



August 15, 2022

U.S Department of State
2201 C St NW
Washington, DC 20520

By electronic submission

Re: Notice 11630, Seeking Private Sector Written Input on Implementation of the 21 Guidelines for the Long-Term Sustainability of Outer Space Activities

The Aerospace Industries Association (AIA) represents over 300 companies and nearly 2 million U.S. workers across the aerospace industry. AIA members design, build, launch, and operate satellites and space vehicles across the commercial, civil, and national security space sectors, including support for human spaceflight activities in low Earth orbit (LEO) and, in the coming years, beyond. Maintaining a safe space environment is critical to our members' – and our nation's – national security, scientific, commercial, and human spaceflight activities. This is true for activity taking place in LEO, including International Space Station operations, as well as for growing human spaceflight and commercial activity that will operate through LEO and into deep space.

Thank you for the opportunity to comment on the implementation of the 21 Guidelines for the Long-Term Sustainability of Outer Space Activities. AIA provides the following comments on domestic and international space sustainability efforts.

Domestic Space Sustainability Efforts

U.S. Whole of Government Approach with Industry Input. The current U.S. regulatory and policy framework that impacts space sustainability is fragmented. Accordingly, AIA supports a whole-of-government approach to space sustainability and coordination of space sustainability norms, practices, and positions across the Department of Commerce, Department of Defense, Department of State, Department of Transportation, National Aeronautics and Space Administration (NASA), and other U.S. government space stakeholders, including the Federal Communications Commission. The National Space Council, Office of Space Commerce (OSC), and relevant federal agencies should ensure a direct vehicle for U.S. commercial space industry public comment and engagement on space sustainability issues to enhance this coordination.

Office of Space Commerce Role and Resources. AIA supports the transition of non-military space situational awareness (SSA) responsibilities from the Department of Defense to the Department of Commerce and providing Commerce adequate resources and authorities to perform that mission. AIA supports the Congressional appropriations in fiscal years 2021 and 2022 for OSC to pilot these activities, the elevation of OSC within the Department, and the increase of the OSC's budget in the President's FY23 request and supported in the House and Senate FY23 appropriation subcommittee marks.

Data Access and Investment. Timely access to SSA data, analytics, information, and services for spacecraft operators is key to ensuring space safety. OSC should make available, free of direct user fees, SSA data, analytics, information, and services sufficient to ensure a basic level of space safety. This capability should maximize data collected by U.S. government systems, and possibly other public sector sources, such as the European Union Space Surveillance and Tracking network; commercially available services, data, analytics, information, and platforms; and information provided by spacecraft operators. To foster continued growth

and innovation in the U.S. commercial space sector, OSC should leverage commercially available SSA capabilities as much as possible while structuring licensing agreements to enable continued market growth.

For services beyond those that provide a basic level of space safety, OSC should leverage commercially available capabilities to the maximum extent possible, whether through facilitated access to commercial products or through direct provision by commercial providers to operators. Market growth for commercial SSA solutions should remain a key priority for the OSC as outlined in Space Policy Directive 3, Goal 4(c). Prior to developing new government-operated SSA systems and capabilities, as a best practice, the OSC should perform an assessment on whether existing commercial capabilities can satisfy the new requirement and establish a preference for using 'as-a-service' commercial offerings when such assessments identify existing commercially available capabilities.

OSC should ensure that these services are provided through an easily accessible and functional interface to help improve fidelity, access, and speed for SSA data sharing. This may necessitate investments to modernize SSA data sharing infrastructure. Paired with the development and adoption of technical standards for data exchange in conjunction planning, modernized infrastructure will also enable operators to implement machine-to-machine automated conjunction screening and coordination. Where possible, robust, and appropriate, manual processes should be replaced with automated systems to enable safe operations at scale. In addition to continuing to facilitate and foster better SSA capabilities, it is important to develop new technologies, which rely on SSA data and information as inputs, that can improve conjunction mitigation. Modernization of SSA infrastructure and machine-to-machine automated conjunction coordination based on agreed-upon best practices are critical enablers of ensuring safe operations at scale.

Data Sharing. AIA supports the establishment of a threshold level of data and information sharing for all spacecraft operators with appropriate safeguards to limit misuse or adversarial actions. AIA supports the broad sharing between stakeholders in government and industry of high quality SSA data, information, and collision avoidance operational protocols. Satellite operators should consistently and transparently share operator points-of-contact, ephemerides, mission planning, status, maneuver plans, and predictive trajectory data with other operators.

USG Space Traffic Coordination and Management (STCM). Space situational awareness, defined as the identification, tracking, and data sharing of space objects, is related but different from STCM, which includes the norms and standards for operating in space. A framework governing the management of space traffic is valuable to the future use of space and an enabler for safe space activity. AIA supports Department of Commerce being granted the authority and resources to coordinate the development of a space traffic coordination and management framework. Department of Commerce should take a lead convening and facilitating role in multistakeholder consultations, involving input from a wide range of government, industry, academic, and other impacted stakeholders.

Debris Remediation. AIA supports investments in active debris remediation technologies by the U.S. and other governments. NASA, in consultation with other relevant Federal agencies in the U.S., should develop a comprehensive policy plan and technical pathway for future active debris removal (ADR) missions, to include commercial and international engagement which will feed into a NASA-led technology demonstration mission to remove active debris and develop the related technologies. The U.S. government should ensure commercial offerings in systems and technologies for debris remediation are leveraged consistent with their maturity for future government-supported remediation programs.

Additionally, NASA, in consultation with other relevant Federal agencies, should create a bilateral or multilateral dialogue with international partners to understand the rationale, costs, and benefits of a formal

ADR mission and conduct international discussions and capacity-building activities on ADR for the purposes of making progress toward international guidelines on active debris removal.

Incentive-based Frameworks. AIA supports incentive-based frameworks to promote space sustainability practices. AIA recommends the establishment of a U.S. government working group to study and provide recommendations for economic incentives for more sustainable commercial industry practices, such as reduction of post-mission disposal periods. This working group should include consultations with industry.

Mission Authorization. The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies ('Outer Space Treaty') requires States to authorize and continually supervise the activities of their non-governmental entities in space. AIA supports the establishment, under the direction of an Executive Branch Department, of a transparent process to satisfy that requirement, and thus provide greater regulatory certainty for emerging commercial space activities. Such a process should be no more burdensome than is necessary to enable the United States government to authorize pioneering space activities in conformity with its treaty obligations, and to safeguard core public interests, such as national security, safety, and sustainability of space.

Reduce Impact to Science. AIA supports industry-led efforts to reduce interference and impact to ground-based optical or radio astronomy and supports further research on methods and practices to reduce and mitigate interference and the overall impact of constellations in LEO on scientific research.

Orbital Debris Mitigation Standard Practices (ODMSP) Reviews. AIA supports the regular review and update of the ODMSP and suggest the implementation of a required review at least once every three years. AIA supports U.S. government efforts to limit the frequency of waivers for noncompliance with the ODMSP. AIA looks forward to providing input to the July 2022 Office of Science and Technology Policy National Orbital Debris Implementation Plan, that will, "reevaluate ODMSP, including deorbit guidelines, by prioritizing a short-term study to better understand the impact of changing deorbit requirements for the USG, specifically the potential benefits and cost in reducing the deorbit timelines."

U.S.-Led International Space Sustainability Efforts

Artemis Accords. AIA supports the Artemis Accords and continued U.S. government efforts to promote adherence to its principles.

U.S. Government International Advocacy. AIA encourages U.S. government leadership in advancing space sustainability norms and practices globally, through multi-stakeholder dialogue and consultations. AIA also recognizes the value of enhanced communication between international bodies such as the Inter-Agency Space Debris Coordination Committee, the United Nations Office for Outer Space Affairs, and industry organizations that are moving quickly to develop standards and/or practices for the long-term sustainability of space.

Thank you again for the opportunity to comment and for the Department's continued attention to space sustainability issues.

Sincerely,



Mike French
Vice President, Space Systems