellite Operating Corporation; Minor Amendment to Modification to Correct Certain Items in Schedule S*, IBFS File No. SAT-AMD-20130429-00063 (Apr. 29, 2013) (stating that EchoStar 6 was operating at an orbital inclination of 1.156° as of April 29, 2013).

⁵¹ 47 C.F.R. § 25.280(b).

⁵² See also Second Report and Order, *The Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz*



In attempting to address EchoStar 6’s excess power levels and antenna mispointing, EchoStar *twice* indicated that EchoStar 6 was *not* maintaining a stationary antenna pattern. First, EchoStar’s August 2014 presentation to the Bureau contained a slide entitled “EchoStar 6 EIRP vs. Time” that included the statement that EchoStar 6’s inclination “causes a daily EIRP variation within the contour” that is “location dependent” — approximately 0.5 dB in Bermuda and 1.3 dB in Washington, D.C.⁵³ If EchoStar were complying with § 25.280(b), there would not have been such a “daily EIRP variation within the contour.” Indeed, the very point of § 25.280(b) is to prevent such variations.

Second, in its December 14, 2014 letter, EchoStar claimed that it did not need to take measurements over an entire day to prove that it had successfully repointed EchoStar 6 and

Frequency Band, 26 FCC Rcd 8927, ¶ 24 (2011) (“*Establishment of Policies and Service Rules for the Broadcasting-Satellite Service*”) (“Small variations in satellite orbital . . . inclination can produce significant variation in the geometry occurring between two adjacent spacecraft,” thereby affecting the interference between the two satellites.) (footnote omitted).

⁵³ EchoStar 11/20/14 Letter, PowerPoint at 13.

reduced its power levels because “the EIRP variation is known and predictable.”⁵⁴ However, if EchoStar were complying with § 25.280(b)(1) by adjusting the antenna attitude throughout the day, the EIRP variation would be non-existent or negligible. If EchoStar is not adjusting EchoStar 6’s satellite attitude to maintain a stationary antenna pattern — as these prior statements indicate — then EchoStar’s interference analysis in its Modification and Extension Applications — which assumes a stationary antenna pattern — is invalid.

In response to Spectrum Five’s contention that these statements revealed that EchoStar was not appropriately adjusting EchoStar 6’s antenna attitude to match the assumptions in its interference analysis and to comply with § 25.280(b), EchoStar in March 2015 assured the Bureau that “the EchoStar 6 spacecraft’s attitude control system automatically compensates for inclination, such that it maintains antenna pointing throughout orbit, thus ensuring compliance with Section 25.280(b)(1).”⁵⁵ As with its other statements regarding EchoStar 6, EchoStar did not provide *any* measurement data to show that EchoStar 6 was actually in compliance with § 25.280(b). Nor did EchoStar explain how its prior statements about daily EIRP variations were consistent with its current statement that EchoStar 6’s “attitude control system automatically compensates” for inclination. Was that system previously malfunctioning or deactivated?⁵⁶

Relying solely on EchoStar’s unsupported assertion, the Bureau found that there was “no factual basis to question [EchoStar]’s statements concerning” EchoStar 6’s attitude control system. *Order and Authorization* ¶ 7. The Bureau never addressed EchoStar’s conflicting statements, as the Bureau was required to do. *See National Mining Ass’n v. DOL*, 292 F.3d 849, 871 (D.C. Cir. 2002) (“[A]n agency’s duty of reasoned decisionmaking includes the requirement

⁵⁴ EchoStar 12/17/14 Letter at 3.

⁵⁵ EchoStar 3/20/15 Letter at 1.

⁵⁶ EchoStar has never explained how it corrects for the east-west variation in EchoStar 6’s position — a variation that continues to violate EchoStar 6’s license. *See supra* note 47. To the extent that EchoStar 6 corrects with its thrusters, its end of life will be shortened.

to explain away contrary evidence.”) (citing *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 51-54 (1983)). Further, the Bureau failed to make any effort to ascertain the accuracy of EchoStar’s statement, for example by requesting data evidencing a stationary antenna pattern. Nor did the Bureau explain why it was unnecessary to request such data. Those failures require that the *Order and Authorization* be vacated.

II. THE BUREAU’S FINDING THAT GRANTING THE SATELLITE MODIFICATION APPLICATION WAS IN THE PUBLIC INTEREST WAS ARBITRARY AND CAPRICIOUS

The Bureau could grant EchoStar’s satellite Extension Application only upon a finding that “such action will promote the public interest, convenience, and necessity.” 47 U.S.C. § 316(a)(1); 47 C.F.R. § 25.156(a); *see also* 47 U.S.C. § 309(a). In attempting to satisfy that standard, the Bureau asserted that extending the EchoStar 6 license “will serve the public interest by continuing to facilitate possible development of new services to the Atlantic Ocean region.” *Order and Authorization* ¶ 1. The Bureau also referenced in passing the Commission’s prior reasons for affirming the grant of the initial STA. *See id.* ¶ 3. Those two reasons were the purported public interest benefits of the secret coordination agreement and the possibility that EchoStar 6 would provide service at its new location. *STA Order* ¶¶ 9, 11, 13, 15, 16.

The Bureau’s finding that granting the license modification is in the public interest is arbitrary and capricious. The Bureau cited no evidence to support its assertion that the license modification would “facilitate possible development of new services to the Atlantic Ocean region.” Not only is there is no such evidence in the record, but also the Bureau ignored extensive record evidence showing that EchoStar is warehousing spectrum.

It is undisputed that EchoStar 6 has never provided or even offered any service to anyone in the 25 months it has been at (or near) 96.2° W.L. In fact, EchoStar has admitted that it did not even “activate[]” EchoStar 6’s communications payload for *testing* until November 2013 —

more than six months after receiving the initial STA to operate at 96.2° W.L.⁵⁷ Furthermore, although EchoStar claimed that the communications payload has operated “uninterrupted” since December 3, 2013,⁵⁸ Spectrum Five has discovered through third-party monitoring that only one of the 32 transponders on EchoStar 6 is actually turned on.⁵⁹ There is no evidence that this transponder was turned on as a prelude to offering service. Instead, EchoStar apparently activated a single transponder to substantiate its repeated (and false) prior statements that EchoStar 6 had been “in operation” since April 2013, even though the satellite’s payload was not activated.⁶⁰ Indeed, EchoStar did not even *notice* that EchoStar 6 was operating at excessive power levels and with a mispointed antenna until Spectrum Five alerted EchoStar of those problems in July 2014. If EchoStar had truly been seeking to provide service to the Atlantic Ocean region, it or its potential customers surely would have noticed these problems.

EchoStar, moreover, has never provided any evidence that it has concrete plans to offer meaningful service from this critical orbital slot. Although EchoStar repeatedly stated in its STA renewal applications that it may offer “direct-to-home” services,⁶¹ EchoStar 6 has long had too great an orbital inclination to provide such services, as home satellite dishes lack the necessary tracking capabilities.⁶² And EchoStar’s suggestion that it intends to invest in developing a business providing service to ships passing through the Bermuda Triangle is similarly

⁵⁷ Decl. of Darren Hamilton ¶ 3, attached to Letter from Jennifer A. Manner, EchoStar, to Marlene H. Dortch, Secretary, FCC, IBFS File Nos. SAT-STA-20140113-00004 *et al.* (Mar. 31, 2014).

⁵⁸ *Id.*

⁵⁹ See Spectrum Five Supp. Opp’n Ex. A (“Only a single transponder . . . was active on the Echostar-6 satellite during the above measurement windows.”).

⁶⁰ See, e.g., Opposition of EchoStar Satellite Operating Company to Application for Review at 5, *EchoStar Satellite Operating Company; Application for Special Temporary Authority Related to Moving the EchoStar 6 Satellite from the 77° W.L. Orbital Location to the 96.2° Orbital Location, and to Operate at the 96.2° W.L. Orbital Location*, IBFS File No. SAT-STA-20130220-00023 (Apr. 22, 2013).

⁶¹ See *supra* note 9.

⁶² See Spectrum Five Opposition to STA Renewal at 6, *EchoStar Satellite Operation Corporation; Request for Renewal for Special Temporary Authorization to Move EchoStar 6, at to Operate It at 96.2° W.L.*, IBFS File No. SAT-STA-20140513-00050 (June 9, 2014).

unsubstantiated and unpersuasive. EchoStar has not submitted any evidence that there is even the remotest chance that a business offering service to ships is viable or that it has any plans to offer such service. To the contrary, the evidence that does exist — EchoStar’s failure to offer such a service for more than 25 months — suggests that EchoStar’s supposed plans are illusory. Furthermore, the *Modification Order* limits EchoStar 6’s MSS operations to downlink only, thus allowing uplink FSS communications from three earth stations in the United States.⁶³ As a result, EchoStar 6 cannot engage in two-way communications with ships and therefore cannot provide Internet service.⁶⁴ This makes EchoStar 6 incapable of competing with new satellites that actually do offer the Internet and video services that ships might purchase.⁶⁵

EchoStar has never complained about these limitations — added by the Bureau *sua sponte* to grant EchoStar’s applications in the face of rules that required the Bureau to deny the application⁶⁶ — because its true goal is not to provide service. Instead, the record is clear that EchoStar’s true goal is to warehouse the valuable spectrum at 96.2° W.L. until 2019, through a secret agreement with the other incumbent DBS provider in the U.S. that prevented new entry into, and increased competition in, the satellite video marketplace. The Commission has found that warehousing is contrary to the public interest.⁶⁷ The Bureau addressed none of this in

⁶³ See *Modification Order* ¶¶ 17, 22; *Order and Authorization* ¶ 9. EchoStar has provided no evidence that these uplink stations are capable of FSS transmissions.

⁶⁴ Even if EchoStar were to claim that ships were not prohibited from providing uplink transmissions to EchoStar 6, such transmissions would be technically infeasible, as EchoStar 6’s highly inclined orbit would require a nine-meter diameter antenna for uplink transmissions. See License at 3, IBFS File No. SES-MFS-20130307-00232 (Aug. 11, 2014) (nine-meter diameter antenna for one of EchoStar 6’s earth stations).

⁶⁵ See FCC, Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, *2013 Measuring Broadband America February Report: A Report on Consumer Wireline Broadband Performance in the U.S.* at 4 (Feb. 2013) (noting the emergence in 2011 of a “new generation of satellites . . . leading to the entry of new satellite-based broadband providers”); see also Letter from Todd M. Stansbury, Wiley Rein LLP, to Marlene H. Dortch, Secretary, FCC, at 1, IBFS File No. SAT-STA-20130220-00023 (Apr. 1, 2013) (providing “at least three” examples that “could be used to deliver any service that [EchoStar 6] could envision”).

⁶⁶ See *supra* note 15.

⁶⁷ See First Order on Reconsideration and Fifth Report and Order, *Amendment of the Commission’s Space Station Licensing Rules and Policies*, 19 FCC Rcd 12637, ¶ 25 (2004) (noting the “real costs associated with

derogation of its obligation to “adequately explain its result and response to relevant and significant public comments.”⁶⁸

In all events, EchoStar’s inchoate plans to provide some unspecified service to ships in the Bermuda Triangle is nowhere near the best use for the spectrum at this critical orbital slot. This orbital location is one of the last available slots that could be used to provide DBS service to the entire continental U.S. Moreover, it overlaps with a slot for reverse-band service — at 95° W.L. — allowing for the deployment of a dual-band satellite at 95° W.L. that would have more capacity than the entire fleet of satellites that each of the incumbent DBS providers uses today. The public interest is served by authorizing an application that will make productive use of this scarce resource for the benefit of U.S. consumers, not by allowing a dying satellite to squat for years while — maybe, at some unspecified future time — sending a signal to a ship or two.

To the extent the Bureau grounded its public interest finding in the purported benefits of the coordination agreement, that rationale fails. The Commission previously justified the initial STA — in the *STA Order* and in its briefs to the D.C. Circuit — on the ground that granting the STA was necessary to preserve benefits to U.S. consumers that allegedly flowed from the coordination agreement. As the Commission explained, “if the FCC denied [EchoStar’s] STA request, it would have lost the benefit of the ongoing interference protection guaranteed by the U.S.-U.K. coordination arrangements,” because, “unless [EchoStar] received an STA,” the BERMUDASAT-1 filing “would have expired,” rendering “worthless” the “interference protection offered by” the coordination agreement. FCC Response at 18, *Spectrum Five LLC v. FCC*, Nos. 13-1231 & 13-1232 (D.C. Cir. filed Aug. 29, 2013); *accord STA Order* ¶ 9. But the

warehousing and speculation in orbit and spectrum resources, in that it precludes another party willing and able to construct a satellite from doing so”).

⁶⁸ *Cape Cod Hosp. v. Sebelius*, 630 F.3d 203, 211 (D.C. Cir. 2011) (internal quotation marks omitted); *see Association of Private Sector Colls. & Univs. v. Duncan*, 681 F.3d 427, 448-49 (D.C. Cir. 2012); *International Union, United Mine Workers of Am. v. Mine Safety & Health Admin.*, 626 F.3d 84, 94 (D.C. Cir. 2010).

Bureau concluded in the *Modification Order* that “denial of [EchoStar’s] modification application *would not result* in removal of the BERMUDASAT-1 entry from the ITU Master Register.” *Modification Order* ¶ 15 (emphasis added). Therefore, according to the Bureau, unlike in the context of the initial STA — where the Commission concluded that not granting the STA would cause BERMUDASAT-1 to expire, rendering the coordination agreement worthless — granting the license modification and extension was not necessary to preserve the coordination agreement.

It is also independently unlawful for the Bureau to rely on the coordination agreement to justify the license extension because that agreement is still not part of the administrative record. It is a central tenet of administrative law that the documents on which an agency relies must be made part of the administrative record and must be made available for comment. *See American Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 243 (D.C. Cir. 2008) (Tatel, J., concurring) (stating the Commission must disclose redacted portions of the record to petitioners so that they would be able “to mount a substantial evidence challenge”); *Air Transp. Ass’n of Am. v. FAA*, 169 F.3d 1, 7 (D.C. Cir. 1999) (“But even in the informal rulemaking context, we have cautioned that the most critical factual material that is used to support the agency’s position on review must have been made public *in the proceeding* and exposed to refutation.”); *Safe Extensions, Inc. v. FAA*, 509 F.3d 593, 604 (D.C. Cir. 2007).

Although Spectrum Five has never seen the coordination agreement because of the Bureau’s refusal to put the agreement in the record,⁶⁹ there is good reason to be skeptical of

⁶⁹ It is unclear whether the Bureau itself has seen the document — or understands it. In granting the license modification, the Bureau “capped” EchoStar 6’s transmission “at 49.8 dBW,” except that they “may be increased to the extent [EchoStar] has coordinated higher power operations with adjacent satellites.” *Modification Order* ¶ 19. EchoStar had already entered into such a coordination agreement and had already claimed that the agreement allows it to operate EchoStar 6 at a peak EIRP of greater than 49.8 dBW. *See* Letter from Jaime Londono, EchoStar, to Marlene H. Dortch, Secretary, FCC at 2, IBFS File Nos. SAT-MOD-20130227-00026 *et al.* (July 30, 2014). The

claims that the agreement does anything to further the public interest. First, the still-secret agreement was privately negotiated by EchoStar/SES and DIRECTV.⁷⁰ Any private agreement negotiated by the two incumbent DBS providers in the United States raises concerns about anticompetitive activity — particularly where, as here, by reaching agreement EchoStar and DIRECTV were able to hinder the efforts of a new entrant, Spectrum Five.

Furthermore, DIRECTV already operates two satellites at 101° W.L. with higher ITU priority than either the BERMUDASAT-1 filing or any future satellites that may be launched under other ITU filings. DIRECTV's higher-priority ITU filings, including the original 1983 ITU Plan filings for 101° W.L., offer an umbrella of protection not only for DIRECTV's existing satellites, but also for any future DIRECTV satellites at 101° W.L. because any future satellite must coordinate with these filings. *See* ITU Radio Regs. App. 30, art. 4.2.3 (requiring that any proposed modification to the Region 2 BSS Plan successfully coordinate with higher-priority filings). Thus, DIRECTV may protect itself by acting as a “gatekeeper” for any new satellites near 96° W.L.⁷¹ The coordination agreement provides DIRECTV — and U.S. consumers that receive video signals from DIRECTV satellites at 101° W.L. — no additional protection.

III. SPECTRUM FIVE IS AGGRIEVED BY THE *ORDER AND AUTHORIZATION*

Spectrum Five previously filed an affidavit in the related modification application setting forth the ways in which it would be aggrieved by the grant of the modification and extension

Bureau's apparent ignorance as to whether that coordination agreement permits the increased power raises questions about the Bureau's own understanding of the terms of this secret agreement.

⁷⁰ *See* Letter from William W. Wiltshire, Counsel for DIRECTV, to Marlene H. Dortch, Secretary, FCC, IBFS File No. SAT-STA-20130220-00023 (Mar. 18, 2013) (reporting on a telephone call with Bureau staff regarding the “status of ongoing coordination negotiations among DIRECTV, EchoStar Satellite Operating Company, and SES Satellites (Bermuda) Ltd.”).

⁷¹ DIRECTV confirmed this point in an amicus brief to the D.C. Circuit. It argued that, if the BERMUDASAT-1 filing was brought into use without the coordination agreement, the U.K. would be able to act as a “gatekeeper” for future DIRECTV filings at 101° W.L. *See* DIRECTV Br. at 1, 9, *Spectrum Five LLC v. FCC*, Nos. 13-1231 & 13-1232 (D.C. Cir. Dec. 30, 2013). That same reasoning applies to DIRECTV's two higher priority ITU filings.

applications. *See* 47 C.F.R. § 1.115(a).⁷² *First*, Spectrum Five has an existing license to operate a reverse-band satellite at the nearby 95.15° W.L. orbital location.⁷³ That satellite’s downlink transmissions will share the 17 GHz band with EchoStar 6’s uplink transmissions. As the Commission has recognized, the downlink transmissions from Spectrum Five’s satellite will block EchoStar 6’s uplink transmissions, which “could result in a loss of [satellite] control” of EchoStar 6.⁷⁴ In enacting regulations to protect against such interference, the Commission recognized that “[s]mall variations in satellite orbital . . . inclination can produce significant variation in the geometry occurring between two adjacent spacecraft”; the Commission also noted that it did not account for “satellites currently operating in highly-inclined orbits” beyond 0.075°, such as EchoStar 6.⁷⁵ Here, EchoStar is operating at a much more highly inclined orbit (currently approximately 2.8° and growing to 6°). There has been no showing that EchoStar 6 can operate alongside Spectrum Five’s reverse-band satellite in such a highly inclined orbit without posing a danger to the continued operations of Spectrum Five’s satellite through EchoStar’s loss of satellite control.

This problem is not solved by the fact that EchoStar previously committed “to accept” interference from Spectrum Five’s satellite, *STA Bureau Order* ¶ 13, and that the license modification requires EchoStar to operate on a non-interference basis. Because Spectrum Five satellite’s licensed operations would cause a safety issue akin to the movie *Gravity*, if EchoStar

⁷² Spectrum Five Pet. to Deny Ex. 2, Decl. of David Wilson ¶ 6, *EchoStar Satellite Operating Corporation; Request for Modification of Authorization to Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File Nos. SAT-MOD-20130227-00026 *et al.* (June 3, 2013) (explaining that allowing EchoStar 6 to operate at 96.2° W.L. “will prevent Spectrum Five from offering a BSS hybrid service to United States consumers because it affords the incumbent DBS operator [EchoStar] enormous leverage over Spectrum Five’s offering of this service,” and “thus will necessarily impair Spectrum Five in its ongoing efforts to attract and retain investors to fund its hybrid BSS/reverse band platform.”).

⁷³ *See* Stamp Grant, SAT-LOA-20090807-00084 *et al.* (Aug. 30, 2011).

⁷⁴ *Establishment of Policies and Service Rules for the Broadcasting-Satellite Service* ¶ 17.

⁷⁵ *Id.* ¶¶ 24, 26 n.81 (footnote omitted); *see also id.* ¶¶ 39, 41 & n.122 (“a bound must be placed on the . . . orbital inclination in order to ensure that the geometric assumptions underlying our antenna off-axis angular measurement requirements are valid”).

were actually to obtain customers for its alleged service in the Bermuda Triangle before Spectrum Five's satellite launches, the Commission could attempt to modify Spectrum Five's license. Such an attempt would be improper because Spectrum Five's license was granted first, but the Commission has attempted to do so with other operators.⁷⁶

Second, the grant of EchoStar's license modification is frustrating Spectrum Five's fundraising for its reverse-band satellite. This license modification allows EchoStar's satellite to operate less than 1° from Spectrum Five's in-development reverse-band satellite. Potential investors have stated to Spectrum Five that they fear that, if EchoStar were actually to develop a business at 96.2° W.L., the Commission would give EchoStar 6 priority over Spectrum Five's reverse-band satellite. Although that should not occur, the Commission has taken similar action with respect to Lightsquared — when the Commission modified Lightsquared's license to accommodate the needs of GPS customers, even though the GPS providers were operating on a non-interference basis and Lightsquared's license had priority.

Third, these concerns are not speculative. In August 2014, Spectrum Five began construction on a dual-band satellite for operation at 95.15° W.L. that will be able to provide broadcasting service over the 12.2-12.7 GHz DBS band and the 17.3-17.7 GHz reverse band. Spectrum Five intends to apply for a DBS license once the Commission's DBS freeze is lifted. The license modification, however, allows EchoStar 6 to use the 12.2-12.7 GHz frequencies for a coverage beam that includes the southeastern U.S. Thus, Spectrum Five's future license application will necessarily interfere with the operations the license modification authorizes.

CONCLUSION

The Commission should deny EchoStar's applications for a license extension.

⁷⁶ See, e.g., Public Notice, *International Bureau Invites Comment on NTIA Letter Regarding Lightsquared Conditional Waiver*, 27 FCC Rcd 1596, 1599 (2012) (modifying Lightsquared's license due to interference concerns raised by GPS operators using unlicensed spectrum on a non-interference basis eight years after license grant).

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June 4, 2015

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Scott H. Angstreich, hereby certify that a true and correct copy of the foregoing document was served on the following by First-Class U.S. Mail, postage prepaid, on June 4, 2015.

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Appendix A

Long (degs W)

EchoStar6 NORAD Location Data

