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October 7, 2014

BY IBFS

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

**Re: IBFS File Nos. SAT-MOD-20130227-00026, SAT-AMD-20130429-00063,
SAT-AMD-20130613-00083, SAT-MOD-20140623-00074, SAT-STA-
20130510-00067, SAT-STA-20130716-00093, SAT-STA-20130912-00115,
SAT-STA-20131113-00131, SAT-STA-20140113-00004, SAT-STA-20140314-
00031, SAT-STA-20140513-00050, SAT-STA-20140711-00085
Call Sign S2232**

Dear Ms. Dortch:

Spectrum Five has shown — through power readings taken on two separate days in July 2014 — that EchoStar 6 was operating with a peak EIRP at its boresight of 55-56 dBW: approximately *three times* the level permitted by the Commission’s grant of special temporary authority.¹ Although EchoStar initially derided that showing as “baseless,” “pointless,” and “incorrect,”² EchoStar has now *admitted* that Spectrum Five was correct and that EchoStar was operating EchoStar 6 at power levels that violated not only the terms of its STA and license

¹ See Spectrum Five Supp. Opp’n, Ex. A, *EchoStar Satellite Operating Corporation; Request for Modification to Move EchoStar 6 to, and Operate It at, 96.2° W.L.*, IBFS File Nos. SAT-MOD-20130227-00026 *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, Ex. 2, IBFS File Nos. SAT-MOD-20130227-00026 *et al.* (Aug. 6, 2014) (“Spectrum Five 8/6/14 Letter”). The peak EIRP was calculated assuming that EchoStar 6’s beam was pointed as required by the STA.

² Letter from Jaime Londono, Vice President, Advanced Programs and Spectrum Management, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, IBFS File Nos. SAT-MOD-20130227-00026 *et al.* (July 30, 2014). Spectrum Five promptly responded to EchoStar’s attacks on Spectrum Five’s data. See Spectrum Five 8/6/14 Letter at 3-4.

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modification but also the Commission-approved (but still secret) coordination agreement with DIRECTV.³

EchoStar, moreover, admits that it has violated *yet another* provision of the STA and license modification, because EchoStar 6 has been — and, apparently, still is — pointed “more north and west” than it promised and the Commission required.⁴

EchoStar’s belated admissions are woefully incomplete and raise far more questions than they answer. The Bureau — and the Enforcement Bureau — should demand that EchoStar provide a complete explanation for its violations of the STA and license modification, and its failures promptly to disclose and to correct those violations. In particular:

EchoStar 6’s Power Levels

- EchoStar claims to have been ignorant about EchoStar 6’s actual power levels because it relied on “manufacturer’s . . . data” and “predicted EIRP” rather than actual measurements.⁵ Although EchoStar asserts that this approach is “[c]onsistent with satellite industry practice,”⁶ it makes no attempt to defend the reasonableness of its actions in light of EchoStar 6’s deteriorating systems, which EchoStar has admitted in SEC filings include “solar array anomalies and the loss of TWTAs.”⁷
- EchoStar states that it measured the EIRP from EchoStar 6 at three locations (Cheyenne, WY, Mt. Jackson, VA, and Allen Park, Ottawa, Canada),⁸ but it does not provide *any detailed* information about the measurements. In particular, and in stark contrast to Spectrum Five’s showing, EchoStar does not state the date(s) on which it performed the measurements, does not provide the results from the measurements, says nothing about the time period(s) measured (Spectrum Five measured a full 24-hour period due to the highly inclined orbit of EchoStar 6), and provides no details about the measuring equipment used.
- EchoStar also says nothing about what specific information — if any — about the power levels (and pointing) of EchoStar 6 was being captured at those earth stations (or any other EchoStar earth stations) before EchoStar performed the measurements

³ See Decl. of Derek de Bastos ¶¶ 6-7, EchoStar Satellite Operating Corp., IBFS File Nos. SAT-MOD-20130227-00026 *et al.* (Sept. 29, 2014) (“EchoStar 9/29/14 Decl.”).

⁴ *Id.* ¶ 6; *see id.* ¶ 8 (stating that the “antenna *will be* repointed” to the proper location at some point in the future) (emphasis added).

⁵ *Id.* ¶¶ 4-6.

⁶ *Id.* ¶ 4.

⁷ EchoStar Corp. 10-K, at 9 (2012) (disclosing the unexplained failures of solar arrays and five out of 48 TWTAs).

⁸ See EchoStar 9/29/14 Decl. ¶ 5.

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described in its September 29, 2014 filing. Nor does EchoStar explain whether that information — had EchoStar bothered to review it contemporaneously — would have revealed that EchoStar 6 was overpowered and incorrectly pointed.

- EchoStar states that it learned from the measurements that “the expected output back-off appears to not have been achieved.”⁹ But EchoStar says nothing about *why* the power levels were too high. Had EchoStar never taken any steps to reduce the power levels? If EchoStar had taken steps, what were they and why had they failed? Was it human error or a technical incapability in the aging satellite?
- EchoStar admits that the higher power levels transmitted violated the coordination agreement — “cause[d] coordination non-compliance at certain geographical points” in the anodyne words of the declaration.¹⁰ EchoStar provides what it purports to be the “average” violation (1.8 dB) and the “worst-case” violation (4 dB).¹¹ But because EchoStar refuses to provide the results of its measurements, there is no way for the Commission to assess the accuracy of the statements, to determine where any violations (including the worst-case violation) occurred, and to determine the interference caused by the violations.¹²
- Although EchoStar admits that it violated the coordination agreement, it does not state whether it informed DIRECTV of that violation. Nor does EchoStar state whether it informed the operators of Univision and the MLB Network. As Spectrum Five has explained, the sole transponder (of the 32 on EchoStar 6) that EchoStar has activated appears to be operating on the same frequencies that DIRECTV’s satellites at 101° W.L. use to carry those two networks.¹³ As EchoStar’s violations of the coordination agreement were likely occurring during the World Cup and baseball season, those network operators would surely like to know the cause of any interference their viewers experienced while trying to watch those sporting events using DIRECTV.

⁹ *Id.* ¶ 6.

¹⁰ *Id.* ¶ 7.

¹¹ *Id.*

¹² Spectrum Five is also prevented from assessing the accuracy of EchoStar’s statement because the coordination agreement remains secret — despite the Bureau’s reliance on that agreement to grant EchoStar’s license modification and the requirements of the Administrative Procedure Act.

¹³ See Spectrum Five Supp. Opp’n at 4. Despite EchoStar’s claim that it “has been transmitting on Channel 17” since “December 3, 2013,” EchoStar 9/29/14 Decl. ¶ 3, Spectrum Five’s monitoring showed that *no transponders* — including on Channel 17 — were activated on February 10, 2014. See Spectrum Five Opp’n at 5-6, *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-20140113-00004 (Feb. 11, 2014); Declaration of Thomas Sharon ¶ 3 & Ex. A (attached hereto); see also Spectrum Five Opp’n, Sharon Decl. ¶ 4 & Ex. C, *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) (monitoring showing transmissions on Channel 17 on April 9, 2014).

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- EchoStar states that it reduced the power of EchoStar 6 on September 10, 2014.¹⁴ But because EchoStar does not state when it took its own measurements (which confirmed Spectrum Five's measurements), it is not clear how much time passed between EchoStar's measurements and its corrective action. Nor does EchoStar offer any explanation why it waited so long to inform the Commission. And, most important, EchoStar provides no assurances — other than its untrustworthy say-so — that the commands it sent to reduce the power EchoStar 6 is emitting actually worked this time.

The Pointing of EchoStar 6

- In seeking both special temporary authority and a license modification, EchoStar committed to shift the beam of EchoStar 6 so that its boresight pointed out in the Atlantic Ocean at 54.8° W and 20.2° N.¹⁵ EchoStar admits — for the first time — that EchoStar 6's boresight is actually pointed “more north and west” than its commitment.¹⁶ But EchoStar does not say *how much more* north and west. Indeed, it may be the case that, despite its commitment, EchoStar *never repointed* EchoStar 6 at all. Or perhaps the aging satellite is technically incapable of being repointed. EchoStar provides no details at all that would permit the Commission to assess the magnitude of the violation or the cause.
- Although EchoStar implies that it was surprised to discover that EchoStar 6 had not been repointed to 54.8° W and 20.2° N as the Commission required, its choice of measuring points suggests that EchoStar knew all along that EchoStar 6 had not been repointed out into the Atlantic Ocean. Had EchoStar 6 been repointed as required, two of the chosen points were well outside the beam pattern, with at least a 20 dB power drop off from the boresight to Cheyenne, WY, and at least a 15 dB power drop off from the boresight to Allan Park, Ottawa, Canada. These are not trivial drop offs — for example, power should have been *one hundred times* lower at Cheyenne, WY, than at the boresight if it were properly pointed. EchoStar's unexplained decision to test the power levels of EchoStar 6 from the Wyoming and Ottawa monitoring stations strongly suggests that EchoStar already knew that it had not correctly repointed EchoStar 6.¹⁷ At a minimum, EchoStar should be required to explain —

¹⁴ See EchoStar 9/29/14 Decl. ¶ 8.

¹⁵ See, e.g., Application Attachment Schedule S GXT 7-8, IBFS File No. SAT-MOD-20130227-00026 (Feb. 27, 2013).

¹⁶ EchoStar 9/29/14 Decl. ¶ 6.

¹⁷ Although the Cheyenne, WY, monitoring station is one of the three transmit/receive earth stations that EchoStar proposed to use to provide the necessary telemetry, tracking, and control and feeder-link services to EchoStar 6 at 96.2° W.L., the Allen Park, Ottawa, monitoring station is *not* one of those (the other two were in Virginia and Arizona). See Application for Modification at 1 n.1, IBFS File No. SAT-MOD-20130227-00026 (Feb. 27, 2013) (referencing earth stations with call signs E080120, E020306, and E070273).

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and provide contemporaneous documents supporting — its decision to use these test points for its measurements.

- In all events, EchoStar does not state when it discovered that the satellite was pointed in the wrong location. It also does not explain why it waited until September 29, 2014 to report this violation of the terms of the STA and the license modification to the Commission.
- EchoStar does not provide sufficient information to determine whether the mispointed and overpowered EchoStar 6 caused interference to Canadian operators of satellites at the 91° W.L. orbital location. EchoStar also says nothing about whether it provided any notice to those operators about such interference.
- EchoStar states only that EchoStar 6’s “antenna will be repointed” at some unspecified point in the future and that repointing will be completed during the “near term.”¹⁸ EchoStar does not state *when* the repointing will begin, *how long* it will take, or — most important — *why* EchoStar did not act to cure this violation of the STA and license modification earlier. Indeed, EchoStar admits that it is unable to confirm that it has successfully brought the EchoStar 6 power levels into compliance with the secret coordination agreement until it has completed repointing the satellite.¹⁹
- Finally, EchoStar’s inability to repoint the EchoStar 6 antenna raises serious questions about the technical capability of this aging satellite.²⁰ Because EchoStar 6 is operating in a highly inclined orbit, antenna direction must be continuously adjusted in order to maintain “a stationary spacecraft antenna pattern.”²¹ If the satellite were fully functional and complying with that rule, EchoStar already should have been able to complete what should have been a routine adjustment of the antenna pointing. The fact that EchoStar still has not repointed the satellite suggests that there are issues with the technical capabilities of the satellite that EchoStar has never disclosed to the Commission.

These events should instill a sense of déjà vu. Previously, Spectrum Five informed the Commission 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 station-kept within the required 0.05° E-W station-

¹⁸ EchoStar 9/29/14 Decl. ¶ 8.

¹⁹ *See id.* (“This [EchoStar’s compliance with the coordination agreement] will be confirmed by test measurements to be conducted once antenna repointing operations are completed in the near term.”)

²⁰ When EchoStar moved EchoStar 6 from 77° W.L. to 61.65° W.L., it similarly had to repoint the beam to the south and east. *See* Application Narrative, Attach. 1 at 2, File No. SAT-A/O-20100203-00019 (Feb. 3, 2010). EchoStar never reported any difficulties with that beam repointing, raising the question whether EchoStar 6 has recently lost its repointing capability.

²¹ 47 C.F.R. § 25.280(b)(1).

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keeping box.²² As with Spectrum Five's power data, EchoStar initially attacked Spectrum Five's location data,²³ 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 Commission.²⁴ There, too, EchoStar submitted only the most cursory explanation to support its admission that Spectrum Five was right and EchoStar was wrong.

The Commission should not be satisfied with EchoStar's similarly incomplete answers here. EchoStar sought and obtained an STA — and then a license modification — based on two key commitments: that it would point the satellite far out into the Atlantic Ocean and that it would operate with significantly reduced power. EchoStar has now been forced to admit that it has violated *both* of those commitments and is *still* violating at least one of them. Moreover, EchoStar concealed the truth of its *dual and extended* violations of the terms of the STA while the Bureau was considering EchoStar's license modification application. In light of this new evidence, the Bureau — or the Commission — can and should reverse the grant of that application in connection with Spectrum Five's pending petition for reconsideration and request for referral of the petition to the full Commission as an application for review.

In all events, the Commission should demand that EchoStar promptly provide the information, detailed above, that it is still withholding; should sanction EchoStar for its past violations of the STA and license modification, and failure promptly to disclose and to correct those violations; and should sanction EchoStar further if it refuses to provide complete information regarding EchoStar 6 and to do so promptly. The Bureau should also take appropriate action based on the information EchoStar submits, including denying EchoStar's request for a license extension for EchoStar 6 if — as it appears — the aging EchoStar 6 is incapable of complying with the requirements of EchoStar's modified license.

Sincerely,

/s/ Scott H. Angstreich
Scott H. Angstreich
Counsel to Spectrum Five LLC

²² 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).

²³ See Letter from Paul Forness, Spacecraft Engineering Manager, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, 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.").

²⁴ See Letter from Jennifer A. Manner, Vice President, Regulatory Affairs, EchoStar Satellite Operating Corp., to Marlene H. Dortch, Secretary, 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).

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Enclosure

cc: Mindel De La Torre, Chief of International Bureau
Troy Tanner, Deputy Chief of International Bureau
Jennifer Gilson, Assistant Bureau Chief of International Bureau
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