

NONREIMBURSABLE INTERAGENCY AGREEMENT
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LANGLEY RESEARCH CENTER
AND
AIR FORCE RESEARCH LABORATORY
FOR
ENGINE CHARACTERIZATION THRESHER TEST
IN THE
SCRAMJET TEST COMPLEX

ARTICLE 1. AUTHORITY AND PARTIES

The National Aeronautics and Space Administration Langley Research Center, located at Langley Research Center, Hampton, VA 23681 (hereinafter referred to as "NASA" or "NASA LaRC") enters into this Interagency Agreement (hereinafter referred to as "IAA") in accordance with 51 U.S.C. § 20113(e). Air Force Research Laboratory, located at 1864 4th Street, Wright-Patterson AFB, OH 45433-7132 (hereinafter referred to as "AFRL"), enters into this IAA in accordance with the Economy Act, 31 U.S.C. § 1535. NASA and AFRL may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE

The purpose of this Annex is to perform high speed wind tunnel characterization using the Air Force Research Laboratory (AFRL/RW)-supplied engine and consumables with the NASA Langley Research Center's Scramjet Test Complex. The Scramjet Test Complex boasts a robust Mach number and pressure range to test isolators/combustors for an enhanced understanding of complex fluid dynamics research. This heavily used arc-heater is synergistically matched with other Langley facilities to provide comprehensive testing of airframe integrated engine concept to assess and optimize advanced aerospace vehicle concepts.

Data collected will be used by NASA to validate and calibrate Computational Fluid Dynamics (CFD) codes developed by NASA scientists to computationally predict flow phenomena experienced by air-breathing hypersonic vehicles. The data will also be used to evaluate the Scramjet Test Complex performance. In addition, NASA will retain all interface and support hardware manufactured for the test for use in future Scramjet Test Complex test campaigns.

ARTICLE 3. RESPONSIBILITIES

A. NASA LaRC will use reasonable efforts to:

1. Perform testing in the Scramjet Test Complex.
2. Provide liquid fuel delivery system for testing.
3. Provide real-time data in accordance with customer-generated test plan.

4. Return test articles provided by AFRL/RW upon conclusion of testing.
5. Provide a final report documenting the trials accomplished and associated data

B. AFRL will use reasonable efforts to:

1. Design and produce interface and support hardware with consultation from NASA.
2. Provide test articles, nozzle, consumables, liquid fuel delivery system requirements, specific test conditions, and test and data requirements.
3. Accept test articles returned by NASA LaRC and test data upon conclusion of testing.
4. Provide final analysis and report.

ARTICLE 4. SCHEDULE AND MILESTONES

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

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| 1. AFRL/RW shall provide test articles, nozzle, consumables, liquid fuel delivery system requirements, specific test conditions, and test and data requirements. | No later than thirty (30) days prior to testing. |
| 2. NASA LaRC will provide the liquid fuel delivery system and perform 120 Hours of testing in the Scramjet Test Complex. | No later than sixty (60) days of receipt of test articles. |
| 3. NASA LaRC will provide real-time data in accordance with customer-generated test plan. | Concurrent with test execution. |
| 4. NASA LaRC will return test articles and provide test results and final report to AFRL/RW. | Within thirty (30) days of completion of testing. |
| 5. AFRL shall accept returned test articles and provide final data analysis to NASA LaRC. | By no later than September 30, 2024 |

ARTICLE 5. 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 6. PRIORITY OF USE

Any schedule or milestone in this IAA is estimated based upon the Parties' current understanding of the projected availability of its respective goods, services, facilities, or equipment. In the event that either Party's projected availability changes, NASA or AFRL,

respectively, shall be given reasonable notice of that change, so that the schedule and milestones may be adjusted accordingly. The Parties agree that NASA's and AFRL's use of its own goods, services, facilities, or equipment shall have priority over the use planned in this IAA.

ARTICLE 7. LIABILITY

Each Party agrees to assume liability for its own risks arising from or related to activities conducted under this IAA.

ARTICLE 8. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

NASA and AFRL agree that the information and data exchanged in furtherance of the activities under this IAA will be exchanged without use and disclosure restrictions unless required by national security regulations (e.g., classified information) or as otherwise provided in this IAA or agreed to by NASA and other Federal Agency for specifically identified information or data (e.g., information or data specifically marked with a restrictive notice).

ARTICLE 9. INTELLECTUAL PROPERTY RIGHTS - HANDLING OF DATA

A. In the performance of this Agreement, NASA or AFRL (as "Disclosing Party") may provide the other Party (as "Receiving Party") with:

1. data of third parties that the Disclosing Party has agreed to handle under protective arrangements or is required to protect under the Trade Secrets Act (18 U.S.C. § 1905) ("Third Party Proprietary Data"), or
2. Government data, including software, the use and dissemination of which, the Disclosing Party intends to control ("Controlled Government Data").

B. All Third Party Proprietary Data and Controlled Government Data provided by Disclosing Party to Receiving Party shall be marked by Disclosing Party with a restrictive notice and protected by Receiving Party in accordance with this Article.

C. 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. NASA software and related Data will be provided to Partner under a separate Software Usage Agreement (SUA). AFRL shall use and protect the related data in accordance with this Article: None

D. For such Data identified with a restrictive notice pursuant to paragraph B of this Article, including Data identified in an accompanying funding document, Receiving Party shall:

1. Use, disclose, or reproduce such Data only as necessary under this Agreement;
2. Safeguard such Data from unauthorized use and disclosure;
3. Allow access to such Data only to its employees and any Related Entity requiring access under this Agreement;
4. Except as otherwise indicated in D.3., preclude disclosure outside Receiving Party's organization;
5. Notify its employees with access about their obligations under this Article and ensure their compliance, and notify any Related Entity with access about their obligations under this Article; and
6. Dispose of such Data as Disclosing Party directs.

E. If the Parties exchange Data having a notice deemed ambiguous or unauthorized by the receiving Party, it should tell the providing Party. If the notice indicates a restriction, the receiving Party must protect the Data under this Article unless otherwise directed in writing by the providing Party.

F. Notwithstanding any restrictions provided in this Article, the Parties are not restricted in the use, disclosure, or reproduction of Data provided under this Agreement that is:

1. known or available from other sources without restriction;
 2. known, possessed, or developed independently, and without reference to the Proprietary Data;
 3. made available by the owners to others without restriction; or
 4. required by law or court order to be disclosed.
- If a Party believes that any exceptions apply, it shall notify the other Party before any unrestricted use, disclosure, or reproduction of the Data.

ARTICLE 10. INTELLECTUAL PROPERTY RIGHTS - INVENTION AND PATENT RIGHTS

Unless otherwise agreed upon by NASA and AFRL, custody and administration of inventions made (conceived or first actually reduced to practice) under this IAA will remain with the respective inventing Party. In the event an invention is made jointly by employees of the Parties (including by employees of a Party's contractors or subcontractors for which the U.S. Government has ownership), the Parties will consult and agree as to future actions toward establishment of patent protection for the invention.

ARTICLE 11. RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA

NNASA or AFRL may, consistent with Federal law and this Agreement, release general information regarding its own participation in this IAA as desired. Insofar as participation of the other Party in this IAA is included in a public release, NASA and AFRL will seek to

consult with each other prior to any such release, consistent with the Parties' respective policies.

Pursuant to Section 841(d) of the NASA Transition Authorization Act of 2017, Public Law 115-10 (the "NTAA"), NASA is obligated to publicly disclose copies of all agreements conducted pursuant to NASA's 51 U.S.C. §20113(e) authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that, if this IAA is entered into pursuant to NASA's 51 U.S.C. §20113(e) authority, this IAA will be disclosed, without redaction, in accordance with the NTAA.

ARTICLE 12. TERM OF AGREEMENT

This IAA 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 two years from the effective date, whichever comes first.

ARTICLE 13. RIGHT TO TERMINATE

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

ARTICLE 14. CONTINUING OBLIGATIONS

The rights and obligations of the Parties that, by their nature, would continue beyond the expiration or termination of this Agreement, e.g., "Liability and Risk of Loss" and "Intellectual Property Rights" and related clauses shall survive such expiration or termination of this Agreement.

ARTICLE 15. POINTS OF CONTACT

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

Management Points of Contact

NASA Langley Research Center
Jennifer Hubble Viudez
Center Agreements Manger
Langley Research Center
Hampton, VA 23681
jennifer.m.hubble@nasa.gov

Air Force Research Laboratory
Anthony M. Callaham
THRESHER Program Manager
1864 4th Street
Wright-Patterson AFB, OH 45433-7132
850-883-7031
Anthony.callaham.1@us.af.mil

ARTICLE 16. DISPUTE RESOLUTION

All disputes concerning questions of fact or law arising under this IAA shall be referred by the claimant in writing to the appropriate person identified in this IAA as the "Points of Contact." The persons identified as the "Points of Contact" for NASA and AFRL will consult and attempt to resolve all issues arising from the implementation of this IAA. If they are unable to come to agreement on any issue, the dispute will be referred to the signatories to this IAA, or their designees, for joint resolution after the Parties have separately documented in writing clear reasons for the dispute. As applicable, disputes will be resolved pursuant to The Department of the Treasury's Intragovernmental Transaction Guide (Treasury Financial Manual, Vol. 1, Chapter 2, Part 4700, Appendix 10 (hereinafter, the "Intragovernmental Transaction Guide")).

ARTICLE 17. MODIFICATIONS

Any modification to this IAA shall be executed, in writing, and signed by an authorized representative of NASA and the AFRL.

ARTICLE 18. APPLICABLE LAW

U.S. Federal law governs this IAA for all purposes, including, but not limited to, determining the validity of the IAA, the meaning of its provisions, and the rights, obligations and remedies of the Parties.

ARTICLE 19. LOAN OF GOVERNMENT PROPERTY

The parties shall enter into a NASA Form 893, Loan of NASA Equipment, for NASA equipment loaned to Partner.

ARTICLE 20. SIGNATORY AUTHORITY

Approved and authorized on behalf of each Party by:

NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
LANGLEY RESEARCH CENTER

AIR FORCE RESEARCH
LABORATORY

BY: _____
John H. Koelling, Director
Aeronautics Research Directorate

BY: _____
Col. Anthony Meeks, Director
Munitions Directorate

DATE: _____

DATE: _____