



Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
Mitigation of Orbital Debris in the New Space Age) IB Docket No. 18-313

COMMENTS OF THE SATELLITE INDUSTRY ASSOCIATION

The Satellite Industry Association (“SIA”)¹ respectfully submits these comments in response to the Federal Communications Commission’s (the “Commission”) Notice of Proposed Rulemaking in the above-captioned proceeding.² SIA is a U.S.-based trade association providing representation of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business. Satellite-enabled services generated more than \$128 billion in global revenue in 2017 and remain the cornerstone of a space ecosystem that attracts billions of

¹ SIA Executive Members include: AT&T Services, Inc.; The Boeing Company; EchoStar Corporation; Intelsat S.A.; Iridium Communications Inc.; Kratos Defense & Security Solutions; Ligado Networks; Lockheed Martin Corporation; OneWeb; SES Americom, Inc.; Space Exploration Technologies Corp.; Spire Global Inc.; and Viasat, Inc. SIA Associate Members include: ABS US Corp.; Airbus Defense and Space, Inc.; Analytical Graphics, Inc.; Artel, LLC; Blue Origin; DataPath Inc.; Eutelsat America Corp.; ExoAnalytic Solutions; Globalstar, Inc.; Glowlink Communications Technology, Inc.; HawkEye 360; Hughes; Inmarsat, Inc.; Kymeta Corporation; Leonardo DRS; Panasonic Avionics Corporation; Peraton; Planet; SSL; Telesat Canada; Ultisat, Inc.; and XTAR, LLC. For more information on SIA, see www.sia.org.

² *Mitigation of Orbital Debris in the New Space Age*, Notice of Proposed Rulemaking and Order on Reconsideration, IB Dkt No. 18-313, FCC 18-159 (rel. Nov. 19, 2018) (“NPRM”).



dollars in investments annually.³ The current administration has recognized the significance and benefits of the satellite industry to the United States and has emphasized the importance of maintaining U.S. leadership in space.⁴

I. ANY NEW COMMISSION ORBITAL DEBRIS GUIDELINES SHOULD PROVIDE CLARITY AND FLEXIBILITY TO SATELLITE OPERATORS

SIA acknowledges the unique role the Commission plays as the regulator of interstate and international telecommunications, including non-federal satellite networks licensed by the United States.⁵ As the Commission appropriately recognizes in the NPRM, several other federal agencies also play an important role in developing and implementing U.S. orbital debris mitigation policies, as further informed by SPD-3, including the Federal Aviation Administration, the Department of

³ See, e.g., Satellite Industry Association, 2018 State of the Satellite Industry Report (2018); Michael Sheetz, *Space companies received \$3.9 billion in private investment during ‘the year of commercial launch’*: Report, CNBC (Jan. 18, 2018, 8:00 am) <https://www.cnbc.com/2018/01/18/space-companies-got-3-point-9-billion-in-venture-capital-last-year-report.html>; Ashlee Vance, *OneWeb Raises Fresh \$1.25 Billion for Internet System From Space*, BLOOMBERG (Mar. 18, 2019, 3:00 am), <https://www.bloomberg.com/news/articles/2019-03-18/oneweb-raises-fresh-1-25-billion-for-internet-system-from-space>.

⁴ See Space Policy Directive-3, National Space Traffic Management Policy, Presidential Memorandum (Jun. 18, 2018), <https://www.whitehouse.gov/presidential-actions/space-policy-directive-3-national-space-traffic-management-policy/> (“SPD-3”).

⁵ In November 2018 alone, the FCC licensed almost 8,000 space stations. See *FCC Boosts Satellite Broadband Connectivity and Competition in the United States*, FCC (Nov. 15, 2018), <https://docs.fcc.gov/public/attachments/DOC-355102A1.pdf>.



Commerce,⁶ and the National Aeronautics and Space Administration (“NASA”).⁷ SIA urges the Commission to ensure that any rules or rule changes it adopts in this proceeding give appropriate consideration to the expertise and resources of these technical agencies, as well as the body of experience and best practices developed over years of space operations. Moreover, any new or amended rules adopted in this proceeding should be guided by principles of regulatory certainty, transparency, and comprehensiveness.

First, the Commission should seek out and take into account the relevant technical expertise of other federal agencies and U.S. governmental bodies, as well as international entities with subject-matter interest, as it updates its orbital debris mitigation rules. As the Commission recognizes in the NPRM, several other federal agencies possess technical expertise and resources that may be pertinent to the development of principles and guidelines of aerospace operations and maneuvers.⁸ Moreover, several agencies may share regulatory authority over Commission licensees and may have technical standards that could be accounted for in the Commission’s rules.⁹ The Commission should endeavor to integrate its rules and amendments with orbital debris policies

⁶ The Department of Commerce includes the National Oceanic and Atmospheric Administration (“NOAA”) and the Office of Space Commerce.

⁷ See SPD-3; *see also* NPRM, ¶¶ 16-17.

⁸ *See, e.g.*, NPRM, ¶¶ 26, 37.

⁹ For example, private remote sensing space systems must obtain a license from NOAA that includes a spacecraft disposal and orbital debris mitigation plan. *See* 15 C.F.R. § 960.11.



established by these other agencies in a manner that will provide operators with regulatory certainty when seeking to serve the U.S. market.

Second, the Commission should strive to avoid creating a patchwork regulatory regime. Orbital debris mitigation policies will be most effective if they are cohesive. For this reason, the rules and amendments adopted during this proceeding should support a comprehensive national framework that aligns with the orbital debris mitigation policies adopted by other U.S. federal regulators, as well as expert international organizations. By consciously focusing on adopting rules that contribute to a comprehensive and consistent U.S. policy on orbital debris mitigation the Commission will facilitate a clearer understanding of operators' compliance obligations under U.S. law.

II. UPDATES TO THE EXISTING ORBITAL DEBRIS FRAMEWORK MUST BE APPROPRIATELY TAILORED TO PROTECT U.S. LEADERSHIP IN COMMERCIAL SPACE

SIA recognizes the critical importance of a safe orbital environment. For SIA members, space sustainability is vital to protect substantial on-orbit investments and the services and networks they enable. As the number of users who rely on satellite-enabled services continues to increase, maintaining and enhancing the safety of the orbital environment is essential to the continued provision of communications, imagery, remote sensing, and other next-generation applications and services.

These considerations are driving an increased emphasis on space safety and sustainability within the global satellite and aerospace industries and across both international and domestic



governing bodies, including the Commission, the Executive Branch, and in Congress.¹⁰ SIA supports the continued development of space safety guidelines that appropriately incentivize responsible orbital stewardship while also encouraging continued innovation and growth in the commercial space industry. The Commission should ensure any changes it adopts are informed by and consistent with other actions on the same subject within the larger U.S. Government and international space communities. Overly burdensome regulations can stifle innovation. As the NPRM acknowledges, “[d]riven by innovation from both established commercial enterprises and new entrepreneurial endeavors, a new landscape for the private space industry is emerging, sometimes referred to as ‘New Space.’”¹¹ In order to maintain U.S. leadership in the space and satellite industries, the Commission should ensure that any rules or amendments adopted in this proceeding reflect a workable regulatory framework that balances the risk of orbital debris with the benefits of innovation.

The importance of drafting rules that are appropriately tailored to address specific orbital debris management concerns applies across the issues addressed in the NPRM. These consensus comments of SIA, however, focus on two specific areas, urging the Commission to decline to adopt mandates that unnecessarily curtail licensee flexibility with respect to geostationary satellite

¹⁰ See, e.g. NPRM; SPD-3; *Space Situational Awareness: Whole of Government Perspectives on Roles and Responsibilities: Before the Subcomm. on Space of the H. Comm. on Science, Space and Technology*, 115th Cong. (2018); *America in Space: Future Visions, Current Issues Before the H. Comm. on Science, Space and Technology*, 116th Cong. (2019).

¹¹ NPRM, ¶ 1.



orbit (“GSO”) license extensions and responses to conjunction warnings by operators of non-geostationary satellite orbit (“NGSO”) systems.

A. The Commission Should Allow GSO License Extensions of Longer than Five Years to be Decided on a Case-By-Case Basis

Over the past fifteen years, GSO operators have provided services under a framework for orbital debris management outlined in the Commission’s rules.¹² In the NPRM, the Commission proposes to institute a five-year limit on the length of extensions granted to fifteen-year GSO space station licenses.¹³ SIA encourages the Commission to modify this proposal to authorize extension requests for more than five years on a case-by-case basis, allowing applicants to justify a longer extension. Such an approach would enable the Commission to craft an appropriate extension tailored to the requirements of the licensee and not subject to an arbitrary limit.

Although the Commission contends its five-year limit proposal “afford[s] operators some flexibility,”¹⁴ in practice it would significantly constrict the ability of GSO operators to leverage the full value of their in-orbit assets. Through careful asset management, GSO operators and manufacturers are constantly improving the capabilities of their satellites and can often safely operate these satellites well beyond the original fifteen-year lifetime permitted under the

¹² See 47 C.F.R. § 25.114(d)(14).

¹³ NPRM, ¶ 66.

¹⁴ *Id.*



Commission's rules for an initial space station authorization.¹⁵ In making the determination to apply for an extension of the space station authorization, GSO operators, working with manufacturers, carefully calculate the expected remaining useful life of their space assets and the level of service customers expect. Sometimes this calculation results in more than five years beyond the original license term. Rather than establishing an arbitrary limit, the Commission should continue to permit GSO operators to demonstrate, through the modification application process, that the satellite is capable of continuing to serve the public interest for an appropriate additional term.¹⁶ This is particularly critical for operators with landing rights, as in certain cases an arbitrarily limited extension could affect the operator's ability to provide service continuity in some markets.¹⁷ By doing so, the Commission will ensure operators have sufficient flexibility to manage their fleets and explore new use cases and business models for GSO satellites without restricting the Commission's ability to exercise sufficient oversight of GSO operations.

B. The Commission Should Allow NGSO System Operators to Determine How to Respond to a Conjunction Warning

SIA does not object to requiring operators of NGSO systems that have received a conjunction warning to take appropriate steps to mitigate the risk of a collision, but SIA is

¹⁵ *Inclined orbit satellites can now be worth millions*, ADVANCED TELEVISION (Jan. 9, 2017), <https://advanced-television.com/2017/01/09/inclined-orbit-satellites-can-now-be-worth-millions/>.

¹⁶ 47 C.F.R. § 25.121(e).

¹⁷ For example, in Brazil operators are limited to one extension of their landing rights authorization.



concerned that the language proposed in the NPRM could deprive operators of needed flexibility in determining the best course of action in such circumstances.¹⁸ SIA recommends that “all possible steps” be changed to “appropriate steps.” Also, to be clear, the objective of the stipulation is to require coordination of an effective avoidance maneuver, if necessary, and this rule should be applied only when two active satellites are involved, when the proximity of the satellites warrants action. Under this rewording, the relevant portion of Section 25.114(d)(14)(iv)(A)(4) would read:

“The space station operator must certify that it will take appropriate steps to assess and mitigate collision risk with other tracked objects. In the case of a conjunction involving two active satellites that warrants mitigation based on the satellites’ proximity, these steps include, but are not limited to, one or more of the following: contacting the other satellite operator; sharing ephemeris data, maneuver plans, and any other appropriate operational data; and performing a coordinated, effective avoidance maneuver if necessary.”

III. THE COMMISSION SHOULD NOT REQUIRE INDEMNIFICATION FROM SPACE STATION LICENSEES

In the NPRM, the Commission proposes to require indemnification from space station licensees,¹⁹ but the Commission does not identify a legal basis for the Commission’s authority to impose an indemnification requirement on satellite licenses or offer any legal analysis of this issue. In numerous other regulatory contexts, Congress has directly addressed the role of regulatory

¹⁸ See NPRM, ¶ 38.

¹⁹ See *id.*, ¶¶ 78-79.



agencies with respect to liability and indemnification issues.²⁰ Here, Congress has not provided the Commission—the agency charged with spectrum management—specific authority with regards to indemnification, either in the Communications Act or other legislation.²¹ Accordingly, the Commission should not impose any indemnification obligations on space station licensees.

Even if the Commission does determine it has the authority to require licensees to indemnify the United States, the Commission should not adopt its proposed rule because it is vague and untenable. The language as drafted would require licensees to “indemnify the United States against *any* costs associated with a claim brought against the United States related to the authorized

²⁰ See, e.g., 51 U.S.C. § 20144(f) (authorizing NASA to administer a program to competitively award cash prizes for innovations in the space industry and requiring that applicants to the program both “agree to assume any and all risks and waive claims against the Federal Government” and obtain an insurance policy which “indemnif[ies] the Federal Government against third party claims”); 33 U.S.C. § 892b(c) (providing that “[t]he Government of the United States shall not be liable for any negligence by a person that produces hydrographic products certified [by NOAA] under [the statute]”).

²¹ In addition, the Commission’s authority to regulate pursuant to the Communications Act’s public interest standard is not absolute. See, e.g., *American Library Association v. F.C.C.*, 406 F.3d 689 (D.C. Cir. 2005) (Commission lacks authority to establish rules applicable to consumer digital television reception devices governing the distribution of the transmitted content after completion of the transmission); *Illinois Citizens Committee for Broadcasting v. F.C.C.*, 467 F.2d 1397 (7th Cir. 1972) (Commission has no authority to prevent the physical construction of the Sears Tower in Chicago despite potential harmful interference to the reception of television signals to viewers in the area); *F.C.C. v. Midwest Video Corp.*, 440 U.S. 689 (1979) (Commission adoption of public access requirements applicable to certain cable television systems exceeds the FCC’s ancillary authority to regulate broadcast television stations); *Comcast Corp. v. F.C.C.*, 600 F.3d 642 (D.C. Cir. 2010) (Commission does not have ancillary authority to regulate network management practices of an internet service provider).



facilities”²² without considering liability limits or fault.²³ The NPRM fails to take into account the impracticality of insuring space assets that could incur effectively unlimited liability to address the potential for litigation that is frivolous or reflects anti-competitive intent. Finally, the adoption of the proposed rule as written would harm U.S. innovation and deter operators from using the United States as its licensing state.

IV. CONCLUSION

SIA urges the Commission to develop space safety and orbital debris guidelines that appropriately balance the responsibilities of satellite operators with promoting continued innovation and growth in the industry. Commission policies should provide clear guidance to the satellite industry and contribute to a well-coordinated framework for addressing orbital debris issues in the United States. The Commission should not adopt the proposals in the NPRM to cap GSO license extensions at five years, dictate mandatory actions in response to a conjunction warning, or require indemnification from space station licensees.

Respectfully submitted,

April 5, 2019

THE SATELLITE INDUSTRY ASSOCIATION

By: /s/ Tom Stroup

Tom Stroup

President, Satellite Industry Association

1200 18th Street N.W., Suite 1001

Washington, D.C. 20036

²² NPRM, ¶ 78 (emphasis added).

²³ Although the indemnification section fails to mention them, the NPRM later acknowledges that differing fault standards are applicable under international law for different types of space activities. *See id.*, ¶ 80.