

AIAA STANDARDS PROJECT PROPOSAL FORM

(Rev. 2018)

Date:	30 Mar 2023
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Submit this form via e-mail to nickt@aiaa.org

Designation of Proposed Document: (Special Project, Guide, Recommended Practice, or Standard)	Standard	
Title of Document:	Rendezvous and Proximity Operations (RPO) and On Orbit Servicing (OOS) – Prepared Free-Flyer Capture and Release	
Project Intent: (Check the applicable box below)	Supersedes or Affects: (Specify designation of approved AIAA standard(s) affected or superseded.)	
Create new document	<input checked="" type="checkbox"/>	
Revise current document	<input type="checkbox"/>	
Revise and Redesignate current document	<input type="checkbox"/>	
Revise, Redesignate and Consolidate current document(s)	<input type="checkbox"/>	
Revise and Partition current documents(s)	<input type="checkbox"/>	
Reaffirm current document	<input type="checkbox"/>	
Reaffirm and Redesignate current document	<input type="checkbox"/>	
Supplement to a current document	<input type="checkbox"/>	
Withdraw current document	<input type="checkbox"/>	
This document contains excerpted text from an international standard, but is not an ISO or IEC adoption.	<input type="checkbox"/>	Check here if this standard includes excerpted text from an ISO or IEC standard but is not an identical or modified adoption of an international standard.
This document is intended to become an American National Standard (ANS)	<input checked="" type="checkbox"/>	Yes
	<input type="checkbox"/>	No
Purpose and justification of the proposal What is the verified market need for the proposal? What problem does this standard solve? What value will the standard bring to end-users? Identify the stakeholders (e.g., satellite manufacturers, aerodynamic test facility operators, launch providers, etc.). Approximately how many end-users do you expect will obtain this standard? Provide a brief rationale (1-2 sentences) from 2 or more stakeholders regarding the importance of this project.	<p>Based on a recent internal survey, the Consortium for Execution of Rendezvous and Servicing Operations (CONFERS) members identified an AIAA standard as a market preferred priority project. CONFERS has 62 member companies.</p> <p>As spacecraft rendezvous and servicing (including docking/berthing) and assembly grow, the need for free-flyer capture and release becomes significant. Spacecraft operators and autonomous systems will conduct free-flyer capture and release.</p> <p>Current membership of CONFERS is 62 space companies. Many of them will obtain this standard. Government organizations have expressed interest in this effort as well.</p> <p>The CTWG is the CONFERS Technical Working Group identified priority of this standard. These include established space companies as well as well funded entrepreneurial space companies.</p>	
Identify the Technical Committee or Program Committee chartered with oversight of the area (see www.aiaa.org):	There are no TCs or PCs in the AIAA for On-Orbit Servicing or Assembly. That may change. The AIAA Spacecraft Architecture and Systems Engineering TCs will be interested in this effort	

Description of Contents of Standard: (provide a one paragraph description. If more information is needed, please add on separate page.)	Attached			
Consumer Product or Service:	Check here if document covers Consumer or Service Product.			
Patents Included: Will the document include a patented invention?	Yes (must provide response to Item 11)			
X	No			
Patent requirement: If the document includes a patented invention, will this be a requirement? (Review section 4.6 in <i>AIAA Standards Program Procedures</i>)	Yes			
X	No			
Units of Measurement: Will the document use SI units? If yes, will the document also use U.S. units?	X	Yes		No
		Yes	X	No
Committee on Standards Sponsorship (indicate the CoS or other approved consensus body that will undertake this project):	The AIAA Committee on Standards for On-Orbit Servicing and Assembly (OSA CoS) agrees to undertake this effort. Several members of the AIAA OSA CoS are members of related work for AIAA S-155 and AIAA S-157.			
Proposed membership of new CoS (if a revision, provide the members of current CoS): List the Chair and initial participants, affiliations and Interest Category (see last page); There must be membership balance. No one interest category can comprise more than 50% of the CoS membership.	CoS Roster information on last page of this form.			
Participation (indicate those materially affected organizations which have committed to supporting this project, use separate attachment if necessary):	To start: SpaceLogistics, CONFERS, Aerospace Corporation, MDA, AstroScale, CUAerospace, SIF, USSF, NASA			
Resources: (indicate an estimate of the commitment that will be necessary for committee members to effectively participate in this activity, e.g., participation will be by teleconference only with X frequency, participation will be by teleconference and face-to-face meetings with X frequency, etc.)				
Direct meetings of the CoS will be held quarterly. Sub-groups, as needed, will meet monthly. This will also be a topic of interest to the CONFERS Technical Working Group, which meets monthly.				
Schedule: (indicate the schedule envisioned for document development, include critical milestone dates that can be used to assess progress.)				
Date	Milestone			
1 April 2023	Initialize the development of AIAA/ANSI S-xxx Prepared Free-Flyer Capture and Release			
30 Sep 2023	Complete working draft of AIAA/ANSI S-xxx Prepared Free-Flyer Capture and Release; Ballot for Release for public review; Release for public review			
1 Oct 2023	Complete resolution of public review comments; Ballot committee for publication			
28 February 2024	Publication			

Risk:
(indicate any risk factors that may impact the above schedule and possible measures to be taken to mitigate the risk)

While government organizations are expected to participate in the development of this standard, there may be government procedures which interfere with the above schedule. In the event such a delay is substantial, the CoS will recommend the government participants approve a first published version of the standard with parallel adaptation of a second version to accommodate the government schedule.

Survey of similar work undertaken in other bodies:
(indicate relevant/similar activities currently underway in other bodies and/or relevant/similar documents to be considered)

ISO TC20/SC14 Space Systems ISO 24330 – Programmatic Principles for Rendezvous and Proximity Operations (RPO) and On-Orbit Servicing (OOS) – this standard, based on the work of the Consortium for Execution of Rendezvous and On-Orbit Services (CONFERS) identifies key requirements for participants in the emergent On-Orbit Servicing industry. This AIAA standard will extend from those key requirements in the area of spacecraft fiducial markers used by spacecraft in proximity to and working with other spacecraft.

International Participation:	<input checked="" type="checkbox"/>	Check here if this project is open to international participation.
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AIAA OSA CoS Membership

Chair- Frederick A. Slane – Space Infrastructure Foundation (non-profit)
Joshua Davis - Aerospace Corporation (non-profit)
Joe Anderson (a new representative to be named)
- SpaceLogistics (a space prime)
Jane Hansen - Cateni (USG technical support)
Jaime Esper/Bo Naasz - Goddard Spaceflight Center (USG)
Dallas Beinhoff - Cis-Lunar Space Development Corp (Start-Up)
Robert Schwarz - Momentus (Start-Up sub-tier manufacturer)
Leanne Evans Brito - MDA(a space prime)
Yuske Taguchi - AstroScale(Start-Up service provider)
Stephen Daire - Protean(Start-Up)
Zachary Burkhart - OrbitFab(Start-Up manufacturer / assembler)
Eugenio Ferreira - Airbus(a space prime)