

**INTERAGENCY ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AND
NAVAL INFORMATION WARFARE CENTER PACIFIC
UNDER INTERAGENCY UMBRELLA AGREEMENT NO. 36625
(ANNEX NUMBER ONE)**

ARTICLE 1. PURPOSE

This Annex is for the Stratospheric Optical Link Demonstration (SOLD) high altitude balloon (HAB) demonstration conducted jointly by NIWC Pacific and NASA ARC. SOLD is a NIWC internal applied research project that is both a risk-reduction and stratospheric demonstration of the NIWC Laser Crosslink Experiment (LaCE) technology demonstration between two 6U nanosatellites, slated for notional launch Q4 FY2022.

The NIWC and NASA ARC Payload Accelerator for CubeSat Endeavors (PACE) teams will collaborate to realize the SOLD concept and evaluate the hardware performance during the tech demonstration. NIWC will develop the hosted payload and optical ground terminal and lead the laser approval process and operation during the demonstration. NASA ARC will provide the high-altitude balloon demonstration via the NASA Flight Opportunities (FO) program, project management, systems engineering, and mission operations support as needed. Performance data and valuable lessons learned will be shared across both Parties.

The legal authority for this Annex, consistent with the Umbrella Agreement, is in accordance with the Space Act, Other Transactions Authority (OTA), 51 U.S.C. § 20113(e). NIWC enters into this IAA in accordance with Space Act, Other Transactions Authority (OTA), 51 U.S.C. § 20113(e).

ARTICLE 2. RESPONSIBILITIES

A. NASA ARC will use reasonable efforts to:

1. Provide SOLD balloon flight and services via the FO program
2. Provide Project Management and Systems Engineering support
3. Provide lessons learned from previous PACE balloon demonstrations into the planning of the SOLD demo
4. Participate in joint planning meetings, telecons, and reviews
5. Assist in relevant regulatory processes, payload integration, and mission operations as needed (dependent on final technical implementation and flight service provider requirements)
6. Provide telemetry, tracking, and command (TT&C) communications if required (dependent on final technical implementation and flight service provider capabilities)
7. Provide any necessary/relevant test facilities as needed (dependent on final technical implementation, risk reduction requirements, cost, and schedule)
8. Adhere to Center, project, and lab safety plans
9. Ensure all flight service provider technical and safety requirements are met

10. Coordinate any transfer of custody of hardware with the Center property management division
11. Disseminate lessons learned in a joint final briefing with NIWC
12. Collaborate on dissemination of demo results and lessons learned via community of practice seminars, after-action reviews, and/or publications

B. NIWC will use reasonable efforts to:

1. Develop, test, and deliver the payload and ground terminal
2. Provide necessary/relevant test facilities for the integrated flight system (dependent on final technical implementation, risk reduction requirements, cost, and schedule)
3. Obtain the required optical/laser regulatory approvals
4. Lead the payload integration and mission operations, including laser operation
5. Operate optical ground station during demonstration
6. Adhere to Center, project, and lab safety plans
7. Ensure all flight service provider technical and safety requirements are met
8. Coordinate any transfer of custody of hardware with their property management division
9. Participate in joint planning meetings, telecons and reviews
10. Disseminate lessons learned in a joint final briefing with NASA ARC

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities in the Annex defined in the "Responsibilities" Article are as follows:

SOLD Milestone	Estimated Completion Date
NIWC / ARC Kick-off Meeting at NIWC	Jul 2022
Mission Concept Review at ARC	Sep 2022
Payload day-in-the-life test	Jan 2023
Completion of Laser Approval Process	Feb 2023
Closed-loop outdoor end-to-end testing	Feb 2023
Integrated day-in-the-life test	Mar 2023
Flight Readiness Review	Apr 2023 (L – 14d)
SOLD Balloon Demo	Apr 2023

ARTICLE 4. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act (31 U.S.C. § 1341).

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS - IDENTIFIED
INTELLECTUAL PROPERTY

- A. Under paragraph C of the Intellectual Property Rights - Data Rights - Handling of Data Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data.
1. Third Party Proprietary Data: The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.
 2. Controlled Government Data: The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.
 3. The following software and related Data will be provided to Partner under a separate Software Usage Agreement: None

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or one year from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella IAA. The term of this Annex shall not exceed the term of the Umbrella IAA. The Annex shall automatically expire upon the expiration of the Umbrella IAA.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA Ames Research Center
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Technical Points of Contact

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ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the NIWC. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

Approved and authorized on behalf of each Party by:

**NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
AMES RESEARCH CENTER**

**NAVAL INFORMATION WARFARE
CENTER PACIFIC**

BY: _____
Dan Andrews
Director of Engineering

BY: _____
Mike McMillan
Department Head

DATE: _____

DATE: _____