

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

In the Matter of)	
)	
Space Innovation)	IB Docket No. 22-271
)	
Facilitating Capabilities for In-space Servicing, Assembly, and Manufacturing)	IB Docket No. 22-272
)	

April 29, 2024

COMMENTS OF CONFERS

Brian Lagana
Executive Director
CONFERS
8 The Green, Ste 14865
Dover, DE 19901

April 29, 2024

EXECUTIVE SUMMARY

The Notice in this proposed rulemaking is an important next step in the Commission’s on-going efforts to modernize its licensing of commercial ISAM space activities. CONFERS greatly appreciates the Commissions’ responsiveness and willingness to address this issue, which is critical to the growth of the U.S. ISAM industry.

CONFERS supports the overall efforts of the Commission to establish a clear licensing process for ISAM operators conducting a wide variety of satellite servicing missions. Within that effort, CONFERS urges the Commission to focus its efforts under this docket on issues clearly related to radiocommunication and its existing authorities, especially given the on-going discussion on mission authorization within the U.S. government as a whole. Until such issues are finalized, CONFERS is wary of any proposals in the NPRM that may unintentionally introduce confusion or delay execution of authorization and supervision of ISAM activities, which would negatively impact U.S. industry's global competitiveness.

While CONFERS is overall supportive of the Commission's proposal on licensing rules for ISAM space stations, we urge the FCC to reconsider the proposed requirement that each servicing activity by the same vehicle be independently reviewed. We also urge the Commission to reconsider the scope of information servicing entities would be required to provide on client spacecraft. Instead, we propose the FCC grant authorization for radio frequency (RF) spectrum use by a suite of services that would be provided throughout the lifetime of a servicing vehicle, within qualifying boundaries.

CONFERS recognizes and supports the Commission's objective to ensure that ISAM applications' radiocommunications operations do not cause harmful interference and that the space station authorizations are in the public interest. We suggest modifications to the proposed rules for ISAM space station RF license review to better match the nature and tempo of commercial ISAM activities. Within this, we also suggest alternatives for what information is provided on both U.S.-licensed and foreign-licensed client space stations in situations that might alter frequency and orbital assignments, and specifically request the Commission define situations when such a modification must be requested.

CONFERS agrees with the Commission that at this time ISAM operators should be subject to the same orbital debris mitigation requirements as other space station operators. We note, however, that this is still an area of active study and there may be a need to tailor those requirements in the future. CONFERS is actively studying this issue and welcomes the opportunity to provide additional input on this matter in the future.

CONFERS welcomes the Commission's work on the potential for future spectrum allocations to support ISAM activities. While we agree that the case-by-case approach may be appropriate at this time, the long-term vision of CONFERS is to achieve dedicated spectrum allocations for ISAM missions.

CONFERS recommends that the FCC not prematurely rule out any particular spectrum bands for ISAM, but rather remain open to hearing from ISAM operators how they will manage reasonable sharing and deconfliction within the requested bands.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
I. Scope of FCC Regulations.....	2
II. Licensing Rules for ISAM Space Stations.....	2
A. The Contemplated FCC Process of Adjudicating Each Distinct Servicing Activity, Rather Than a Suite of Activities, Creates Significant Burdens for the Industry.	3
B. The Commission Should Appropriately Limit Review of “Related” U.S.-Licensed Client Space Stations.....	5
C. The Commission Should Limit Review of Non-U.S. Clients to Radiocommunications and Consent, Noting Jurisdiction of Other U.S. Agencies.	6
D. The FCC Should Create an ISAM Process that Authorizes RF Use for a Suite of Activities If They Comply with Certain Bounds.	7
E. Summary of CONFERS Proposal for Pre-Approved Parameter Licensing	10
III. Orbital Debris Mitigation and ISAM Space Stations.....	11
IV. Spectrum Allocation for ISAM Missions	12

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CONFERS hereby submits comments to Federal Communications Commission’s (“FCC” or “Commission”) Notice of Proposed Rulemaking on Space Innovation and Facilitating Capabilities for In-Space Servicing, Assembly, and Manufacturing (ISAM).¹

CONFERS is *the* independent non-profit global trade association fostering the satellite servicing community. CONFERS strives to create non-binding, consensus-derived recommendations for technical and operational standards for on-orbit servicing (OOS), in-space servicing, assembly, and manufacturing (ISAM) and rendezvous and proximity operations (RPO) from best practices of industry and government. Since its initiation in 2017, CONFERS has grown to represent almost eighty member organizations in fourteen countries, including 56 U.S. members, mirroring the growth and development of the in-space servicing economy.

CONFERS offers the following comments on Section I (Scope of FCC Regulations, Section II (Licensing Framework for ISAM Space Stations, and Section III (Radiofrequency Spectrum to Support ISAM) of the ISAM NPRM.

¹ *Space Innovation; Facilitating Capabilities for In-space Servicing, Assembly, and Manufacturing*, Notice of Proposed Rulemaking, IB Docket Nos. 22-271 & 22-272, 89 Fed. Reg. 18875 (Feb. 16, 2024) (hereinafter “ISAM NPRM”).

I. Scope of FCC Regulations

CONFERS supports the overall efforts of the Commission to establish a clear licensing process for ISAM operators conducting a wide variety of satellite servicing missions. Establishing this process will greatly enhance the ability of the U.S. commercial satellite servicing industry to continue to innovate and bring new technologies and services to market. These services – such as refueling, orbital relocation, life extension, and inspection – support operational assets and the mitigation and remediation of orbital debris, benefiting the space economy and end-users of space applications as a whole.

CONFERS urges the Commission to focus this rulemaking docket on issues clearly related to radiocommunication and FCC authorities under the Communications Act, in order to ensure that needed progress can be made quickly to advance U.S. leadership in the global space economy.² As comments in the ISAM Notice of Inquiry highlighted, there are both legislative and Administration efforts to assign commercial space authorization and continuing supervision authorities to the Department of Commerce’s Office of Space Commerce.³ As will be discussed below, and until such issues are finalized, CONFERS is wary of any proposals in the NPRM that may unintentionally introduce confusion or delay execution of authorization and supervision of ISAM activities, impacting U.S. industry globally. A focus on ISAM radiocommunication operations would avoid introducing any uncertainties.

II. Licensing Rules for ISAM Space Stations

² 47 U.S.C. § 151 (2024).

³ See EXEC. OFF. OF THE PRESIDENT, *Fact Sheet: U.S. Novel Space Activities Authorization and Supervision Framework*, WHITE HOUSE (Dec. 20, 2023), <https://www.whitehouse.gov/briefing-room/statements-releases/2023/12/20/fact-sheet-u-s-novel-space-activities-authorization-and-supervision-framework/>; see also Comments of the Commercial Spaceflight Federation, IB Docket Nos. 22-271 & 22-272 (Oct. 31, 2022); Comments of the Aerospace Industries Association, IB Docket Nos. 22-271 & 22-272 at 3-4 (Oct. 31, 2022); Comments of the National Telecommunications and Information Administration, IB Docket Nos. 22-271 & 22-272 at 2-3 (Nov. 28, 2022).

CONFERS is deeply appreciative of the work of the Commission over the last few years in raising and addressing issues related to licensing of commercial ISAM activities. Since CONFERS raised the issue of creating a more predictable licensing process for commercial ISAM, including the complex question of radiofrequency spectrum allocations for ISAM services, the Commission has done an admirable job continuing to work through its various aspects and challenges.

As a primary matter, CONFERS urges the FCC to seriously reconsider two significant aspects of the proposed licensing process for ISAM. First, the proposed framework implies multiple servicing activities by the same vehicle will be reviewed independently, rather than granting an RF authorization for a servicer to use assigned spectrum to provide a suite of services. Secondly, CONFERS notes that the FCC proposed treatment of an applicant's client objects, including both FCC-authorized space stations and international space stations, raises significant practical concerns of predictability and reliability. Instead, CONFERS proposes the FCC implement an RF authorization process for activities within qualifying boundaries, which we believe would address the FCC's concerns and provide the necessary predictability and reliability in the regulatory process for the U.S. ISAM industry to flourish.

A. The Contemplated FCC Process of Adjudicating Each Distinct Servicing Activity, Rather Than a Suite of Activities, Creates Significant Burdens for the Industry.

As an initial matter, CONFERS notes that the proposed licensing framework seems to contemplate the Commission reviewing and approving each *discrete* servicing activity of an ISAM operator over the life of its servicing mission. The FCC proposes to review ISAM applications and orbital debris information “on a case-by-case basis,”⁴ including proposed information on “related” space stations.⁵ Altogether, CONFERS understands the application of these proposals would result in the FCC requiring an ISAM operator to submit an amendment or modification before every new servicing operation – even if the operation is the same type as

⁴ ISAM NPRM, *supra* note 1, ¶¶ 14, 24.

⁵ ISAM NPRM, *supra* note 1, ¶ 17.

previously contemplated by the vehicle – or for servicing every new and previously-undisclosed client.⁶

CONFERS recognizes and supports the Commission’s objective to ensure that ISAM applications’ radiocommunications operations do not cause harmful interference and that space station authorizations are in the public interest, e.g., that orbital debris mitigation standards are maintained. However, the proposed procedural mechanism for ISAM space station review would create significant burden on the rapidly evolving U.S. ISAM industry. Instead, CONFERS offers suggestions for less burdensome approaches that reflect the nature and pace of ISAM operations as currently contemplated.

First, it is highly unlikely that at the time of filing, ISAM operators will know all client vehicles or orbital locations for missions to be conducted throughout the multi-year lifetime of a servicing spacecraft. ISAM service providers are likely to have an initial set of clients known ahead of launch, but then are envisioned to add further clients as their needs arise and in response to market conditions throughout the lifespan of the servicing vehicle. Requiring an ISAM operator to repeatedly seek an amendment or modification to provide services to each new client space object creates a significant procedural burden. Rather, and as will be discussed below, the FCC should require *at most* information on related clients to be submitted as a modification not requiring prior authorization.⁷

Furthermore, the proposed requirement for a servicing operator to seek a license modification for each new contracted service that is not explicitly defined within the initial application creates significant transactional costs. It risks placing the FCC in the middle of every commercial service negotiation, which may happen frequently and place a significant burden on both the Commission and the companies involved. The uncertainty of getting each subsequent modification also hinders the ability of an ISAM operator to get financing, as potential investors expect a level of certainty for future business. Rather, the Commission should implement a

⁶ See 47 C.F.R. § 25.117(a) (2024) (noting no modification to the “parameters or terms and conditions” of an authorization can be made except upon grant of a modification); *id.* § 25.118 (listing modifications not requiring authorization).

⁷ 47 U.S.C. § 301; *id.* § 307(a); 47 C.F.R. § 25.118(e), (f).

system that authorizes ‘archetypes’ of services within orbital and frequency bounds, including a streamlined notification requirement for anticipated operations in the future within those bounds.

B. The Commission Should Appropriately Limit Review of “Related” U.S.-Licensed Client Space Stations.

For servicing activities between FCC-authorized servicers and clients (e.g., U.S.-authorized space stations), the Commission proposes that ISAM applicants provide extensive information on “related” applications and grants well in advance of actual servicing operations.⁸ Specifically, the Commission proposes that ISAM applicants must “provide a list . . . for all related space stations . . . includ[ing] client space stations, space stations that have become debris the applicant seeks to remediate, and other space stations the applicant plans to interact with or collaborate with as part of its operations.”⁹ This list would then be used to additionally assess if any *client* space stations with an FCC authorization must submit a request for modification.¹⁰

We ask the Commission to clarify whether the above requirement for a modification applies to only client space stations previously authorized by the FCC or if it would apply to stations authorized by any Administration. CONFERS’ interpretation is that it would apply to only stations authorized by the FCC, as the broader interpretation would expand the scope and complexity of this requirement significantly.

CONFERS understands that the Commission is concerned with preventing harmful interference and limiting orbital debris generation. Indeed, ISAM operations can alter frequency operations and orbital debris mitigation information that was previously authorized by the Commission.¹¹ However, the Commission’s proposal to assess whether a client space station operator needs a license modification *on a case-by-case basis* would create significant negative impact.¹² Instead, the Commission should define when a client space station operators must

⁸ Notably, a “U.S.-authorized space station” includes both U.S.-registered space objects and foreign-registered space objects granted U.S. market access. ISAM NPRM, *supra* note 1, ¶¶ 19-20.

⁹ ISAM NPRM, *supra* note 1, ¶ 20.

¹⁰ ISAM NPRM, *supra* note 1, ¶ 19.

¹¹ ISAM NPRM, *supra* note 1, ¶ 19.

¹² ISAM NPRM, *supra* note 1, ¶ 19.

request a modification – namely, when the proposed servicing activity alters material facts related to frequency use and orbital debris mitigation underlying the existing space station authorization.¹³

This leads to an additional point. The Commission should only require “related” space station information for proximate systems that may experience frequency interference or other debris concerns. As currently proposed, the FCC’s review of “related” systems would duplicate regulatory oversight for various servicers, including in-space inspection services that are already subject to notification and authorization by NOAA CRSRA to conduct imaging of artificial resident space objects.¹⁴ As previously emphasized, CONFERS seeks to reduce any confusion in regulatory requirements for the ISAM industry. The FCC should therefore scope the ISAM process to appropriately address concerns of radiocommunications and orbital debris, as part of a whole-of-government approach to commercial space.

C. The Commission Should Limit Review of Non-U.S. Clients to Radiocommunications and Consent, Noting Jurisdiction of Other U.S. Agencies.

The Commission’s proposed rulemaking additionally contemplates requiring extensive information on the regulatory oversight and authorization status of clients not authorized by the FCC.¹⁵ However, appropriate regulatory oversight and authorization is a matter between the non-U.S. client(s) and their sovereign; it is not a matter at issue for FCC oversight of U.S.-authorized radiocommunications. All that a U.S. ISAM service provider should be required to provide regarding a foreign client is the client’s ITU filings, related U.N. registration information,¹⁶ and an attestation from the client operator that they are aware of and have consented to the servicing

¹³ For example, it does not appear that Intelsat 10-02 requested a space station modification for participating in a servicing activity with Space Logistics in 2021. Mission Extension Vehicle 2 and Intelsat 10-02 docked while Intelsat 10-01 was still located within its assigned GSO orbital location and conducting radiocommunications. *See* Intelsat License LLC, FCC ICFS Call Sign S2414 (last visited Apr. 23, 2024); *Northrop Grumman and Intelsat Make History with Docking of Second Mission Extension Vehicle to Extend Life of Satellite*, NORTHROP GRUMMAN (Apr. 12, 2021), <https://news.northropgrumman.com/news/releases/northrop-grumman-and-intelsat-make-history-with-docking-of-second-mission-extension-vehicle-to-extend-life-of-satellite>.

¹⁴ *See* 15 C.F.R. § 960.9(b).

¹⁵ ISAM NPRM, *supra* note 1, at ¶ 21.

¹⁶ CONFERS urges the FCC to consider, practically, how the varied practices and promptness in space object registration will impact ISAM operators and their clients when fulfilling the FCC’s request for this information.

operation. It should not be the burden of the U.S. ISAM industry to evaluate or negotiate other countries' national policies, standards for debris mitigation, or Article VI oversight of their national space activities. Rather, satellite-servicing providers in the ISAM industry should be able to do business on a commercial basis with entities who are in compliance with all laws that apply to them.

CONFERS understands the complexity of the multinational in-space activities that the ISAM community is undertaking. ISAM entities are fully engaged with the Executive Branch agencies, such as the Department of State, and understand that it is at a minimum an interagency decision, not the FCC's, as to whether in-space activities are "fundamentally inconsistent with U.S. interests."¹⁷ Such issues are already subject to review by the Department of Commerce and Department of State under U.S. export and trade law, and beyond the FCC's application of its public interest standard.¹⁸ The FCC presumption should be to permit and encourage U.S. servicing of any customer, subject to RF interference, spectrum management, and any interagency concern raised by either the application or CONFERS notification process for individual servicing clients. Blue Origin states this perfectly: if "the foreign spacecraft being serviced would not be seeking U.S. market access, [then], detailed technical or other information would not address any spectrum management concerns" and should not concern the FCC.¹⁹

D. The FCC Should Create an ISAM Process that Authorizes RF Use for a Suite of Activities If They Comply with Certain Bounds.

As highlighted above, CONFERS has significant concerns that the proposed ISAM licensing process does not cover spectrum use for the full suite of activities by a servicer and proposes an overly burdensome data collection and review process of client information. CONFERS recognizes that these proposals are crafted to address two main concerns –

¹⁷ ISAM NPRM, *supra* note 1, ¶ 21.

¹⁸ See, e.g., Laura Cummings, *Two Ships in the Night: U.S. Export Requirements for Commercial On-Orbit Servicing – Analyzing a Case of Mechanical Docking*, IAC-22/E3/IPB, Paper #70720 (Oct. 2022) (concluding that an in-space mechanical docking between a U.S. and foreign satellite likely constitute a defense service and requires authorization by the Department of State).

¹⁹ Comments of Blue Origin, IB Docket No. 22-272, at 6 (October 31, 2022).

prevention of harmful interference and mitigating orbital debris. CONFERS believes there is an approach that provides the necessary regulatory oversight and empowers the ISAM industry to operate with greater agility than the proposed rules allow. Specifically, CONFERS proposes an authorization process that would enable assignment of spectrum for a suite of activities per license grant while limiting concerns of spectrum interference or orbital debris generation.

CONFERS suggests that the Commission adopt rules allowing ISAM applicants to license spectrum allocations and orbits within well-defined categories of services and activities, with clearly defined boundary conditions, that the servicing spacecraft is authorized to perform over its lifetime.²⁰ Under this proposal, ISAM applicants would submit detailed information on the various types of ISAM activities they expect to conduct over the lifespan of the servicing vehicle, as well as radiofrequency information and projected orbits and orbital debris mitigation strategies for each servicing activity. This proposal would balance the Commission's interests to prevent harmful interference and mitigate the generation of orbital debris with the commercial ISAM industry's critical need for flexibility and efficiency when obtaining new clients. This would constitute best practice for the growth and development of the commercial space industry.

In addition, CONFERS proposes that a license authorizing ISAM activities include a notification condition to provide further information on future clients and activities as they are realized, within the boundary conditions, as reasonable. Such a provision could require Commission notification within a reasonable time period before such activities occur, but with a presumption of approval for missions within the licensed parameters. The Commission should refrain from defining a "reasonable" time period because it will vary based on the servicing mission. For instance, some clients may know of their life extension or refueling needs years in advance, while other clients may have an urgent need for an inspection or towing service within days to respond to sudden anomaly or other mishap.

This proposal offers transparency into industry participant activities while affording vital flexibility for industry response in a growing commercial space sector. Given the responsive nature of ISAM providers to accommodate and serve new clients once already in orbit, the Commission's failure to adopt appropriately flexible rules would inflict undue burden on ISAM

²⁰ See II(E) for a bullet point list summarizing all CONFERS recommendations.

operators and hinder industry growth. For example, the imposition of a requirement for U.S. service providers to pursue a license modification in advance of each new servicing mission is unnecessary, and would sharply undermine the competitiveness of U.S. service providers in the international market. U.S. ISAM businesses should not be subject to recurring, open-ended review processes with uncertain criteria and conditions for approval. Such a structure would also impose a needlessly large workload on the FCC, as the Commission would have to review all modifications for each new servicing mission, even in the event of highly repetitive missions that perform the same basic functions and service many times in succession.

Similar to the CONFERS' proposal, the Commission has already adopted streamlined procedures for modifications within pre-approved parameters;²¹ specifically, as here, when it is in the public's interest to do so and meets the servicing needs of customers.²² Further, such a streamlined process, as CONFERS proposes, allows the Commission to "devot[e] fewer administrative resources to satellite fleet management modification requests."²³ For these reasons, CONFERS is asking the Commission to refrain from placing heavy regulatory burdens on itself or significant undue burdens on the commercial space industry.

CONFERS would also like to note that the Commission should keep in mind that additional changes to existing federal authorities for authorization and supervision may arise out of the on-going discussion over novel mission authorization. Once this is resolved, there may no longer be a need for the Commission to impose a requirement for an inspection provider to submit information that is duplicative of what would be provided to another federal agency with authority over in-space activities.

In addition to addressing the servicer side of ISAM licensing, CONFERS suggests a modification to the proposed rules pertaining to client information.²⁴ We believe the current proposal is overly broad and may be duplicative of other agencies' requirements, which could

²¹ *Amendment of the Commission's Space Station Licensing Rules and Policies; 2000 Biennial Regulation Review – Streamlining and Other Revisions of part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite network Earth Stations and Space Stations; Home Box Office Motion for Clarification and Declaratory Ruling*, Second Report and Order, IB Docket No. 02-34, 00-248, 96-111, ¶ 8 (Released June 20, 2003) (hereinafter "Streamlined SRO"), <https://docs.fcc.gov/public/attachments/FCC-03-128A1.pdf>.

²² Streamlined SRO, *supra* note 22, ¶ 7.

²³ Streamlined SRO, *supra* note 22, ¶ 7.

²⁴ ISAM NPRM, *supra* note 1, ¶¶ 19–21.

introduce further confusion in the overall oversight process that hinders growth of the U.S. ISAM industry. Instead, CONFERS asks the Commission to consider a more limited inquiry. For U.S.-authorized space stations, we propose the Commission define when a *client* modification would be required if the client's authorized radiofrequency operations or orbital debris mitigation plan would be altered. For non-U.S. authorized space stations, the FCC should limit required information to ITU filing information, U.N. registration, and, at maximum, an attestation letter from the client operator that it has consented to the servicing activity.

Importantly, even an attestation is unnecessary for some ISAM activities, such as in-space inspection, where imaging of artificial resident space objects is already regulated by the DOC.²⁵ Essentially, the Commission should hold with its own precedent and set a minimal threshold of documentation required to review in order to determine whether an application with international implications is in the public interest.²⁶

E. Summary of CONFERS Proposal for Pre-Approved Parameter Licensing

To summarize our recommendations on the ISAM licensing process, CONFERS asks that the Commission adopt the following outlined essentials:

- (1) ISAM applicants will be granted authority to carry out each type of service that they will perform throughout the life of the servicing vehicle so long as the activities fall within clearly articulated boundary conditions.
 - (a) Boundary conditions include:
 - i. Radiocommunication frequencies – requested frequencies, power levels, coordination agreements obtained, etc.
 - ii. Orbital locations – orbital information of where the servicer will expect to perform servicing activities;

²⁵ See 15 C.F.R. § 960.9(b).

²⁶ For instance, the FCC does not require a space station applicant to submit proof a supporting foreign ground station is appropriately authorized, supervised, and subject to a satisfactory foreign regulatory oversight.

- iii. Concept of operations – narrative information sufficient for the regulator to assess the orbital debris mitigation plan for included phases of mission operations;
 - (b) Any new servicing mission that does not fully lie within these identified service boundary conditions would require incremental authorization.
- (2) Each new servicing mission should require adequate notification to the Commission with the presumption of approval.
- (a) However, the Commission may choose to withdraw approval within 30 days of notification (with exception for emergency services) by stating specific criteria that the service violates, such as being out of scope of the license boundary conditions or other clear and compelling reasons of how the service is not in compliance with treaties or other law.
 - (b) Notifications to the Commission should include the following information about client space objects:
 - i. Name & address of customer;
 - ii. Satellite name & ITU designator;
 - iii. Satellite location at time of service;
 - iv. Type of service to be performed;
 - v. Expected date and duration of service; and
 - vi. Method of coordination and authorization for uplink and downlink communications during the service.
 - (c) Emergency services: In the event of emergency rescue or recovery services, the commission will seek to confirm compliance within 36 hours.

III. Orbital Debris Mitigation and ISAM Space Stations

CONFERS agrees at this time with the Commission’s conclusion that it should “retain the same orbital debris mitigation requirements for ISAM operators as for other space station

operators.”²⁷ CONFERS supports performance-based standards that “require demonstration of results rather than dictating specific methods operators must use to meet those results.”²⁸ The case-by-case approach the Commission uses when evaluating aspects of compliance with orbital debris mitigation regulation “maximize[s] operator flexibility and therefore allow ISAM technologies and capabilities to develop while allowing the Commission to ensure continued orbital safety for all operators.”²⁹

In this instance, the current rules are flexible enough to ensure safe operations in line with the public interest without the creation of further regulation. The commercial space industry has continued to convene to produce its own standards and best practices to mitigate debris and safeguard its activities.³⁰ If additional regulations are needed on this topic, the industry will bring those concerns to the table. That said, CONFERS does believe that tailoring of existing debris mitigation standards may be warranted for specific ISAM missions in the future. In fact, CONFERS is creating an internal Task Force within our Technical Committee this year to study this topic further. We would welcome an opportunity to share its recommendations with the Commission upon completion of the Task Force’s work.

In summary, CONFERS supports the Commission applying existing performance-based requirements to ISAM operators, while remaining engaged with industry and the whole-of-USG process to assess and refine, as necessary, orbital debris mitigation standards.³¹

IV. Spectrum Allocation for ISAM Missions

²⁷ ISAM NPRM, *supra* note 1, ¶ 24.

²⁸ ISAM NPRM, *supra* note 1, ¶ 24.

²⁹ ISAM NPRM, *supra* note 1, ¶ 24; *see also Mitigation of Orbital Debris in the New Space Age*, Order on Reconsideration, IB Docket No. 18-313, ¶¶ 24-26 (Jan. 26, 2024) (noting a case-by-case approach to disclosures allows the FCC to review orbital debris mitigation information and assess the public interest while “development of a metric or comprehensive assessment method continues.”).

³⁰ *See* Int’l Standards Org., ISO 24330:2022, *Rendezvous and Proximity Operations (RPO) and On Orbit Servicing (OOS)* (July 2022), <https://www.iso.org/standard/78463.html> (establishing “guiding principles and best practices at the programmatic level for all participants in the rendezvous and proximity operations (RPO) and on-orbit servicing (OOS) industry”). CONFERS originated these standards and presented them to the ISO, which subsequently adopted them. *See also* Space Safety Coalition, *Best Practices for the Sustainability of Space Operations*, Version 2.35 § 5 (Nov. 2023), <https://spacesafety.org/best-practices/>.

³¹ *See* EXEC. OFF. PRES., UNITED STATES NOVEL SPACE ACTIVITIES AUTHORIZATION AND SUPERVISION FRAMEWORK at 6-7 (Dec. 2023), <https://www.whitehouse.gov/wp-content/uploads/2023/12/Novel-Space-Activities-Framework-2023.pdf>.

Though ISAM is an emerging industry segment today, ISAM capabilities are here to stay, and in-space servicing will permanently shape the way entities plan and conduct activities in space for the better. As commercial ISAM providers' capabilities mature, CONFERS recommends the FCC create a framework by which ISAM providers can access spectrum for their missions on a routine, predictable basis. CONFERS applauds the FCC's intention to modify its rules to create a licensing framework specific to ISAM space stations with its part 25 rules for licensing commercial space stations.³² While part 5 (experimental) licenses should remain available to ISAM operators conducting in-space demonstrations, CONFERS emphasizes that many of its members are maturing beyond the part 5 phase of business, and will soon require predictable, timely access to spectrum for their commercial (part 25) missions.

The long-term vision of CONFERS and its member organizations is to achieve dedicated spectrum allocations for ISAM missions. At this time, the Commission has declined to specify spectrum bands that may be suitable for ISAM operations – rather, the Commission has stated an intention to work on a “case-by-case” basis to approve spectrum licenses for ISAM missions.³³ While case-by-case may be appropriate initially, the perspective of CONFERS and its member organizations is that in order to avoid stifling the growth of the ISAM industry segment, a dedicated spectrum allocation must be carved out particularly for ISAM use.³⁴ Anything less could risk denying these vital capabilities to the rest of the space industry at large.

CONFERS thanks the Commission for acknowledging that ISAM missions are likely to be more capable of spectrum sharing than other mission types. Although it is a step short of dedicated spectrum, CONFERS agrees with the Commission's tentative conclusion³⁵ that **ISAM operations can logically fit in with many existing service allocations.** Because no spectrum allocations specified for ISAM operations exist in the FCC's framework at this time – either on a primary or secondary basis – CONFERS urges the FCC to exercise maximum flexibility in

³² ISAM NPRM, *supra* note 1, ¶ 10.

³³ ISAM NPRM, *supra* note 1, ¶ 35.

³⁴ See Comments of the Consortium for the Execution of Rendezvous and Servicing Operations, IB Docket Nos. 22-271 & 22-272 (filed Oct. 31, 2022); See also Reply Comments of the Consortium for the Execution of Rendezvous and Servicing Operations, ET Docket No. 13-115 & RM 11341, at 2-3 (filed Sept. 10, 2021).

³⁵ ISAM INPRM, *supra* note 1, ¶ 32.

granting licenses for ISAM missions. Particular allocations may be more attractive to different ISAM providers depending on their system architecture.

CONFERS recommends that the FCC not prematurely rule out any particular spectrum bands for ISAM, but rather remain open to hearing from ISAM operators how they will manage reasonable sharing and deconfliction within the requested bands. Because there are very few bands where the allocation descriptions could be understood to explicitly exclude ISAM missions, the FCC ought to be flexible to creative spectrum licensing approaches. To put it another way: unless the spectrum requested will continuously obstruct the operations of other missions using those same bands, the FCC ought to err toward granting use of that spectrum to the ISAM operator.

While case-by-case review is an appropriate path forward in the near-term, CONFERS is interested in forging a long-term, predictable environment for ISAM providers to conduct business without needing to engage in an extensive process with the FCC for each new mission. This may require the creation of a more in-depth study of the radiofrequency spectrum needs for ISAM in the near future.

Finally, CONFERS encourages the FCC to recognize that in some instances the client space object being serviced may be owned or operated by the U.S. Government. CONFERS recommends the Commission's final rule take into account U.S. foreign policy and national security interests, protect information related to such operations, and facilitate U.S. ISAM operator ability to respond timely and appropriately to U.S. Government customer needs. For example, U.S. government customer missions may implicate unique confidentiality requirements for proprietary purposes and also to protect sensitive U.S. government information.

Respectfully Submitted,

/signed/

Brian Lagana

CONFERS Executive Director

8 The Green

Ste 14865

Dover, DE 19901

April 29, 2024