

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554**

In the Matter of

Expanding Flexible Use of the 3.7 to 4.2 GHz Band

Petition for Rulemaking to Amend and Modernize
Parts 25 and 101 of the Commission's Rules To
Authorize and Facilitate the Deployment of
Licensed Point-to-Multipoint Fixed Wireless
Broadband Service in the 3.7-4.2 GHz Band

Fixed Wireless Communications Coalition, Inc.,
Request for Modified Coordination Procedures in
Band Shared Between the Fixed Service and the
Fixed Satellite Service

GN Docket No. 18-122

RM-11791

RM-11778

COMMENTS OF ABS, HISPASAT, AND EMBRATEL STAR ONE

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INTRODUCTION AND SUMMARY

In the years preceding the Commission’s proposal to repurpose the C-band for terrestrial flexible use,¹ ABS Global Ltd. (together with its affiliates, “ABS”), Hispasat S.A. (together with its affiliates, “Hispasat”), and Embratel Star One S.A. (“Star One”)² (collectively, the “Small Satellite Operators” or “SSOs”) invested substantial capital to construct, launch, and operate space stations with C-band transponders covering the United States. As a result of their efforts, additional satellites stand ready to deliver advanced video, data, internet access and media services across the country. After these companies gained Commission authorization to serve the U.S. market, however, the Commission’s C-band proposal froze efforts to sell capacity—leaving an enormous C-band investment effectively stranded in orbit. With years of economic life remaining in their fleet, the SSOs now confront the prospect of a permanent band-clearing that would significantly diminish the value of their existing C-band assets.

This proceeding thus has the potential to undermine significant SSO investments in licensed facilities that serve the U.S. market. Nevertheless, the SSOs are mindful of the Commission’s objective to create additional spectrum for terrestrial 5G networks. They do not wish to stand in the way of achieving that objective, so long as their investments in the band are given appropriate recognition. In light of the substantial business uncertainty that they now confront, the SSOs also understand—all too well—the benefits of pursuing a band-clearing

¹ See *Expanding Flexible Use of the 3.7 to 4.2 GHz Band et al.*, Order and Notice of Proposed Rulemaking, GN Docket Nos. 18-122 & 17-183, RM-11791, RM-11778, FCC 18-91 (rel. July 13, 2018) (“NPRM”).

² As notified to the Commission on September 19, 2018, Star One and its affiliate Claro S.A. (“Claro”) recently consummated a *pro forma* transfer of control of the Star One satellite fleet to Claro. See Letter from Alfred M. Mamlet, Counsel to Star One, to Marlene H. Dortch, Secretary, FCC, Call Signs S2677, S2678 & S2845 (filed Sept. 19, 2018).

strategy that concludes as swiftly as possible. The SSOs thus urge the Commission to adopt a fair and efficient transition mechanism if it pursues a reallocation of this spectrum.

The SSOs believe that the secondary market can meet these objectives if and only if the Commission maintains the integrity of the proposed Transition Facilitator mechanism. This is important because large incumbent satellite operators have an incentive to co-opt the mechanism for their own benefit, and violate principles of sound spectrum management in the process. Thus, if the Commission decides to pursue a market-based transition, it should adopt light-touch, *ex ante* protections sufficient to ensure that all satellite operators with stranded C-band assets, and not just the largest such operators, are eligible to participate in the proposed Transition Facilitator mechanism. The SSOs likewise urge the Commission to ensure that the Transition Facilitator fairly distributes proceeds based on the reduction in value of investments made in C-band facilities authorized to serve and capable of serving the U.S. market.

These protections will provide an important safeguard against arbitrary and self-serving actions by the large satellite operators, and are essential to encouraging renewed competition across all platforms. With an appropriate transition mechanism, the Commission can meet its goal of establishing the United States as a global leader in 5G, while still supporting competition and continued investment in the U.S. satellite market.

I. SSOS HAVE INVESTED SUBSTANTIALLY IN U.S. C-BAND OPERATIONS.

By the time the FCC released the NPRM, each SSO already had completed the riskiest and most expensive stages of the satellite mission lifecycle to serve the United States using the lower C-band. They engaged in extensive research, development, testing, and evaluation of their space stations. They built their satellites (often using U.S. manufacturers) to U.S. specifications, and launched their satellites (often using U.S. launch partners). They obtained from the

Commission licenses and authorizations to serve the U.S. market. They engaged in coordination, completed in-orbit performance checkouts, and initiated normal space operations. These operators have, in short, committed substantial C-band capacity to serve the U.S. market—and would have been able to realize revenue from these commitments had the regulatory environment not shifted. The SSOs would be well positioned to capitalize on their substantial C-band investment by improving connectivity for businesses and consumers across the United States absent the significant uncertainty created by the FCC’s proposal.

A. ABS

ABS provides data, video, internet access, and media services around the world through its fleet of six satellites. One of those satellites is ABS-3A (call sign S2987), a Boeing-built and SpaceX-launched space station designed specifically to serve North America in the C-band. With 24 C-band responders, ABS-3A is capable of operating throughout the 3.7-4.2 GHz band, consistent with the band’s primary allocation for downlink operations in the fixed-satellite service (“FSS”). After years of development beginning in 2009, and with hundreds of millions of dollars invested, ABS launched ABS-3A in 2015 and petitioned for U.S. market access in 2016.³ The Commission granted the application and placed the satellite on the FCC’s Permitted List on April 25, 2017.⁴

With ABS-3A now in orbit, ABS would be well positioned to sell C-band capacity for services provided in the United States. It has offices in Potomac, Maryland as well as personnel in other U.S. locations, and a strong team of U.S.-based sales, technical, and regulatory

³ See ABS Global Ltd., Petition for Declaratory Ruling, Call Sign S2987, IBFS File No. SAT-PDR-20161130-00124 (filed Nov. 30, 2016).

⁴ See *Policy Branch Information Actions Taken*, Public Notice, Report No. SAT-01234, IBFS File No. SAT-PDR-20161130-00124, DA No. 17-401 (Int’l Bur. rel. Apr. 28, 2017).

personnel. ABS also has a record of providing services to customers based in or affiliated with the United States, including services provided to the U.S. government, using other assets in the ABS fleet.

With respect to the C-band in particular, ABS made quick progress toward filling C-band capacity after ABS-3A became operational, and obtained an FCC license to construct and operate an earth station in Hudson, New York before the FCC released the NPRM.⁵ Because of the uncertainty surrounding the future of the C-band, however, the regulatory environment has rendered ABS unable to complete construction of the earth station for which it is licensed, unable to construct additional U.S. earth stations to communicate with ABS-3A in the C-band, and unable to sell the capacity required to recoup its substantial investment in the band.

Importantly, ABS-3A is equipped with an all-electric propulsion system on Boeing's 702SP satellite platform, which allows it to remain operational well past the design life of typical spacecraft. As a result, ABS-3A will not reach its planned end of life until 2042. With more than two decades of service life remaining, the delivery of C-band services in the United States was expected to be a very substantial line of business for ABS.

B. Hispasat

Hispasat operates a fleet of eleven satellites primarily covering Europe and the Americas. One of its satellites, Amazonas-3 (call sign 2886) a Space Systems Loral built space station, is equipped with 19 C-band transponders (27.5 equivalent transponders of 36 MHz), and was designed to transmit across the entire conventional C-band to and from U.S. points covering the entire mainland United States, as well as Puerto Rico and the U.S. Virgin Islands. Like ABS-3A,

⁵ See ABS Global Ltd., Application for Earth Station Authorizations, Call Sign E180019, IBFS File No. SES-LIC-20180213-00118 (granted Mar. 29, 2018).

Amazonas-3 is on the FCC's Permitted List. Indeed, Hispasat subsidiary Hispamar Satellites, S.A. petitioned to include Amazonas-3 on the Permitted List on April 18, 2012, and the Commission granted U.S. market access to provide C-band service in the United States in 2013.⁶

Amazonas-3's C-band payload is ideally suited to deliver a variety of media and broadband services in the United States. Broadcasters can use Amazonas-3 to transmit programming between U.S. locations, and between U.S. end points and other areas within the large Pan-American footprint of the Hispasat fleet. Indeed, in Hispasat's experience, the C-band remains broadcasters' band of choice for essential content due to the heavy rains common in many U.S. geographies, including U.S. Gulf Coast areas covered by the Amazonas-3's C-band transponders. Amazonas-3 also can distribute video content on moving platforms, including cruise ships that travel along the U.S. coast, and likewise can extend voice and data connectivity to aeronautical, maritime, and terrestrial fleets while in motion. Additionally, due to Hispasat's large footprint, multinational corporations with a significant U.S. presence can use Hispasat's C-band capacity to create cross-continent wide area networks. Hispasat C-band capacity is also well suited for cellular backhaul, including in times of disaster, and for the delivery of telehealth and tele-education services to rural parts of the country.

Given these capabilities, Hispasat had expected to commit much of its C-band capacity to the United States as early as 2019—when capacity on its C-band transponders would (after being fully booked for years) becomes available. Hispasat already has an active U.S. business,

⁶ See Hispamar Satellites, S.A., Petition for Declaratory Ruling to Add Amazonas-3 Satellite at 61° W L to the Commission's C- and Ku-band Permitted Space Station List, IBFS File No. SAT-PPL-20121018-00183 (Int'l Bur. granted Mar. 14, 2013); *see also* Hispamar Satellites, S.A. Petition for Declaratory Ruling to Add AMAZONAS-3 Satellite at 61° W L to the Commission's Ka-band Permitted Space Station List, IBFS File No. SAT-MPL-20130319-00049 (Int'l Bur. granted Aug. 1, 2013) (granting U.S. market access for Amazonas-3 in the Ka-band).

providing service between U.S. points in the Ku- and Ka-bands over Amazonas-3,⁷ and plans to extend its business to C-band were well underway when the NPRM was adopted. Indeed, Hispasat has seen robust interest in its C-band capacity in light of the broader coverage available, improved resistance to rain fade, and limited Ku-band capacity available relative to the very high demand among broadcast customers. But Hispasat's plans, however, have been placed on hold due to the FCC's pending C-band proposal. With an expected end of life of 2031, Amazonas-3 would have been capable of providing Hispasat with many years of future value through the provision of U.S. C-band services.

C. Star One

Star One operates a fleet of seven satellites primarily in the Americas. Three of its satellites, Star One C1 (Call Sign S2677), Star One C2 (Call Sign S2678) and Star One C3 (FCC Call Sign S2845), are capable of transmitting to and from U.S. end points in the C-band. Star One C3 was manufactured by Northrop Grumman Innovation Systems, while Star One C1 and Star One C2 were built by Thales Alenia Space. All three space stations have 28 C-band transponders.

Star One C1, Star One C2, and Star One C3 are all on the FCC's Permitted List.⁸ With three, five, and over ten years remaining before replacement, respectively, these satellites provide a significant opportunity for originators of U.S. content to deliver programming to Latin America, including over millions of C-band receive-only stations installed at residences

⁷ Hispasat has two other satellites in the Permitted List in Ku-band, Hispasat 30W-6 and Amazonas-2.

⁸ Star One S.A., Petition for Declaratory Ruling, Call Sign S2677, IBFS File No. SAT-PPL-20050706-00143 (Int'l Bur. granted Mar. 29, 2006); Star One S.A., Petition for Declaratory Ruling, Call Sign S2678, IBFS File No. SAT-PPL-20050708-00144 (Int'l Bur. granted Sept. 9, 2005); Star One S.A., Petition for Declaratory Ruling, Call Sign S2845, IBFS File No. SAT-LOI-20110914-00180 (Int'l Bur. granted June 29, 2012) (granting U.S. market access in the Ku-band for Star One C3).

overseas. They also can extend international programming to U.S. consumers, and support cellular backhaul in the wake of hurricanes, floods, and other natural disasters, among other critical services, bringing significant future value to the U.S. C-band.

II. IF THE COMMISSION PURSUES A SECONDARY MARKET APPROACH, IT MUST ENSURE AN EFFICIENT, EQUITABLE, AND PRO-COMPETITIVE TRANSITION MECHANISM.

In the NPRM, the Commission seeks comment on its proposal to transition satellite incumbents from the lower C-band using a market-based approach.⁹ Under this proposal, the Commission would allow incumbent satellite operators to clear all or part of the band, “make some or all of their spectrum available to terrestrial operators on the secondary market in exchange for compensation,” compensate affected earth station customers, and retain the remaining proceeds in light of their significant spacecraft investments.¹⁰ Central to the Commission’s market-based proposal is the role of the Transition Facilitator, “a cooperative entity” that would be “created by relevant satellite operators to coordinate negotiations, clearing, and repacking the band.”¹¹

The Commission observed several potential virtues of using a secondary market transition enabled by a Transition Facilitator. The Commission suggested that a secondary market approach “might make spectrum available more quickly than other available mechanisms, ... and thus could facilitate rapid deployment of next generation wireless broadband networks.”¹² The Commission also viewed the Transition Facilitator as essential to

⁹ See NPRM ¶ 66.

¹⁰ *Id.*

¹¹ *Id.* ¶ 70.

¹² *Id.* ¶ 67.

preventing the “holdout problem,” a market failure that could result from allowing authorized users to negotiate relinquishments of their rights on an individual basis.¹³

The Commission also sought comment on rules of the road that would mitigate the risks associated with a Transition Facilitator, and ensure that the secondary market approach proceeds fairly, efficiently, and in a manner consistent with the Commission’s spectrum management principles. For example, the Commission noted that “the two largest incumbent satellite operators in the 3.7-4.2 GHz band” stand behind a “consortium-based facilitator,”¹⁴ and raised the possibility that a consortium might raise “antitrust concerns.”¹⁵ The Commission thus sought comment on appropriate eligibility criteria for participation in the Transition Facilitator,¹⁶ and on using “Commission oversight” to “ensure the negotiation process accounts for the interests of all stakeholders that have interests in the band,” including all “existing satellite operators.”¹⁷

The SSOs agree with the Commission about the importance of utilizing an efficient procedure for repurposing C-band spectrum. In addition to promoting U.S. leadership in 5G, completing the band-clearing process quickly will provide satellite operators with the certainty they need to do business in the United States. Indeed, as discussed above, the uncertainty surrounding the C-band repurposing already has frustrated the plans of several SSOs to fill capacity on satellites that are in orbit and that cover the United States.

If the Commission uses the secondary market to achieve these efficiencies, however, it must recognize that the success of the reallocation will depend on the composition of, and

¹³ *Id.* ¶ 70.

¹⁴ *Id.* ¶ 74.

¹⁵ *Id.* ¶ 67.

¹⁶ *Id.* ¶ 74.

¹⁷ *Id.* ¶ 83.

dynamics within, the Transition Facilitator. As explained below, the SSOs could support a secondary market transition provided that the Commission ensures that the Transition Facilitator mechanism proceeds fairly, and ensures that all satellite operators with affected C-band assets receive equitable compensation.

A. Participation in the Transition Facilitator Should Be Open to Satellite Operators With FCC-Issued Licenses or Grants of U.S. Market Access.

To maintain the integrity of a market-based approach, the Commission should adopt reasonable eligibility criteria that recognize the risks, high fixed costs, and lengthy mission lifecycles associated with satellite deployments, and the substantial investments that satellite operators must make to obtain FCC authorizations and commence U.S. operations thereafter. The SSOs thus support the Commission’s proposal to open the Transition Facilitator to all willing satellite operators that have an “FCC-issued license or grant of market access.”¹⁸

Importantly, however, the Commission should reject calls to require that eligible satellite operators provide existing service to U.S. end points.¹⁹ As an initial matter, a service requirement arbitrarily focuses on retrospective events rather than the diminution in value that would result from a prospective reduction in C-band capacity.²⁰ Indeed, although space stations that were authorized, built, and launched only recently may not yet have existing U.S. customers, they were expected to generate revenues further into the future relative to space stations launched years ago. As a result, operators whose satellites recently launched may have *more* to lose per dollar invested in the band than operators that already have provided service for years.

¹⁸ *Id.* ¶ 74.

¹⁹ *See id.*

²⁰ *See id.* ¶ 65 (noting that satellite operators should “be compensated for loss of revenues” in the future).

Relatedly, these operators also have had less time to recoup at least part of their initial investment, and thus would be uniquely prejudiced by an abrupt change in rules without a transition. Moreover, in the cases of Hispasat and ABS, the FCC’s own actions were responsible for delaying—and then freezing—U.S. C-band sales.

A service requirement also would be inconsistent with Commission precedent on flexible use deployments. Just recently, in the *Spectrum Frontiers* proceeding, the Commission allowed licensees in the Local Multipoint Distribution Service (“LMDS”) to convert *any* active fixed license into a flexible use license conferring valuable fixed and mobile rights.²¹ Indeed, the Commission extended the deadline for LMDS licensees to meet their end-of-term performance requirements precisely because most LMDS licensees had not yet provided service, and would have been unable to do so without additional time.²²

Clear eligibility criteria also are needed to ensure that large satellite operators do not leverage the FCC’s proposal to undermine competition for U.S. consumers of satellite services. If the Commission allows a consortium of a few operators to determine eligibility based on their own, self-determined criteria, large operators will have every incentive to exclude smaller operators from participating: they would maximize their gains from the repurposing, with the added benefit of crippling their smaller competitors. The result will be a less competitive market for U.S. consumers of satellite services—and a failed secondary market approach that throws rational incumbent protections out the window.

²¹ See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Servs.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 8014, 8031 ¶¶ 41-42 (2016).

²² *Id.* at 8091 ¶¶ 219, 220.

Recent developments illustrate the risk of misuse. As explained above, all three SSOs operate space stations with C-band transponders covering substantial portions of the mainland United States and significant orbital life remaining. All three SSOs hold grants of U.S. market access authorizing the provision of C-band services. And all three SSOs are capable of generating significant future value from the FCC-authorized C-band facilities in which they have invested. All three SSOs are thus similarly situated to—and regularly compete with—members of the so-called C-Band Alliance (“CBA”), a self-selected group of the world’s largest satellite operators.²³

Yet the CBA so far has rebuffed efforts by the SSOs to ensure fair participation by all affected satellite operators, despite direct inquiries by the SSOs concerning the CBA’s plans for the private-sector solution it has proposed. The CBA also apparently has imposed arbitrary—and undisclosed—conditions on eligibility for participation in the Transition Facilitator. In light of this conduct, the Commission should not assume that an advocacy and lobbying group such as the CBA is the only, or the best, choice to become the Transition Facilitator. Indeed, rather than putting one group of competitors in a position to make judgments about other competitors, the FCC should consider appointing an independent third party—one that is not a satellite operator and does not have a financial stake in the outcome (other than a fee for services)—to serve in the Transition Facilitator role. In any event, the SSOs urge the Commission to clarify that participation in the Transition Facilitator must be open to all satellite operators with spacecraft with C-band transponders that are on the FCC’s Permitted List, and that the Transition Facilitator

²³ The current members of the C-band Alliance are Intelsat, SES, Eutelsat, and Telesat. *See* Press Release, Intelsat, SES, Eutelsat and Telesat Establish the C-Band Alliance (CBA), a Consortium to Facilitate Clearing of U.S. Mid-band Spectrum for 5G While Protecting U.S. Content Distribution and Data Networks (Oct. 1, 2018), <http://www.intelsat.com/news/press-release/intelsat-ses-eutelsat-and-telesat-establish-c-band-alliance/>.

must adopt eligibility criteria to ensure that the secondary market transition proceeds are divided equitably and in line with established principles of spectrum management.

B. The Commission Should Ensure That Proceeds Are Distributed Equitably.

Concerns about the potential for anticompetitive conduct apply equally to how the Transition Facilitator decides to allocate proceeds from secondary market sales. Because of the size of their existing U.S. operations, large satellite operators are likely to wield significant influence over consortium governance relative to smaller competitors and new entrants with sunk investments. As a result, Commission oversight may be required to ensure that proceeds are allocated based on the value of the FCC-authorized C-band assets affected by this proceeding.

At a minimum, any proceeds that become available should compensate both the satellite operators and their customers for the investments that they have made in C-band facilities to serve the United States. The SSOs thus urge the Commission to consider requiring compensation based on other factors such as the amount of C-band spectrum capacity that is capable of communicating in the United States and equipped on space stations with an FCC license or grant of U.S. market access. This facilities-based approach would provide compensation to those satellite operators based on their investments in serving the U.S. market, and would prevent misuse of the Transition Facilitator framework.

CONCLUSION

The SSOs understand the need to reallocate the C-band as quickly as possible. But they could support the effort by the CBA group to develop a private-sector solution to clearing C-band spectrum for terrestrial 5G use only if there are appropriate safeguards to ensure fairness among the various satellite operators with C-band facilities covering the United States, including

both the large operators in the CBA, and smaller ones that also have invested in providing competitive C-band services.

The Commission therefore should adopt reasonable eligibility criteria based on committed investments in C-band facilities, as indicated by an FCC-issued license or grant of market access, and should require any Transition Facilitator (whether led by the CBA or some other entity) to permit participation from all eligible satellite operators. The Commission likewise should require, as part of any approval of the CBA proposal, that an equitable allocation mechanism be developed to deal with the concerns of the SSOs and to compensate them for their investments in C-band to serve the United States.

Respectfully submitted,

A handwritten signature in black ink that reads "Scott Harris". The signature is stylized with a large, looped "S" and a cursive "Harris".

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