

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of )  
 )  
Comprehensive Review of Licensing and ) IB Docket No. 12-267  
Operating Rules for Satellite Services )

To: The Commission

**REPLY COMMENTS OF ECHOSTAR CORPORATION**

**ECHOSTAR CORPORATION**

Steven Doiron  
Senior Director, Regulatory Affairs  
Hughes Network Systems, LLC  
11717 Exploration Lane  
Germantown, MD 20876  
(301) 428-5506

Of Counsel:  
Stephen D. Baruch  
Lerman Senter PLLC  
2000 K Street, NW  
Suite 600  
Washington, D.C. 20006  
(202) 429-8970

Jaime Londono  
Vice President, Advanced Program  
Spectrum Management  
EchoStar Satellite Services, L.L.C.  
100 Inverness Terrace East  
Englewood, CO 80112

Of Counsel:  
Pantelis Michalopoulos  
Stephanie A. Roy  
Steptoe & Johnson LLP  
1330 Connecticut Avenue, NW  
Washington, D.C. 20036  
(202) 429-3000

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## SUMMARY

EchoStar Corporation (“EchoStar”) submits these Reply Comments in response to the comments filed on the Commission’s *Notice of Proposed Rulemaking* in IB Docket No. 12-267 (“*NPRM*”), which initiates a comprehensive review of the Commission’s licensing and operating rules for satellite services. In these reply comments, EchoStar:

- Supports Intelsat License LLC’s (“Intelsat”) proposal to improve the utility of the Commission’s fleet management rule.
- Supports in concept Intelsat’s proposal for a new space station autogrant procedure for certain satellite repositionings and beam repointings and rotations.
- Supports The Boeing Company (“Boeing”) in having the critical design review (“CDR”) milestone analysis return to the more narrow analysis contemplated with the rule’s adoption a decade ago.
- Supports aligning the off-axis e.i.r.p. spectral density masks in Section 25.138 with the two-degree spacing policy.
- Urges the Commission to contemplate the adoption of regulatory provisions such as those in place in Canada that would elevate FSS gateway earth stations to co-primary status with the Local Multipoint Distribution Service (“LMDS”), and to adopt international EPFDup limits to assure the proper relationship between geostationary-satellite orbit (“GSO”) and non-GSO (“NGSO”) FSS systems and networks.
- Opposes Iridium Constellation LLC’s (“Iridium”) contention that earth station autogrant procedures should be withheld from GSO FSS blanket earth station applicants in the 29.25-29.5 GHz band.
- Opposes Iridium’s call for limits on the applicability of Section 25.115(e) and the utility of Section 25.138 with respect to GSO FSS earth stations in the 20/30 GHz band segments used on a secondary or non-conforming basis.
- Opposes as unreasonable and unnecessary Iridium’s proposal to limit applicability of the rule permitting increases in the number of VSAT remote terminals without prior authorization to bands where GSO FSS has a primary allocation or designation.
- Opposes Comtech EF Data Corporation (“Comtech”) on the applicability and provisions of the proposed Automated Transmitter Identification System (“ATIS”) rule and National Public Radio, Inc.’s (“NPR”) request for additional content requirements for ATIS signals.

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EchoStar Corporation (“EchoStar”), by its attorneys and pursuant to Section 1.415 of the Commission’s Rules, 47 C.F.R. § 1.415, hereby submits reply comments in response to the comments filed in the above-captioned rulemaking proceeding to conduct a comprehensive review of the licensing and operating rules for satellite services.<sup>1</sup>

**I. INTRODUCTION**

EchoStar is an active member of the Satellite Industry Association (“SIA”), supports the views of the SIA reply comments that are being filed separately today , and incorporates them SIA reply comments by reference. In these Reply Comments, EchoStar:

- Supports Intelsat License LLC’s (“Intelsat”) proposal to make a one-word modification to Section 25.118(e)(1) that will improve the utility of the Commission’s fleet management rule for operators of geostationary-satellite orbit (“GSO”) space stations in the fixed-satellite service (“FSS”), Direct Broadcasting Satellite (“DBS”) service, and 17/24 GHz Broadcasting Satellite Service (“17/24 GHz BSS”).
- Supports in concept Intelsat’s proposal for a new space station autogrant procedure for certain specified situations (including repositioning of a space

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<sup>1</sup> Comprehensive Review of Licensing and Operating Rules for Satellite Services, *Notice of Proposed Rulemaking*, 27 FCC Rcd. 11619 (2012) (“*NPRM*”). The deadline for reply comments on the *NPRM* was extended to February 13, 2013. Comprehensive Review of Licensing and Operating Rules for Satellite Services, IB Docket No. 12-267, *Order*, DA 12-2046 (Int’l. Bur., rel. Dec. 19, 2012).

station within a narrow longitudinal range from the initially-authorized location, but believes that additional thought needs to be given to the details of the rule that implements this idea.

- Supports The Boeing Company (“Boeing”) in having the Commission’s consideration of compliance showings for the critical design review (“CDR”) space station license implementation milestone in Section 25.164(a) and (b) return to the narrow analysis contemplated with the rule’s adoption a decade ago.
- Notes support for the off-axis e.i.r.p. spectral density masks in Section 25.138 and the two-degree spacing policy.
- Urges the Commission, in pursuing relevant regulatory approaches taken by other countries with commercial space operations, to examine the possibility of adopting regulatory provisions such as those in place in Canada that would elevate FSS gateway earth stations to co-primary status with the Local Multipoint Distribution Service (“LMDS”), with LMDS priority, in the 27.5-28.35 GHz band – with the international EPFD<sub>up</sub> limits from Article 22 of the International Telecommunication Union (“ITU”) Radio Regulations assuring a proper relationship between GSO and NGSO FSS gateway earth stations in this band.
- Opposes Iridium Constellation LLC’s (“Iridium”) contention that earth station autogrant procedures should be withheld from GSO FSS blanket earth station applicants in the 29.25-29.5 GHz band; the band is a blanket-license band for GSO FSS earth stations and only because of Iridium’s attempt to disavow prior understandings that formed the basis for non-geostationary satellite orbit (“NGSO”) mobile-satellite service (“MSS”) feeder link earth station access to the 29.25-29.3 GHz segment of that band have some recent applications not been “routine.”
- Opposes Iridium’s call for limits on the applicability of Section 25.115(e) and the utility of Section 25.138 with respect to GSO FSS earth stations in the 20/30 GHz band segments used on a secondary or non-conforming basis; the rule pair addresses only GSO-to-GSO sharing issues and will have no negative impact on primary NGSO FSS services in band segments where GSO FSS is neither primary nor co-primary.
- Opposes as unreasonable and unnecessary Iridium’s proposal to limit applicability of the rule permitting increases in the number of VSAT remote terminals without prior authorization to bands where the VSAT terminals have a primary allocation or designation.
- Objects to the views of ComTech EF Data Corporation (“Comtech”) on the applicability and provisions of the proposed Automated Transmitter Identification System (“ATIS”) rule; there is no basis for applying ATIS obligations to any digital transmissions other than satellite news gathering applications, and adoption of the proprietary standard urged by Comtech is particularly inappropriate.

- Opposes the unsupported request by National Public Radio, Inc. (“NPR”) for additional content requirements for ATIS signals

## II. **DISCUSSION**

### A. **Improving the Utility of the Fleet Management Rule in Section 25.118(e)(1).**

EchoStar supports Intelsat’s comment that the utility of Section 25.118(e)(1) of the Commission’s Rules would be improved if the Commission were to modify the first sentence of the rule to apply to relocations of GSO space stations to another “nominal orbital location that is assigned to that licensee.”<sup>2</sup> With operators required to certify compliance with coordination requirements, interference concerns associated with operating at the nominal, as opposed to exact, orbital location are addressed, and the requirement to use the exact same slot, without offset, unnecessarily limits operators.<sup>3</sup>

### B. **Development of a Limited Autogrant Capability for Space Station Modifications.**

EchoStar agrees in principle with Intelsat that the Commission should adopt an autogrant procedure for space station license/authorization modification applications proposing relocations of a space station within a +/- 0.2° range from the initially-authorized location and/or certain adjustments to a space station’s beams relative to the initially-authorized beam positions.<sup>4</sup> Such a procedure could improve operator flexibility to offer services to meet customer requirements, and could be implemented without causing any harmful interference or increasing the operator’s sensitivity to interference from adjacent satellite operations.

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<sup>2</sup> See Comments of Intelsat License LLC in IB Docket No. 12-267, at 8 (filed Jan. 14, 2013) (“Intelsat Comments”).

<sup>3</sup> *Id.*

<sup>4</sup> *Id.* at 9-10.

A modified principle is warranted in the case of Direct Broadcast Satellite (“DBS”) space stations. For DBS satellites, the applicable range should be the orbital “box” contemplated by the Region 2 allotment plan, or +/- 0.2° of the relevant nominal orbital location. This means that moves of the satellite’s center location by up to 0.4° would be permitted for DBS satellites. For example, at the 61.5° W.L. orbital location, the rules should encompass the movement of a DBS satellite from 61.3° W.L. to 61.7° W.L.

Second, for both FSS and DBS satellites, the operator should still be required to coordinate with the operators of all potentially affected satellite systems prior to the move. Many routine satellite authorization modification applications are approved with a stamp grant that is accompanied by a number of important conditions regarding coordination agreements and other prerequisites to operation under the modified parameters. These conditions, while often routine and relatively standard, are included in attachments to the stamp grants that are tailored to the request. It is unclear from Intelsat’s proposal how an autogrant 35 days after the acceptance-for-filing public notice will ensure that necessary conditions for the preservation of the status quo ante for adjacent satellite networks would be imposed. At a minimum, the Commission should require applicants availing themselves of the autogrant procedure to include certifications from the licensee/authorization holder that the modified operation would be compliant with all existing coordination agreements (or include a statement that any new or modified coordination agreements required have been obtained or will be obtained before commence of operation under the modified parameters), and that there will both be no increase in interference or increased sensitivity to interference from others relative to the existing authorization. If the Commission cannot resolve the additional matters identified here, it should seek further comment on Intelsat’s proposal.

**C. The Commission Should Reform its Approach to Determining Compliance with the Critical Design Review Milestone in Section 25.164.**

EchoStar agrees with SIA and Boeing that the current practice of submitting voluminous materials to augment the CDR showing has blurred the line on what is required and introduced uncertainty into the process. Today’s milestones are an extension of a practice long followed by the Commission with satellite authorizations.<sup>5</sup> A return to prior Commission practice would benefit both the Commission and satellite operators. Specifically, the Commission should clarify that an affidavit by a recognized vendor, or any one of the other categories of evidence set forth in the International Bureau’s 2004 Public Notice on CDR,<sup>6</sup> constitutes sufficient evidence that the milestone has been met.

The Commission first established a CDR milestone in 2000 for mobile satellite licensees.<sup>7</sup> Affected licensees had to “support their [CDR] certification with a declaration by the satellite manufacturing company stating the date on which the CDR was completed.”<sup>8</sup> When the Commission first proposed applying the CDR milestone to other types of satellite system a

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<sup>5</sup> See, e.g., *Licensing Space Stations in the Domestic Fixed-Satellite Service*, Notice of Proposed Rulemaking, 101 F.C.C. 2d 223, 228 ¶ 12 (1985) (“We find that the public interest will be best served by an expeditious grant of authorizations to those qualified applicants who will be able to begin construction of their systems immediately and thus offer satellite services to the public expeditiously.”); *The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, Notice of Proposed Rulemaking, 14 FCC Rcd. 4843, 4881 ¶ 83 (1999) (proposed adopting milestones to “to ensure that systems are constructed within a reasonable time and thus, ensure delivery of service to the public”); *Amendment of the Commission's Space Station Licensing Rules and Policies*, Notice of Proposed Rulemaking, IB Docket No. 02-34, 17 FCC Rcd. 3847 ¶ 102 (2002) (“*Space Station Reform NPRM*”) (“[Milestones] are designed to ensure that applicants are positioned to provide service to the public in a timely manner”).

<sup>6</sup> See *The International Bureau Provides Guidance Concerning the Critical Design Review Milestone Requirement*, Public Notice, 19 FCC Rcd. 5362 (IB 2004) (“*CDR Guidance Public Notice*”).

<sup>7</sup> See *The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, Report and Order, 15 FCC Rcd. 16127 ¶ 108 (FCC 2000).

<sup>8</sup> See *id.* ¶ 108

couple of years later, it referenced this bright line rule.<sup>9</sup> In applying the CDR milestone to GSO FSS satellites generally, the Commission signaled its intention to extend existing policy to a broader class of satellites.<sup>10</sup> In particular, due to the complexity of the CDR process, and in light of the varying approaches across the engineering world, the Commission declined to set forth rigid requirements for the CDR milestone, instead articulating certain kinds of submissions that may be considered as evidence that CDR is complete.<sup>11</sup>

In the 2004 *CDR Guidance Public Notice*, the International Bureau provided further guidance as to the types of information a licensee may have to submit upon request in order to meet the CDR milestone.<sup>12</sup> As in the *Space Station Reform Order*, the *CDR Guidance Public Notice* provided no specific requirements for CDR, instead identifying “information that the Commission may seek as it assesses compliance with the CDR milestone.”<sup>13</sup>

The problem is that licensees are unclear as to the extent to which the guidelines apply. This results in voluminous submissions through which Bureau staff must wade. The better solution is to clarify that presentation of any of the categories of evidence identified by the Commission or the Bureau (a manufacturer’s affidavit, CDR payments, the ordering of all long dead time components, or the CDR documentation package) is sufficient evidence of CDR.

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<sup>9</sup> See *Space Station Reform NPRM* ¶ 103.

<sup>10</sup> See *id.* ¶ 177.

<sup>11</sup> These were: “(1) evidence of a large payment of money, required by most construction contracts at the time of the spacecraft CDR; (2) affidavits from independent manufacturers; and (3) evidence that the licensee has ordered all the long lead items needed to begin physical construction of the spacecraft.” *Amendment of the Commission’s Space Station Licensing Rules and Policies*, First Report and Order and Further NPRM in IB Docket No. 02-34, 18 FCC Rcd 10760, 10833 (¶ 191) (2003) (“*Space Station License Reform Order*”).

<sup>12</sup> See *The International Bureau Provides Guidance Concerning the Critical Design Review Milestone Requirement, Public Notice*, 19 FCC Rcd. 5362 (IB 2004) (“*CDR Guidance Public Notice*”).

<sup>13</sup> *Id.* (listing in relevant part the CDR documentation package and evidence of payment up through CDR).

**D. The Commission Should Align the Off-Axis E.I.R.P Spectral Density Masks in Section 25.138 with the Two-Degree Spacing Policy.**

EchoStar has proposed that the Commission harmonize the start angles of the off-axis EIRP density masks at two degrees off axis.<sup>14</sup> Noting that Section 25.138(a) uses a 2-degree start angle, but Section 25.138(e) synchs protection for 20/30 GHz band GSO FSS earth station downlink reception to Sections 25.209(a) and (b) (which include start angles of 1.5 degrees and 1.8 degrees, respectively), EchoStar asked the Commission to align protection of 20/30 GHz-band GSO FSS downlink reception with the two-degree spacing environment.<sup>15</sup>

Other commenters also propose alignment of Section 25.138(e) with the two-degree start angle for the masks in Section 25.138(a).<sup>16</sup> Accordingly, for the reasons EchoStar provided in its comments and summarizes above, the Commission should either replace the reference in Section 25.138(e) to Sections 25.209(a) and (b) with a reference to Section 25.138(a), or modify the start angles in Section 25.209 to two degrees.

**E. The Commission Should Examine the Canadian Regulatory Approach of According FSS Gateway Earth Stations Limited Co-primary Status with the LMDS in the 27.5-28.35 GHz band, and Consider Applying the ITU EPFD<sub>up</sub> Limits from Article 22 of the Radio Regulations to NGSO FSS Gateway Earth Stations.**

In the NPRM, the Commission asked for comments on whether there are technical rules or technical practices developed by other countries that might further the Commission's policy

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<sup>14</sup> Comments of EchoStar Corporation in IB Docket No. 12-267, at 12-13 (filed Jan. 14, 2013) ("EchoStar Comments").

<sup>15</sup> *Id.*

<sup>16</sup> *See* Comments of Cobham Satcom in IB Docket No. 12-267, at 1 (filed Dec. 21, 2012); Comments of Cobham Technical Services in IB Docket No. 12-267, at 1-2 (filed Dec. 21, 2012).

objectives and might be incorporated in Part 25.<sup>17</sup> SIA offered comments on some regulatory approaches regarding earth station licensing that have been successfully employed in Europe,<sup>18</sup> and other commenters also offered suggestions responsive to the Commission's inquiry.<sup>19</sup>

Closer to home, EchoStar has found another instance where an approach developed by another country might further Commission policy objectives – the approach taken by Canada with respect to the use of the 27.5-28.35 GHz band by the LMDS and FSS earth stations.

In Canada, the 27.5-28.35 GHz band is allocated for use by terrestrial and satellite services. A footnote to the Canadian Table of Frequency Allocations, specifies that the band:

is being licensed for Local Multipoint Communication Systems (LMCS) in the fixed service, which will be given priority over fixed-satellite service systems sharing this spectrum on a co-primary basis. Fixed-satellite service implementation in this band will be limited to applications which will pose minimal constraints upon the deployment of fixed service systems, such as a small number of large antennas for feeder links.”<sup>20</sup>

In the United States, the Commission's band plan for the 27.5-28.35 GHz band has LMDS as the primary service and the FSS as the secondary service.<sup>21</sup> The Commission should modify the regulatory status of FSS earth stations in 27.5-28.35 GHz to enable earth station antennas used

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<sup>17</sup> *NPRM*, FCC 12-117, slip op at 44 (¶155).

<sup>18</sup> See Comments of the Satellite Industry Association, IB Docket No. 12-267, at 68-69 (filed Jan. 14, 2013) (“SIA Comments”).

<sup>19</sup> See, e.g., Comments of the Global VSAT Forum in IB Docket No. 12-267, at 4-5 (filed Jan. 14, 2013) (“GVF Comments”).

<sup>20</sup> See Canadian Table of Frequency Allocations 9 kHz to 275 GHz (2009 edition), at footnote C47A (CAN-00), available on-line at [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/cane2009edition-eng.pdf/\\$FILE/cane2009edition-eng.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/cane2009edition-eng.pdf/$FILE/cane2009edition-eng.pdf) (last visited February 4, 2013). “LMCS” is the Canadian equivalent of the Commission's LMDS.

<sup>21</sup> See *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, First Report and Order and Fourth Notice of Proposed Rulemaking, CC Docket No. 92-297, 11 FCC Rcd 19005, 19024 (1996) (“28 GHz First Report and Order”).

for gateway transmission services to enjoy co-primary status with the LMDS subject to the condition that LMDS will be given priority over FSS systems. The Commission should make the 27.5-28.35 GHz band available for both GSO FSS and NGSO FSS gateway operations, provided that NGSO FSS transmissions meet the EPFD<sub>up</sub> limits imposed in Article 22 of the ITU Radio Regulations.<sup>22</sup>

When the Commission developed its band plan for the 27.5-30 GHz band nearly 20 years ago, both LMDS and 20/30 GHz-band FSS were little more than theoretical concepts. The view had been expressed in the proceedings that FSS gateway services (i.e., limited deployments of relative large antennas that would provide support services for the ubiquitously-deployed user terminals that would operate in other portions of the uplink band spectrum) could be offered compatibly with LMDS.<sup>23</sup> The Commission, however, was not prepared in 1996 to do anything other than relegate FSS to secondary status in the 27.5-28.35 GHz band.<sup>24</sup>

As EchoStar noted several times in its Comments in this proceeding,<sup>25</sup> times have changed since 1996. GSO FSS networks at 20/30 GHz are an established segment of the satellite industry, with multiple high-capacity satellite systems in operation today with more in development offering satellite broadband to hundreds of thousands of households across the United States. On several occasions in recent years, the Commission has authorized 20/30 GHz-band GSO FSS networks to employ spectrum in the LMDS primary band without objection or

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<sup>22</sup> In particular, NGSO FSS use of the band would be subject to the limits in No. 22.5D and Table 22-2 of the Radio Regulations.

<sup>23</sup> *28 GHz First Report and Order*, 11 FCC Rcd at 19025-26.

<sup>24</sup> *Id.* at 19026.

<sup>25</sup> *See, e.g.*, EchoStar Comments at 5.

even comment from LMDS operators, finding that plans for avoiding harmful interference from FSS networks into LMDS systems are attainable.<sup>26</sup>

In 2010, in response to a Congressional directive, the Commission adopted its National Broadband Plan for ensuring that every American has access to broadband capability.<sup>27</sup> Satellite broadband is a key component in assuring that the goal of universal broadband capability is able to be met,<sup>28</sup> and the 20/30 GHz band FSS spectrum allows for high-capacity, high-throughput satellite broadband. Access to spectrum in the LMDS band at 27.5-28.35 GHz by FSS gateway earth stations will allow more capacity to be deployed on each broadband satellite, which translates to higher data rates for satellite broadband consumers.<sup>29</sup> The key is providing FSS gateways with a stable enough regulatory environment to encourage use of what is now a secondary FSS uplink band while not unduly constraining the primary use of the band by LMDS systems.

If the Commission were to adopt the Canadian approach to 27.5-28.35 GHz, and make LMDS and FSS co-primary, with priority to LMDS, the utility of the band to the FSS would increase without reducing the protection of LMDS systems or the utility of the band to the LMDS. As co-primary operators, satellite receivers in the 27.5-28.35 GHz band would be

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<sup>26</sup> See, e.g., Application of ViaSat, Inc., File No. SAT-LOA-20110722-00132, Stamp Grant at ¶ 3 (Sat. Div., Oct. 14, 2011) (granting secondary access to ViaSat, Inc. for gateway uplink use in 28.1-28.35 GHz).

<sup>27</sup> *Connecting America: The National Broadband Plan* (released March 17, 2010), available at <http://download.broadband.gov/plan/national-broadband-plan.pdf> (last visited February 5, 2010).

<sup>28</sup> *Id.* at 37 (reporting that fully 5% of households in the United States have no wireline broadband providers available to them).

<sup>29</sup> According to the Commission's National Broadband Plan, next generation satellites, including the EchoStar XVII 20/30 GHz-band satellite that was launched last year, "will have much higher capacities, in excess of 100 Gbps each, with download speeds per user of up to 25 Mbps. Larger capacities could allow for usage patterns that more-closely mirror terrestrial usage." *Id.* at 62 n.10.

entitled to protection from all sources of harmful interference other than LMDS, and even as to LMDS systems, there would be an expectation on the part of the LMDS operator to at least make an effort to accommodate an FSS gateway earth station within its service area.<sup>30</sup> Both of these developments would provide a measure of certainty to FSS network operators, and while the change would give FSS operators a right to engage in a coordination discussion with the LMDS licensee in its geographic area, the LMDS priority would assure that the LMDS operator is not deprived of its ability to insist on protection of its links in the event of non-agreement on protection parameters.<sup>31</sup> These developments would also enable meaningful FSS use of LMDS spectrum in geographic areas where there is no current LMDS operator due either to relinquishment of an authorization for failure to meet build-out requirements or the fact that the area in question was never auctioned off in the first place.<sup>32</sup>

In addition to adopting a limited co-primary status for FSS gateway earth stations in the 27.5-28.35 GHz band, the Commission should further improve regulatory certainty for FSS earth station operators by applying the EPFD<sub>up</sub> limits from No. 22.5D of the ITU Radio Regulations to

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<sup>30</sup> For example, as long as the FSS gateway earth station did not select a location in the center of an urban area that is within the likely footprint of the LMDS operator, the LMDS operator would be expected to coordinate informally with the earth station operator to determine conditions on which the earth station could transmit to its target GSO satellite on a long-term basis. Today's FSS authorizations in the LMDS band are expressly secondary to any future LMDS operation or link, and thus have limited utility to FSS operators in areas where there is an LMDS licensee, and no utility whatsoever in the many smaller areas without any LMDS licensee at all today.

<sup>31</sup> In this regard, EchoStar notes that in the V-band FSS downlink spectrum at 37.5-40 GHz, the Commission was able to accord effective priority to high-density terrestrial fixed microwave service deployments through regulations while allocating the same band to FSS gateway use on a co-primary basis. In *Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands*, 18 FCC Rcd 25428 (2003), the Commission modified Section 25.202(a)(1) to preserve the right for FSS operators to secure by auction or agreement the right to establish gateway earth stations that would be protected from fixed-service interference. See *id.* at 25441-42. See also 47 C.F.R. § 25.202(a)(1) & n.16.

<sup>32</sup> If there is no LMDS operator, then there is no one from whom the FSS operator may seek an agreement to locate an earth station or for a "quiet enjoyment" arrangement. As a result, all of the spectrum in an area without an LMDS licensee effectively lies fallow indefinitely.

NGSO FSS earth stations. The ITU limits already apply internationally to NGSO FSS earth stations in the 27.5-28.35 GHz band (see Table 22-2 of the Radio Regulations), as a quantification of the obligation of NGSO FSS systems to protect GSO FSS operations from unacceptable interference under No. 22.2 of the Radio Regulations. Applying the regulation to the new co-primary FSS would help assure the maximum satellite utility of this band segment – without impacting in any way the ability of either GSO or NGSO FSS gateway earth station operators to meet the obligations associated with the “priority” LMDS.

Accordingly, the Commission should take steps in its forthcoming Report and Order in the instant proceeding to elevate the FSS to co-primary (subject to LMDS priority) in the 27.5-28.35 GHz band, and to clarify that the EPFD<sub>up</sub> limits from Article 22 of the Radio Regulations will apply as between GSO FSS gateway earth stations and NGSO FSS gateway earth stations in the newly-co-primary band.

**F. The Commission Should Reject Attempts to Withhold Autogrant Capability from GSO FSS Earth Stations in the 29.25-29.5 GHz Band.**

Iridium’s argument<sup>33</sup> that the earth station autogrant licensing process should be withheld from GSO FSS earth stations that share a portion of the 29.25-29.5 GHz band with Iridium’s NGSO MSS feeder link earth stations is fundamentally flawed in two respects. First, the only reason why GSO FSS earth station licensing may have become other than routine is Iridium’s unilateral abandonment of the premise on which the Commission granted NGSO MSS feeder links access to a 50 MHz segment of the 29.25-29.5 GHz band that the Commission had previously designated for GSO FSS blanket earth station licenses. When Iridium was granted its

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<sup>33</sup> See Comments of Iridium Constellation LLC in IB Docket No. 12-267, at 3 (filed Jan. 14, 2013) (“Iridium Comments”).

initial authorization to operate feeder links for its L-band system in the 20/30 GHz-band spectrum at 29.25-29.3 GHz, this operation was premised on Iridium's assurance that its earth stations would be able to use the 29.25-29.3 GHz band segment on a shared basis with GSO FSS earth stations by following "the guidelines set forth in ITU-R Recommendation S.1419, 'Interference Mitigation Techniques to Facilitate Coordination Between non-GSO MSS Feeder links and GSO FSS networks in the bands 19.3-19.7 GHz and 29.1-29.5 GHz.'"<sup>34</sup> The referenced ITU guidelines rely, in part, on spatial separation of gateway earth stations used by the two types of satellite networks.<sup>35</sup> The Commission deemed coordination on such basis between NGSO MSS feeder link stations and GSO FSS networks feasible in the 20/30 GHz-band rulemaking proceedings leading to designation of the 29.25-29.5 GHz band for ubiquitously-deployed GSO FSS earth stations. This conclusion was based on avoidance of main-beam coupling using the techniques described in Recommendation ITU-R S.1419, which was referenced in and annexed to the 2007 Iridium Amendment.<sup>36</sup>

Until a little more than a year ago, GSO FSS earth station licensing in the 29.25-29.5 GHz band was routine. In 2010, EchoStar's HNS License Sub, LLC ("Hughes") unit was granted access to the band without comment or objection from Iridium for its user terminals for SPACEWAY 3 under Call Sign E060445, and in 2011, Hughes was granted blanket authority for

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<sup>34</sup> Iridium Amendment, File No. SES-AMD-20070309-00334, at 1 (Filed March 9, 2007).

<sup>35</sup> The requisite separation distance is 225 kilometers for typical antennas, but as few as 60 kilometers for high-gain/highly-directional antennas. See ITU-R Recommendation S.1419, Section 3 at 2.

<sup>36</sup> See, e.g., *Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands*, Second Order in Reconsideration in IB Docket No. 98-172, 17 FCC Rcd 24248, 24259-61 (2002) ("*Blanket Licensing Order*"); *Local Multipoint Distribution Service and Fixed-Satellite Services*, Memorandum Opinion and Order in CC Docket No. 92-297, 16 FCC Rcd 11436, 11439-40 (2001).

its EchoStar XVII gateway earth stations under Call Sign E110149.<sup>37</sup> In both applications, Hughes stated that any of its GSO FSS earth stations that operate near an Iridium gateway earth station that employs the 29.25-29.3 GHz band segment would be assigned other frequencies or operate on different polarizations to ensure compatible operation with authorized NGSO MSS feeder link earth stations. Hughes noted that these are the types of measures contemplated by the Commission for ensuring compatible operations between GSO FSS and NGSO MSS feeder link terminals.<sup>38</sup> In its earth station deployments for the SPACEWAY 3 and EchoStar XVII satellite networks, Hughes in fact avoids operation in the 29.25-29.3 GHz band within 225 kilometers of Iridium's earth station complex where access to the full 29.1-29.3 GHz feeder link band is authorized.<sup>39</sup>

In the last year or so, Iridium has called into question its own continued adherence to the spectrum-sharing mechanisms underpinning the Commission's 20/30 GHz-band rulemaking proceedings and the 2007 earth station application amendment that led to Iridium's authority to access the 29.25-29.3 GHz segment.<sup>40</sup> Iridium has argued that the sidelobe signal characteristics of GSO FSS earth stations might interfere with NGSO MSS feeder link reception without regard to separation distances between the Iridium earth station and the GSO FSS earth stations

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<sup>37</sup> See Application of HNS License Sub, LLC in File No. SES-MFS-20090220-00293 (access granted to 29.25-29.5 GHz for more than 1,000,000 user terminals; showing was made under Section 25.203(k) without comment or objection from Iridium); Application of HNS License Sub in File No. SES-LIC-20111021-01243 (access granted to 29.25-29.5 GHz for blanket-licensed gateway terminals; showing was made under Section 25.203(k) without comment or objection from Iridium).

<sup>38</sup> See, e.g., Exhibit A to File No. SES-LIC-20111021-01243, at 2 (citing *Blanket Licensing Order*, 17 FCC Rcd at 24258-60 (¶24) (2002)).

<sup>39</sup> Under ITU-R Recommendation S.1419, a GSO FSS earth station located 225 kilometers or more away from an NGSO MSS feeder link earth station will be incapable of causing unacceptable interference to the NGSO MSS feeder link operations.

<sup>40</sup> See, e.g., Emergency Petition to Dismiss or Deny of Iridium Satellite LLC, FCC IBFS File Nos. SES-MFS-20120322-00290 and SES-AFS-20120426-00396, at 5.

operated by Hughes.<sup>41</sup> Iridium makes this claim even though these emissions were never raised as an issue in the proceedings that led to Iridium being granted access to the 29.25-29.3 GHz band segment in the first instance. Iridium also has asserted for the first time that the aggregate impact of Hughes earth stations will have a distinct adverse impact on its operations – a particularly odd contention to put forward concerning a band where ubiquitous deployment of user FSS terminals now has been permitted for more than five years.

Iridium’s allegations raise fundamental questions regarding Iridium’s own capability to operate successfully under the existing Commission rules and associated ITU recommendations that govern spectrum sharing in the 29.25-29.3 GHz band segment.<sup>42</sup> These new assertions contravene the very premise on which Iridium was authorized to access 29.25-29.3 GHz, and it is only Iridium’s attempt to disavow its conditions of access that have made “routine” proceedings non-routine in the last year. Once the Commission requires Iridium to adhere to the terms access to 29.25-29.3 GHz, GSO FSS earth station applications for blanket-license operations in the 29.25-29.5 GHz band will again be routine.

The second flaw in Iridium’s position is that it overlooks the fact that the autogrant procedure would not deprive Iridium or anyone else from reviewing the GSO FSS earth station application once it has been placed on public notice, and submitting an objection or petition to deny within the 30-day response period. Such a petition would, as proposed in the *NPRM*,<sup>43</sup> remove the application from autogrant.

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<sup>41</sup> *Id.*

<sup>42</sup> *See, e.g.*, 47 C.F.R. §§ 25.203(k) & 25.258.

<sup>43</sup> *See NPRM*, at ¶ 32. *See also* SIA Comments, at 33.

The Commission should, as EchoStar urged in its comments, include the 29.25-29.5 GHz segment within the autogrant rule for GSO FSS earth station applications.

**G. Compliance with Section 25.138 Should Be Mandatory for GSO FSS Earth Stations in the 20/30 GHz Band Segments Used on a Secondary or Non-Conforming Basis.**

In its comments, EchoStar noted that there is a discrepancy in the Commission's *NPRM* between Sections 25.115(e) and 25.138. Section 25.115(e) requires all 20/30 GHz GSO FSS earth station applications to include information in Section 25.138, but Section 25.138, as proposed in the *NPRM*, applies only to a subset of the 20/30 GHz-band GSO FSS earth stations.<sup>44</sup> To resolve this discrepancy, EchoStar proposed to modify Section 25.138 to align with the scope of Section 25.115(e), and thus allow the obligation stated in Section 25.115(e) to be fulfilled.<sup>45</sup> Iridium's proposed approach is to limit the applicability of Section 25.115(e) and thus of Section 25.138 in a way that leaves some 20/30 GHz-band GSO FSS earth stations outside of the rules that establish a two-degree spacing environment.<sup>46</sup>

Section 25.138 forms the basis for a stable two-degree spacing environment in all 20/30 GHz bands available for GSO FSS use. EchoStar believes that there is value to both industry and the Commission's spectrum-use policy in applying the provisions of Section 25.138 as between "co-secondary" GSO FSS earth stations. Requiring GSO FSS earth stations to comply with the two-degree requirements, even when operating on a secondary or non-conforming basis,

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<sup>44</sup> See EchoStar Comments, at 9. Specifically, EchoStar observed that the 28.6-29.1 GHz band where GSO FSS earth stations may operate on a secondary basis to NGSO FSS earth stations and the corresponding downlink band at 18.8-19.3 GHz where GSO FSS earth stations are authorized only on a non-conforming basis (again with NGSO FSS the primary application), are not included in Section 25.138.

<sup>45</sup> EchoStar Comments at 9-10.

<sup>46</sup> Iridium Comments at 5.

will increase the usability and efficiency of the bands without impacting the primary NGSO FSS systems. On the other hand, limiting the scope of Section 25.115(e) as urged by Iridium will promote inefficiency and confusion.<sup>47</sup> It will be more difficult for GSO FSS networks to coordinate with one another, and the result will be a reduction in satellite capacity available to consumers and businesses for satellite broadband. The Commission should reject Iridium's proposal.

**H. The Applicability of Section 25.118(a)(3) Should Not be Limited to Bands Where VSAT terminals Operate under a Primary Allocation or Designation.**

EchoStar opposes Iridium's proposal to have the Commission limit the applicability of Section 25.118(a)(3) of the Commission's Rules – a provision that permits increases in the number of authorized blanket-licensed and remote earth stations without prior Commission approval – to frequency bands where the authorized terminals operate under a primary allocation or designation.<sup>48</sup> If there is an authorization for a specific number of VSAT or other remote terminals that contains a maximum number of terminals that is tied to a specific interference analysis, then the Commission can specify that the number of terminals may not be increased without a modification of license for which prior Commission approval is obtained. To prohibit a pre-approval increase in the number of terminals in all cases, without regard to whether the number of terminals authorized was based on an interference analysis, is unnecessary and would

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<sup>47</sup> Even so, EchoStar made a proposal that would encompass the point about different service statuses that Iridium is trying to make. In its Comments, EchoStar proposed to add a new sentence to the end of Section 25.115(e) to specify that the provision of information requested in Section 25.138 by GSO FSS earth stations operating on a secondary basis in the 28.6-29.1 GHz Earth-to-space band and on a non-conforming basis in the 18.8-19.3 GHz space-to-Earth band is for the specific purpose of demonstrating compatibility with other GSO FSS earth stations that operate in the same band pair. *Id.* at 10. EchoStar argued that this approach will ensure that the two-degree principles are advanced, but will not result in an elevation of the GSO FSS in these bands above what is already authorized by the Commission. *Id.*

<sup>48</sup> Iridium Comments at 6.

result in additional delays and proceedings with no cognizable benefit. The Commission should thus reject Iridium's proposal to restrict Section 25.118(a)(3) to primary bands.

**I. The Commission Should Not Impose ATIS Obligations on any Digital Transmissions Other than SNG Applications and Reject Proposals for the Adoption of Proprietary ATIS Standards and Additional Content Requirements.**

EchoStar proposed that the Commission should apply a requirement for an Automatic Transmitter Identification System ("ATIS") only to analog carriers and to digital carriers used for satellite news gathering ("SNG") applications. There is no need for ATIS on VSAT networks, as VSAT networks share space segment through multiple access techniques; that the power levels on the transmit side are low (especially relative to SNG users); and that the Commission's rules bar a VSAT terminal from transmitting to a satellite without first receiving an "enabling" signal from the hub earth station.<sup>49</sup>

Several commenters address the Commission's ATIS proposals in ways that are not inconsistent with the SIA Comments and EchoStar's comments.<sup>50</sup> One commenter, however, has made a self-interested proposal to include its own proprietary standard in the Commission's ATIS rule. In its comments, Comtech EF Data Corporation ("Comtech") urges the Commission to revise its proposal for Section 25.281 to include a spread spectrum carrier identification

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<sup>49</sup> *Id.* at 17. In most cases, the interference level received at an adjacent satellite would be too low for the operator to be able to extract information bits from the interfering signal.

<sup>50</sup> *See, e.g.*, Comments of National Cable & Telecommunications Association in IB Docket No. 12-267, at 2 (filed January 13, 2013) (Commission should defer action on new ATIS rules pending completion of global efforts to adopt standards for digital carrier identification); GVF Comments, at 2 ("GVF recognizes the need for rapid and reliable identification of signals to facilitate the resolution [of] interference problems, however, GVF does not believe that limiting ATIS techniques to a pre-defined method or methods is appropriate or necessary at this time").

approach that was developed by Comtech – in other words, Comtech is seeking to have its proprietary standard codified into the Commission’s Rules.<sup>51</sup>

Any ATIS requirement for digital uplink transmissions other than SNG is unnecessary, and it is premature to specify in Section 25.281 any particular ATIS technologies since carrier identification technologies are not sufficiently mature. Comtech’s comments violate both of these precepts. On the applicability point, Comtech “recognizes” that operators of DBS and 17/24 GHz BSS feeder link earth stations should be excluded from any ATIS requirement because “operators of such earth stations employ skilled technical personnel, changes to the pointing of these earth stations are infrequently made, and that [sic] typically do not cause interference.”<sup>52</sup> These same points apply to many other types of earth station transmissions, including those from VSAT networks operated by EchoStar.<sup>53</sup> On Comtech’s proposal to have the Commission include Comtech’s proprietary standard directly into Section 25.281, EchoStar observes that this effort to gain a competitive upper hand reinforces EchoStar’s point that it would be premature for the Commission to intervene in an area that is experiencing significant technological flux. There are many factors under discussion within the satellite operator and user communities when it comes to ATIS, and the industry is in the best position to develop means to minimize unwanted interference from earth station operations. The Commission

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<sup>51</sup> Comments of Comtech EF Data Corporation in IB Docket No. 12-267, at 7 (filed January 14, 2013) (“Comtech Comments”).

<sup>52</sup> *Id.* at 9 n.15.

<sup>53</sup> In its Comments, EchoStar made the point that there is no need for ATIS on VSAT networks, as VSAT networks share space segment through multiple access techniques, use low power levels (as compared with SNG users), and must receive an enabling signal from the hub earth station before transmitting to a satellite. *See* EchoStar Comments at 17 & nn.32 and 33.

should limit its rulemaking power to the cases where intervention is necessary, and then only act in a way that is flexible enough to accommodate emerging developments.

The ATIS regulation proposed in SIA's comments and supported by EchoStar achieves this proper balance of interests. The proposal by Comtech to include its own proprietary mechanism in the Commission's rules cuts diametrically against the proper approach – and should thus be rejected.

Finally, and with respect to the request by NPR for additional content requirements for ATIS signals,<sup>54</sup> EchoStar believes that the existing requirements appear adequate to enable the identification of sources of interference. EchoStar observes that assessment of the need for such an additional component is difficult, given that NPR does not offer any explanation or support for why it is necessary to add an earth station's geographic location. In the absence of such justification, EchoStar urges the Commission to decline to add additional ATIS requirements to Section 25.281, and rely instead on the industry-led resolution of that issue.

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<sup>54</sup> See Comments of National Public Radio, Inc. in IB Docket No. 12-267, at 3 (filed January 14, 2013).

### III. CONCLUSION

The Commission has taken a very positive step toward reforming Part 25 of its rules in ways that immediately benefit space and earth station licensees, users of satellite services, and the Commission itself. EchoStar's comments and reply comments provide proposals that advance the goals of this proceeding. EchoStar thus respectfully requests that the Commission adopt its proposals as it progresses the comprehensive review of the Part 25 rules.

Respectfully submitted,

#### ECHOSTAR CORPORATION

By: \_\_\_\_\_ /s/ \_\_\_\_\_

Steven Doiron  
Senior Director, Regulatory Affairs  
Hughes Network Systems, LLC  
11717 Exploration Lane  
Germantown, MD 20876  
(301) 428-5506

Of Counsel:

Stephen D. Baruch  
Lerman Senter PLLC  
2000 K Street, NW  
Suite 600  
Washington, D.C. 20006  
(202) 429-8970

By: \_\_\_\_\_ /s/ \_\_\_\_\_

Jaime Londono  
Vice President, Advanced Program  
Spectrum Management  
EchoStar Satellite Services, L.L.C.  
100 Inverness Terrace East  
Englewood, CO 80112

Of Counsel:

Pantelis Michalopoulos  
Stephanie A. Roy  
Steptoe & Johnson LLP  
1330 Connecticut Avenue, NW  
Washington, D.C. 20036  
(202) 429-3000

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