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

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| In the Matter of | ) | |
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| Amendment of Part 101 of the Commission's Rules to Facilitate the Use of Microwave for Wireless Backhaul and Other Uses and to Provide Additional Flexibility to Broadcast Auxiliary Service and Operational Fixed Microwave Licensees | ) | WT Docket No. 10-153 |
| | ) | |
| Request for Interpretation of Section 101.141(a)(3) of the Commission's Rules Filed by Alcatel-Lucent, Inc., *et al.* | ) | WT Docket No. 09-106 |
| | ) | |
| Petition for Declaratory Ruling Filed by Wireless Strategies, Inc. | ) | WT Docket No. 07-121 |
| | ) | |
| Request for Temporary Waiver of Section 101.141(a)(3) of the Commission's Rules Filed by Fixed Wireless Communications Coalition | ) | |

# REPLY COMMENTS OF THE SATELLITE INDUSTRY ASSOCIATION

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## SUMMARY

The initial Satellite Industry Association ("SIA") comments in this proceeding highlight the need to ensure that fixed satellite services ("FSS") continue to have meaningful access to spectrum shared on a co-primary basis with fixed service ("FS") networks given the key role FSS plays in supporting a range of critical public safety, consumer, and business services. The suggestion by AT&T and the Fixed Wireless Communications Coalition ("FWCC") that the Commission again consider radical changes to FSS licensing and coordination policies in shared spectrum is directly contrary to this principle and must be rejected.

The proposals rehash arguments made in a 1999 FWCC petition that was based on the faulty premise that differences in the regulatory frameworks for FSS and FS operations stem from favoritism rather than simply reflecting the different characteristics and requirements of the two services. The petition met with overwhelming opposition and was fully considered by the Commission, which determined that the requested relief was unsupported by the facts, conflicted with established Commission policies, and would be impractical to implement.

Neither AT&T nor FWCC presents new information here that would possibly justify expending Commission resources to cover the same ground again. The record already developed in response to the FWCC petition conclusively demonstrates that FSS earth stations' flexibility to be licensed for the full available frequency band is essential to allow providers to respond to customer requirements and ensure reliability. Meanwhile, there is no indication that full-band licensing of FSS earth stations materially and unfairly restricts the ability of FS networks to deploy new links – to the contrary, the data provided by frequency coordinators shows that FSS-FS sharing has succeeded, permitting both services to thrive. Similarly, AT&T's

request for adoption of new coordination rules is unsupported by any facts suggesting that a problem exists today.

In short, the Commission clearly got it right the first time when it denied the FWCC petition, finding that its proposals were unwarranted and impractical. The arguments presented in the original petition gain nothing by repetition a decade later. Accordingly, the request to reopen the FWCC proceeding must be denied.

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## REPLY COMMENTS OF THE SATELLITE INDUSTRY ASSOCIATION

The Satellite Industry Association ("SIA") pursuant to Section 1.415 of the Commission's Rules, 47 C.F.R. § 1.415, submits this reply to the comments of other parties in response to the Notice of Proposed Rulemaking and Notice of Inquiry in the above-captioned proceeding, FCC 10-146, released Aug. 5, 2010 (the "*Notice*"), which involves potential changes to the Part 101 rules governing Fixed Service ("FS") operations. SIA urges the Commission to summarily reject the request of AT&T and the Fixed Wireless Communications Coalition ("FWCC") that the Commission institute a new proceeding to consider changes to the policies

for licensing and coordination of satellite earth stations in frequency bands shared on a co-primary basis between the Fixed Satellite Service ("FSS") and FS.[1]

## I. BACKGROUND

SIA is a U.S.-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, remote sensing operators, and ground equipment suppliers. Since its creation fifteen years ago, SIA has become the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business.[2]

SIA's initial comments in this proceeding focus on the specific changes to the Part 101 rules proposed by the Commission and highlight the need for the Commission to consider and protect the rights of co-primary satellite services in spectrum shared with FS

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[1] Comments of AT&T Inc., WT Docket Nos. 10-153, 09-106, and 07-121, filed Oct. 25, 2010 ("AT&T Comments") at 14-15; Comments of the Fixed Wireless Communications Coalition, WT Docket Nos. 10-153, 09-106, and 07-121, filed Oct. 25, 2010 ("FWCC Comments") at 15-16.

SIA reserves its rights to address other technical proposals raised by commenters in this proceeding, which require more detailed technical analysis in order to determine the potential effects on the interference environment for satellite systems. Moreover, some proposals may require a separate proceeding or a Further NPRM to properly address. *See, e.g.*, Comments of Comsearch, WT Docket Nos. 10-153, 09-106, and 07-121, filed Oct. 25, 2010 ("Comsearch Comments").

[2] SIA Executive Members include: Artel, Inc.; The Boeing Company; CapRock Communications, Inc.; The DIRECTV Group; Hughes Network Systems, LLC; DBSD North America, Inc.; EchoStar Satellite Services, LLC; Integral Systems, Inc.; Intelsat, Ltd.; Iridium Communications Inc.; LightSquared; Lockheed Martin Corporation; Loral Space & Communications, Inc.; Northrop Grumman Corporation; Rockwell Collins Government Systems; SES WORLD SKIES; and TerreStar Networks, Inc. SIA Associate Members include: Arqiva Satellite and Media; ATK Inc.; Cisco; Cobham SATCOM Land Systems; Comtech EF Data Corp.; DRS Technologies, Inc.; EMC, Inc.; Eutelsat, Inc.; GE Satellite; Globecomm Systems, Inc.; Glowlink Communications Technology, Inc.; iDirect Government Technologies; Inmarsat, Inc.; Marshall Communications Corporation; Panasonic Avionics Corporation; Spacecom, Ltd.; Spacenet Inc.; Stratos Global Corporation; TeleCommunication Systems, Inc.; Telesat Canada; Trace Systems, Inc.; and ViaSat, Inc. Additional information about SIA can be found at http://www.sia.org.

networks.[3] The comments outline the importance of satellite operations in shared spectrum and their role in supporting a wide range of services relied on by millions of consumers, thousands of businesses, and dozens of government public safety and national security agencies.[4] SIA opposes allowing FS auxiliary stations to be deployed in spectrum shared between FSS and FS networks given the lack of support from the FS community demonstrating a legitimate need for such services and serious concerns about the impact of the proposal on efficient use of spectrum.[5] SIA's comments emphasize that if the Commission makes spectrum in the 6875-7125 MHz and 12700-13200 MHz bands available for new microwave services, it must adopt explicit protections for co-primary FSS operations in these frequencies.[6] Although SIA does not oppose use of adaptive modulation for FS networks, we agree that the conditions under which it is allowed must be strictly defined, and we suggest implementing it first in spectrum that is not shared with FSS.[7] Similarly, to the extent the Commission decides to explore other alterations of the Part 101 rules to implement additional liberalization, SIA urges the Commission to initially introduce such measures outside the bands where there is co-primary FS-FSS sharing.[8]

SIA will not revisit those issues here, other than to note that there is substantial support in the record for SIA's positions. Numerous commenters, including most FS licensees as well as frequency coordinators and others, strongly oppose any authorization of auxiliary stations.[9] Sirius XM argues that satellite services in the 6875-7125 MHz band must be protected,

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3 Comments of the Satellite Industry Association, WT Docket Nos. 10-153, 09-106, and 07-121, filed Oct. 25, 2010 ("SIA Comments").

4 *Id*. at 3-4 & 9-10.

5 *Id*. at 4-9.

6 *Id*. at 9-12.

7 *Id*. at 12-14.

8 *Id*. at 14.

9 *See, e.g.*, AT&T Comments at 18-20; Comments of Ceragon; Comments of Clearwire Corp. ("Clearwire Comments") at 9-10; Comsearch Comments at 3-17; Comments of Engineers for the

noting that it relies on feeder links in that band to uplink the digital radio transmissions received by its over 35 million listeners.[10] Verizon and others emphasize the need for clear standards and enforcement protections as a condition of any authorization of adaptive modulation.[11]

Instead, SIA's reply addresses the request by AT&T and the FWCC that the Commission consider changing the Part 25 rules concerning licensing and coordination of FSS earth stations.[12] These parties refer back to a 1999 petition filed by the FWCC, which alleged that co-primary sharing between FS and FSS operations was inequitable. FWCC asked the Commission to eliminate full-band licensing of FSS earth stations in shared spectrum and to adopt new FSS-FS coordination rules.[13] AT&T and FWCC acknowledge that the Commission considered FWCC's proposals and determined that there was no basis for modifying the rules.[14] Nevertheless, AT&T and FWCC ask the Commission to solicit comment again on the FWCC Petition.[15]

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Integrity of Broadcast Auxiliary Services Spectrum at 7-10; Supplemental Comments of the Fixed Wireless Communications Coalition; Comments of the National Spectrum Management Association ("NSMA Comments") at 8-14; Comments of the Rural Telecommunications Group, Inc.; Comments of San Mateo County; Comments of Stratos Offshore Services Co. at 3-8; Comments of T-Mobile USA, Inc. at 10-11; Comments of the Telecommunications Industry Association at 8-10; Comments of United States Cellular Corp. ("US Cellular Comments") at 6-7; Comments of Verizon and Verizon Wireless ("Verizon Comments") at 13-20, all filed Oct. 25, 2010 in WT Docket Nos. 10-153, 09-106, and 07-121.

[10] Comments of Sirius XM Radio Inc., WT Docket Nos. 10-153, 09-106, and 07-121, filed Oct. 25, 2010 at 2-3.

[11] Verizon Comments at 4-13; Clearwire Comments at 9; Comsearch Comments at 17-20; NSMA Comments at 7-8

[12] AT&T Comments at 14; FWCC Comments at 15-16.

[13] Request for Declaratory Ruling and Petition for Rulemaking of the Fixed Wireless Communications Coalition, RM-9649, filed May 5, 1999 ("FWCC Petition").

[14] AT&T Comments at 15, *citing FWCC Request for Declaratory Ruling on Partial-Band Licensing of Earth Stations in the Fixed-Satellite Service*, Second Report and Order, 17 FCC Rcd 2002 (2002) ("*FWCC Order*"); *see also* FWCC Comments at 16.

[15] AT&T Comments at 15; FWCC Comments at 16.

The Commission must summarily reject this request.[16] The fact is that the Commission has already sought comment on the FWCC Petition and received overwhelming opposition to the proposal – not just from satellite operators and service providers, but from a broad range of industries that depend on reliable satellite service, including broadcasters, cable operators, energy companies, and providers of basic domestic and international telecommunications to commercial, residential, and government users.[17] In light of this record, the Commission denied FWCC's request for replacing full-band earth station licensing with an "actual need" standard, explaining that:

> Our full-band licensing policy promotes important operational objectives in the FSS, in particular by providing earth station licensees the needed flexibility to change transponders or satellites on short notice, and without having to be re-licensed by the Commission, to meet changing operational requirements.[18]

The Commission also concluded that the FWCC's proposals presented significant implementation issues because they would require a new earth station operator to make a showing of actual need and select frequencies before it can even file a license application, at a

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[16] The AT&T and FWCC proposal clearly cannot be considered within the context of the instant rulemaking because it is well beyond the scope of the Commission's *Notice*, which is limited to possible changes in the Part 101 rules. Under the Administrative Procedure Act, the Commission is required to provide potentially interested parties with notice of a proposed rule and an opportunity for comment prior to acting. *See* 5 USC §§ 553(b)-(c).

[17] Commenters opposing the FWCC Petition included National Public Radio, Radio Netherlands, the National Association of Broadcasters, Walt Disney Co., the National Cable Television Association, Home Box Office, Turner Broadcasting System, Starz Encore Group LLC, Chevron, Sola Communications, Tosco Corp., Arrowhead Space & Telecommunications, Inc., BT North America Inc., Sprint Corp. and others.

[18] *FWCC Request for Declaratory Ruling on Partial-Band Licensing of Earth Stations in the Fixed-Satellite Service*, Notice of Proposed Rulemaking, 15 FCC Rcd 23127 (2000) ("*FWCC NPRM*") at 23145-46 (¶ 40).

point in time when the applicant is unlikely to have agreements in place with either customers or space segment providers.[19]

The Commission invited comment on a less radical form of changes to the earth station licensing and coordination framework,[20] but as FWCC acknowledges, these proposals received no support from either the FS or the FSS communities.[21] The Commission ultimately terminated the proceeding altogether, concluding that:

> FWCC's proposals fail to fully and properly take into account the fact that the FSS and FS services have significantly different requirements for access to the electromagnetic spectrum in order to meet their business needs, and these needs must be recognized and accommodated in the context of the entire interference environment . . .[22]

The Commission emphasized that its action was based on "the absence of evidence of the extent to which our current rules have resulted in injury to the terrestrial fixed service community."[23] Despite having expressly requested documentation of any sharing difficulties experienced by FS applicants, the Commission received no concrete data showing a significant problem.[24] To the contrary, Comsearch had represented that in its extensive experience in frequency coordination, only a small percentage of FS coordinations had been

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19 *Id.* at 23146 (¶ 41).

20 *See id.* at 23147 (¶ 42) ("We believe that FWCC's 'actual needs' rule would place an undue regulatory burden on FSS earth station applicants, and therefore propose to adopt a more targeted and less burdensome requirement").

21 FWCC Comments at 16; *see also FWCC Order,* 17 FCC Rcd at 2006 (¶ 11) (noting that the rules proposed by the Commission were rejected by both the FS and the FSS commenters).

22 *FWCC Order,* 17 FCC Rcd at 2007 (¶ 11).

23 *Id.* (¶ 12).

24 *Id.*

unsuccessful due to interference with FSS stations.[25] The Commission refused to proceed with the radical changes proposed by FWCC on this record, stating that:

> a single documented case and references to "anecdotal evidence" is an insufficient record upon which to base the extensive relief sought by FWCC. Rather than establishing rules that may not address the concerns raised in this proceeding, and may only substitute one set of concerns for another, we terminate our consideration of these issues in this docket.[26]

Neither the FWCC nor AT&T presents any new evidence of a problem that would justify re-opening this issue. The Commission should accordingly decline their invitation to waste the time and resources of the Commission and the parties by revisiting a proposal that the Commission has already determined is unwarranted and impractical.[27]

## II. THE CHANGES REQUESTED IN THE 1999 FWCC PETITION ARE CONTRARY TO THE PUBLIC INTEREST

As discussed above, the comments filed in response to the FWCC Petition were overwhelmingly opposed to the radical changes in earth station licensing and coordination rules suggested by the FWCC. The Commission responded by issuing an outright denial of both the FWCC's request for declaratory ruling and its proposal for a change in earth station licensing rules going forward.[28] Nothing has changed in the last ten years that would warrant a different conclusion today.

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[25] *Id., citing* Comments of Comsearch, IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 ("Comsearch FWCC Comments") at 3.

[26] *FWCC Order,* 17 FCC Rcd at 2008 (¶ 13).

[27] *FWCC NPRM,* 15 FCC Rcd at 23145-23147 (¶¶ 40-42).

[28] *See id.*

### A. There Is No Evidence that Earth Station Licensing Policies Unfairly Restrict FS Access to Shared Spectrum

In their comments, AT&T and FWCC repeat the assertions on which the original FWCC Petition was based, claiming that because of differences in the licensing frameworks for FSS earth stations and FS facilities "satellite earth station operators appear to receive preferential access to shared spectrum."[29] AT&T notes that licensing for terrestrial point-to-point links is based on frequencies needed for each specific path.[30] In contrast, AT&T alleges that "the Commission licenses earth stations for the full 360° azimuth range" and for the full frequency band.[31] AT&T claims that full band, full arc earth station licensing has "impacted" the availability of lower 6 GHz frequencies shared between the FS and FSS uplinks "in and near major population centers where the demand for backhaul and other fixed service communications is greatest."[32] FWCC states that it continues to believe that current coordination procedures unfairly limit FS access to shared spectrum.[33]

Neither party, however, supports these claims of inequity with any actual evidence that the ability of FS applicants to site new links is being materially or unjustly constrained due to FSS earth station licensing policies. For its part, AT&T is simply wrong on key facts. AT&T claims that 360 degree azimuth licensing of earth stations is standard practice, but its authority is a Commission decision that is more than forty years old.[34] That decision does not accurately describe current earth station licensing policies, which limit earth stations'

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[29] AT&T Comments at 14; *see also* FWCC Comments at 15 (alleging that FSS-FS sharing "is far from equal").

[30] AT&T Comments at 14.

[31] *Id.*

[32] *Id.*

[33] FWCC Comments at 16.

[34] AT&T Comments at 14, *citing Communications Satellite Corp.*, Memorandum Opinion, Order and Authorization, 8 F.C.C. 2d 1001, 1003 (1967).

pointing range to a specified subset of orbital locations in the geostationary arc.[35] Had AT&T simply reviewed its own C-band earth station licenses prior to making its assertions regarding the FSS licensing framework, it could have avoided this basic error.[36]

While it is true that there are basic differences between the earth station and microwave licensing frameworks, these differences reflect the respective requirements of each service. For example, the restrictions on the amount of bandwidth that can be coordinated for an individual FS link are designed to facilitate intra-service sharing – they are needed to ensure that unused frequencies are available for other FS links within the same geographic area.[37] In contrast, sharing among FSS earth stations is possible without frequency diversity.[38]

The reality is that contrary to the FWCC and AT&T assertions that earth station licensing rules have unfairly blocked FS spectrum access, sharing between earth stations and FS links in the lower 6 GHz band is a success story on both sides. Data provided by Comsearch in

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[35] A wider range of azimuths is authorized for earth stations used to perform Telemetry, Tracking and Control following launch of a satellite and before it is placed into geostationary orbit over the equator. With rare exception, these critical operations occur pursuant to grants of special temporary authority issued for specific frequencies and a limited period and are individually coordinated with FS systems on a case-by-case basis. *See, e.g.*, PanAmSat Licensee Corp., File No. SES-STA-20090922-01211, Call Sign E4132, granted Oct. 16, 2009 (authorizing temporary use of C-band earth station on specified frequencies to provide launch and early orbit phase support for the NSS-12 satellite).

Licensing for a broad range of azimuths is also appropriate for earth stations communicating with nongeostationary satellite networks. However, no such networks currently operate in the C-band frequencies mentioned by AT&T.

[36] *See, e.g.*, AT&T Corp., File No. SES-RWL-20080207-00138, Call Sign E980066, license granted Feb. 7, 2008, Section C, Frequency Coordination (specifying limits for satellite arc, elevation angle and azimuth for AT&T C-band earth station).

[37] Similarly, FS and FSS operations are both subject to frequency efficiency requirements that are tailored to the specific service – FS networks must meet a specified loading standard while FSS networks are subject to two-degree spacing and full frequency reuse mandates. *See FWCC NPRM*, 15 FCC Rcd at 23145 (¶ 39) & n.71 (discussing FSS efficiency requirements).

[38] In the standard Ku-band where earth stations have sole primary status, the Commission authorizes fixed and mobile terminals on a blanket basis for ubiquitous deployment without requiring prior coordination or site-specific licensing. *See* 47 C.F.R. §§ 25.134 (VSAT networks); 25.222 (earth stations on vessels) & 25.226 (vehicle-mounted earth stations).

its comments here proves the point. Comsearch shows that the number of licensed FS channels in the lower 6 GHz band grew by 14% between 2005 and 2009.[39] Comsearch also depicts use of this band in the Los Angeles area, describing the hundreds of microwave channels that co-exist with 46 C-band transmit earth stations.[40] The reason that this interservice sharing works is simple geometry: microwave antennas are pointed in a path parallel to the ground, whereas C-band earth stations are pointed up toward geostationary satellites located more than 22,000 miles above the equator.

AT&T and the FWCC have failed to demonstrate a problem requiring Commission action. Neither party presents any new documentation to support the claim that earth stations licensed for the full band represent a significant obstacle to deployment of new FS links, and evidence in the record suggests no such obstacle exists.

Because there is no evidence that full-band licensing of FSS earth stations materially impairs FS networks' access to shared spectrum, there is no reason to believe that eliminating full-band licensing of FSS earth stations would significantly benefit FS operators. It would, however, profoundly impact the ability of FSS providers to provide reliable service that is responsive to customer requirements.

### B. FSS Earth Station Licensing Policies Provide Limited but Necessary Flexibility

AT&T and FWCC exaggerate the differences between the FS and FSS licensing frameworks in attempting to suggest that FSS systems have preferential access to shared spectrum. In fact, FSS applicants face numerous requirements designed to ensure efficient spectrum use and enable interservice sharing. For example, an earth station seeking to use

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39 Comsearch Comments at 3, Table A.

40 *Id*. at 7 & Figure 1.

frequencies that are shared on a co-primary basis with terrestrial services must take into account surrounding terrain and select an antenna site that will minimize the possibility of harmful interference between the shared services.[41] Commission rules also specify a minimum angle of antenna elevation for FSS earth stations, which facilitates coordination with FS links.[42] Furthermore, as discussed above, earth stations are coordinated and licensed for a specified range of azimuths, contrary to AT&T's assertion about 360-degree licensing.[43]

Where there are significant differences in FS and FSS licensing frameworks, those differences are driven by service-specific requirements.[44] In particular, the flexibility accorded FSS earth stations to license facilities on a full-band, full-arc basis is critical to efficient operation of satellite networks. The Commission has long recognized this basic fact, stating in 1978 that:

> coordination for the entire frequency band and visible arc is our general earth station licensing objective in order to protect our flexibility and that of the satellite operator to change satellite locations and transponder use assignments to best satisfy overall domestic satellite service requirements.[45]

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41 47 C.F.R. § 25.203(a). *See also FWCC NPRM*, 15 FCC Rcd at 23134 (¶ 17) & n.21 (earth station applicants are obligated to select earth station sites that minimize interference concerns in shared spectrum).

42 47 C.F.R. § 25.205(a). The *FWCC NPRM* notes that other technical rules are designed to ensure efficient spectrum use by FSS networks, such as two-degree spacing and full frequency re-use requirements, and that strict FSS antenna performance standards benefit interservice sharing by allowing FS links to operate in closer proximity to FSS earth stations. *FWCC NPRM*, 15 FCC Rcd at 23145 (¶ 39) & n.71.

43 FWCC correctly notes that earth stations are licensed for azimuths only along the geostationary arc. FWCC Comments at 16.

44 *See, e.g.*, Comments of TRW Inc., IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 ("TRW FWCC Comments") at 3 ("Current distinctions in the regulation of satellite and terrestrial licensees are not evidence of 'asymmetrical efficiency obligations,' but of differences in the appropriate methods and measures of efficient spectrum use that necessarily apply to these services.").

45 *American Satellite Corp.*, 72 F.C.C. 2d 750, 754 (¶ 10) (1978).

The Commission reiterated this position a few years later, describing the importance of full-band, full-arc licensing to allow satellite licensees to recover their investments:

> From the beginning of the service, the Commission has recognized the high risk, large capital investment requirements and long lead times characteristic of the domestic satellite industry. . . . The Commission has also recognized the inherent flexibility of [satellite] technology to respond to changing circumstances and growing user needs. This includes the capability of satellites to provide adequate service over a significant range of orbital locations. For such fixed satellites, the entire allocated frequency band is assigned at the outset to insure sufficient capacity to make it economically viable over its lifetime.[46]

As discussed above, in its decision denying the FWCC Petition, the Commission again emphasized that full-band licensing "promotes important operational objectives."[47]

The record developed in response to the FWCC Petition explains in detail why this flexibility is essential to satellite service customers. SIA will highlight a handful of the most important reasons here.

- Competition: Full-band, full-arc earth station licensing gives customers the ability to switch providers, rather than being locked into a single space segment supplier.[48] The ALSAT designation on a license authorizes a U.S. earth station to communicate with any U.S.-licensed satellite and any foreign-licensed satellite on the Commission's Permitted

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[46] *Processing of Pending Space Station Applications in the Domestic Fixed-Satellite Service*, 93 F.C.C. 2d, 832, 837-38 (¶ 17) (1983) (footnote omitted).

[47] *FWCC NPRM*, 15 FCC Rcd at 23145 (¶ 40); *see also id*. at 23135 (¶ 19) ("full-band policy is intended to provide earth stations the flexibility to change the communication paths to other satellite locations and transponder use assignments to meet operational requirements").

[48] *See, e.g.*, Reply Comments of the Satellite Industry Association, the Satellite Broadcasting and Communications Association, the World Teleport Association, and the Aerospace Industries Association of America, IB Dkt No. 00-203, RM-9649, filed Feb. 9, 2001 ("Satellite FWCC Reply Comments") at 8-9; Comments of National Public Radio, Inc., IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 ("NPR FWCC Comments") at 7 (proposed rules are likely "to reduce the competitiveness of the market for space segment capacity" because customers would only be assured of access to specific satellites and transponders).

Space Station List. The Commission has found that the ALSAT and Permitted List procedures promote U.S. competition goals and market access commitments.[49]

- Restoration: Numerous satellite service users pay a premium for service protection and have specific restoration plans that assume the ability to repoint antennas and reassign frequencies in the event of a transponder or spacecraft failure without the need to modify earth station licenses. Eliminating that ability would deprive customers of the value of protected service.[50]

  The failure earlier this year of the Galaxy 15 spacecraft is an instructive example – not only did it require rerouting of traffic to a spare satellite, but operators and customers of other satellites have had to take measures including use of relay satellites in order to mitigate interference caused by Galaxy 15 passing through the target satellite's stationkeeping volume.[51] Absent the flexibility to take these steps, the Galaxy 15 failure would have much more far-reaching adverse effects on FSS customers.

- Resolving Interference: Earth station licensing flexibility also facilitates the ability of satellite operators to switch a customer that is receiving interference to another frequency to correct the problem.

- Satellite Coordination: Over the course of a satellite's life, a number of events can require modifications to a satellite's frequency assignment plan in order to accommodate

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[49] *See Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Satellites to Provide Domestic and International Service in the United States*, First Order on Reconsideration, FCC 99-325, 15 FCC Rcd 7207, 7214 (1999) (¶ 16) (adopting process that allows ALSAT earth stations to communicate with U.S.-licensed and approved foreign spacecraft on a streamlined basis will "provide authorized earth station operators the flexibility to access any satellite authorized to serve the United States").

[50] *See, e.g.*, Satellite FWCC Reply Comments at 7-8; NPR FWCC Comments at 5-6 (describing impact on NPR when Galaxy 4 spacecraft failed and service had to be rerouted to an interim satellite until the backup spacecraft could be moved to the Galaxy 4 location); Comments of PanAmSat Corp., IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 ("PanAmSat FWCC Comments") at 3-4 (delay in restoring service after the Galaxy 4 failure could have had catastrophic effects); Comments of National Cable Television Association, IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 ("NCTA FWCC Comments") at 5-6 (distribution of video programming viewed by millions of customers requires the ability to change frequency and orientation as needed if a transponder fails); Opposition of GE American Communications, Inc., RM-9649, filed July 12, 1999 at 6 ("If a transponder fails and a spare transponder is not available, service can be restored only by re-routing transmissions to a different transponder or an entirely different spacecraft. This almost always requires a shift in the frequency band over which the service is carried.").

[51] Specifically, Intelsat brought its Galaxy 12 satellite into use at 133° W.L. to restore capacity to Galaxy 15 customers, which required it to activate twenty-four transponders on Galaxy 12 that had not been in use. As Galaxy 15 drifted across the arc, Intelsat used available inventory on a range of satellites, including Galaxy 3C, Galaxy 16, Galaxy 17, Galaxy 19, and Galaxy 28 in order to ensure service continuity to customers on satellites in Galaxy 15's path.

new adjacent satellites or changing end user requirements. Earth stations must be able to modify their frequency use accordingly.[52]

Earth stations need flexible authority for a wide range of other reasons. For example, it allows satellite service customers to respond quickly to breaking news stories or emergencies.[53] In addition, it permits satellite network operators to manage their networks efficiently in response to changing customer demand.[54]

Even the FWCC recognized that there are a number of legitimate reasons why an earth station licensee could require flexibility. FWCC stated that flexibility was appropriate in a variety of situations, including where "the satellite or frequency are wholly at the discretion of a space segment provider independent of the earth station operator;" "the earth station operator's business routinely requires ready access to multiple satellites;" "an earth station complex has multiple antennas pointing at multiple and changing satellites;" "an earth station operator provides service to independent third parties with unpredictable space segment needs;" or "an earth station coordinates to use a satellite known to be nearing the end of its useful life."[55] What

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[52] *See, e.g.*, Joint Comments of Hughes Network Systems, Hughes Communications, Inc. and Hughes Communications Galaxy, Inc., IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 ("Hughes FWCC Comments") at 6 ("geostationary satellites must coordinate with adjacent orbital satellites and must accept limitations on the use of frequencies for certain applications"); PanAmSat FWCC Comments at 6.

[53] *See, e.g.*, Hughes FWCC Comments at 7-8 (current rules "allow an earth station to quickly change satellites and use multiple transponders in the event of an unforeseen need for increased capacity such as an emergency or a major event"); PanAmSat FWCC Comments at 2 ("flexibility is essential to satellite operations, particularly in emergency situations"); TRW FWCC Comments at 8 (flexibility to change frequencies "is critical to the ability of satellites to serve transient users for on-location newsgathering, remote data transmission and emergency communications").

[54] *See, e.g.*, PanAmSat FWCC Comments at 6-7 (flexibility needed to accommodate shifts in customer demand).

[55] Reply Comments of the Fixed Wireless Communications Coalition, IB Dkt No. 00-203, RM-9649, filed Feb. 9, 2001 at 13.

FWCC failed to recognize, however, is that one or more of these characteristics applies to virtually every FSS earth station.

Yet under the measures first proposed by the FWCC and repeated here, an earth station operator's ability to ensure it has necessary access to the full spectrum band could be eliminated, even if there was no material demand for use of the spectrum by the Fixed Service in the vicinity.[56] AT&T does not even allege that a problem exists outside densely populated urban areas,[57] but it endorses FWCC's proposed across-the-board solution that would apply in remote areas as well. Thus, no matter how well an earth station applicant satisfies the Commission's mandate that it choose an antenna site that maximizes the ability to share with terrestrial systems, the applicant would get absolutely no benefit – it would still be eligible to license only a limited amount of spectrum.[58] For example, if AT&T Alaska wanted to deploy a new C-band earth

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[56] Presumably an earth station authorized under the FWCC's proposed framework would be able to increase or modify its licensed frequencies over time in response to changed customer requirements or the need to shift to a different satellite. However, such a process would involve several months' delay. As a result, this possibility of gaining access to the desired spectrum would effectively be meaningless for a customer that requires quick access to capacity to provide media coverage of a breaking news story or needs to restore service lost as a result of a transponder or satellite failure.

[57] *See* AT&T Comments at 14 (claiming that FS access to spectrum is limited in "major population centers" where FS demand is greatest).

[58] As SIA and others explained, under the FWCC proposals, a remotely located earth station would be able to license only limited spectrum:

> making it difficult or impossible to restore service in the event of a facility outage and impairing its ability to respond to an increase in customer demand, even if there was no interest in access to the spectrum for terrestrial operations. Similarly, a new earth station coming into an area where there are teleports or other earth station facilities with full-band operations would be permitted only limited access to spectrum even though the other earth station operations would preclude introduction of new fixed links. Thus, the FWCC's plan would deprive earth stations of access to spectrum regardless of whether the spectrum was needed by or useful to fixed services.

station to serve a remote bush village, that earth station would be licensed based on the actual need standard, potentially jeopardizing its ability to provide service continuity even if there was no FS interest in spectrum access.[59]

The requirement for an earth station applicant to demonstrate actual need at the time of licensing also would present the applicant with an impossible Catch 22. Specifically, as the Commission recognized, the applicant would be unable to document its spectrum requirements unless it paid to reserve space segment, but would have no way of knowing whether it would be able to successfully coordinate the specific frequencies it had reserved.[60] For this reason, the Commission concluded that the approach suggested in the FWCC Petition "would be impractical to implement."[61]

In their comments here, neither AT&T nor FWCC even acknowledges, much less attempts to refute, the voluminous evidence demonstrating that the flexibility accorded to earth stations is essential to efficient, reliable, interference-free FSS operations. They do not justify depriving earth stations of access to spectrum regardless of whether there is FS demand for it, and they ignore the implementation issues identified by the Commission.

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Satellite FWCC Reply Comments at 19.

[59] The AMC-8/Aurora III C-band satellite is jointly licensed to SES WORLD SKIES and Alascom (doing business as AT&T Alaska). *See GE American Communications, Inc.*, 15 FCC Rcd 23583 (Sat. Div. 2000) (granting SES WORLD SKIES' predecessor GE Americom and Alascom a joint satellite license). AT&T Alaska proclaims that its "determination to deliver service to all Alaskans has resulted in one of the largest satellite networks for telephone service in the world." AT&T Alaska Company Profile, available at http://www.corp.att.com/alaska/about/profile.html#network. Yet apparently AT&T has not considered whether its proposals here would threaten the viability of that network. *Cf.* Reply Comments of General Communication, Inc., IB Dkt No. 00-203, RM-9649, filed Feb. 10, 2001 at 5-10 (describing the importance of satellite services in providing basic lifeline communications in Alaska and the need for continued earth station licensing flexibility to allow service reliability).

[60] *FWCC NPRM*, 15 FCC Rcd at 23146 (¶ 41).

[61] *Id.*

The record already developed in response to the FWCC Petition makes clear that the Commission's policy of allowing earth stations to be licensed on a full-band, full-arc basis is not simply an arbitrary example of favoritism. It is a reasoned response to the complex, unpredictable, and high-risk environment in which satellite networks operate and represents the only way that bona fide satellite customer requirements can be satisfied in spectrum shared with terrestrial operators.

### C. Existing Coordination Procedures Are Fair and Effective

Finally, there is no justification for AT&T's suggestion that changes in earth station coordination policies are needed.[62] AT&T argues that "FSS earth stations should be required to accept interference from a new terrestrial facility on the same basis as the FSS earth station accepted interference in previous coordinations."[63]

Again, AT&T fails to identify a problem that needs to be solved – it doesn't even allege that FSS earth station licensees act unreasonably in considering and acting on coordination requests for new FS links. The Commission ultimately rejected FWCC's request for new coordination obligations due to a lack of evidence of unfair or inconsistent treatment.[64] Numerous commenters emphasized that in their experience, parties complied with Commission expectations of good faith behavior in coordination and noted that there are strong incentives to act reasonably given the inevitable fact that a party being asked to clear in one instance will

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[62] AT&T Comments at 15. FWCC does not refer to its earlier proposal for adoption of new requirements relating to coordination procedures.

[63] *Id.*

[64] FWCC had passed along a report of a single instance dating back to the 1980's in which an earth station operator accepted a high level of interference in one coordination only to deny coordination in a later case involving a much lower net interference level. *See FWCC Order* at ¶ 12, *citing* FWCC Petition at 16. Ironically, AT&T was the earth station operator alleged to have acted unfairly in this instance. *See* Comments of the Fixed Wireless Communications Coalition, IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 at 18 n.26.

likely be seeking coordination in another.[65] Furthermore, the Commission and the parties recognized the difficulty in attempting to apply a strict, one-size-fits all rule for coordination given the numerous factors in any individual coordination analysis and the fact that key circumstances can change over time.[66]

AT&T introduces no new information about coordination problems here. Given the absence of material evidence that existing coordination procedures are flawed, the Commission should heed the adage, "if it ain't broke, don't fix it."

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[65] *See, e.g.,* Satellite FWCC Comments at 42 (based on the experience of coalition members, "in virtually all cases, both types of licensees use sound engineering principles and apply those principles consistently;" "[a]ny rational operator recognizes that when facilities are located close to each other in shared spectrum, coordination may not be a one-time event, but may involve a series of issues with compromises likely to be required on both sides"); Comments of GE American Communications, Inc., IB Dkt No. 00-203, RM-9649, filed Jan. 8, 2001 at 21 (in "GE Americom's experience, both satellite and terrestrial systems generally use reasonable and consistent methods to evaluate coordination requests").

[66] *See FWCC NPRM*, 15 FCC Rcd at 23158 (¶ 74) (an earth station operator must be allowed to proceed in a manner that recognizes the realities of sharing spectrum among many users and services); Reply Comments of the National Spectrum Managers Association, IB Dkt No. 00-203, RM-9649, filed Feb. 9, 2001 at 2 ("The ability of licensees and their frequency coordinators to manage interference has, over time, proven very effective and would only be compromised by the establishment of overly rigid regulations."); NCTA FWCC Comments at 6-7 (flexibility is important in coordination because every coordination request is different and key factors can change over time).

## III. CONCLUSION

For the reasons discussed herein, SIA urges the Commission to reject the request by AT&T and FWCC for a new proceeding concerning the 1999 FWCC Petition.

Respectfully submitted,

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