

NONREIMBURSABLE INTERAGENCY AGREEMENT IA1-41232
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LANGLEY RESEARCH CENTER
AND
AIR FORCE RESEARCH LABORATORY
FOR
INVESTIGATION OF RADIATION SHIELDING PROPERTIES OF MATERIALS
FOR SPACE APPLICATIONS

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, Materials and Manufacturing Directorate, located at 2977 Hobson Way, Wright Patterson AFB, OH 45433-7733 (hereinafter referred to as "AFRL/RX"), enters into this IAA in accordance with Space Act, Other Transactions Authority (OTA), 51 U.S.C. § 20113(e). NASA and AFRL/RX may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE

This Agreement is for the purpose of NASA Langley Research Center (LaRC) and the Air Force Research Laboratory, Materials and Manufacturing Directorate (AFRL/RX) investigating the radiation shielding properties of materials for space applications. NASA LaRC will perform testing of ceramic materials provided by the Air Force Research Laboratory (AFRL/RX) and AFRL/RX will perform testing of LaRC materials for possible use in space applications requiring protection from extreme environment conditions such as radiation. The data generated from testing of AFRL/RX materials at LaRC is relevant to ongoing AFRL/RX work to identify radiation shielding materials for long duration space explorations. Testing of LaRC materials at AFRL/RX facilities will benefit the advancement of LaRC-developed materials for radiation shielding applications by enabling access to test at a unique facility not available to NASA.

ARTICLE 3. RESPONSIBILITIES

A. NASA LaRC will use reasonable efforts to:

1. Provide up to five (5) test samples, and related NASA LaRC characterization information collected, for evaluation at AFRL/RX.
2. Test up to five (5) ceramic material samples to be provided by AFRL/RX for neutron radiation exposure system and share results.
3. Return test samples to AFRL/RX.

4. Disseminate research results, in collaboration with AFRL/RX, through approved means, including but not limited to conference papers, technical presentations, and publications.
5. Host AFRL/RX visitors for tour of LaRC facilities on an as available basis and in accordance with standard Center processes and procedures.

B. AFRL/RX will use reasonable efforts to:

1. Provide up to five (5) test samples, and related AFRL/RX characterization information collected, for evaluation at NASA LaRC.
2. Test up to five (5) material test samples to be provided by NASA LaRC for testing relevant to space environment (low energy radiation test facility) and share results.
3. Return test samples to NASA LaRC.
4. Disseminate research results, in collaboration with NASA LaRC, through approved means, including but not limited to conference papers, technical presentations, and publications.
5. Host LaRC visitors for tour of AFRL/RX facilities on an as available basis and in accordance with standard Center processes and procedures.

ARTICLE 4. SCHEDULE AND MILESTONES

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

1. Authority to Proceed	Upon Effective Date of Agreement
2. AFRL/RX to produce and provide up to five (5) test samples and characterization information for NASA LaRC evaluation.	Within six (6) months following Effective Date of Agreement
3. NASA LaRC to produce and provide up to five (5) test samples and characterization information for AFRL/RX evaluation.	Within six (6) months following Effective Date of Agreement
4. NASA LaRC to complete testing and characterization of test samples provided by AFRL/RX and share results with AFRL/RX.	Within six (6) months following Milestone 2
5. AFRL/RX to complete testing and characterization of test samples provided by AFRL/RX and share results with NASA LaRC.	Within six (6) months following Milestone 3
6. NASA LaRC to return test samples to AFRL/RX.	Within one (1) months following Milestone 4

7. AFRL/RX to return test samples to NASA LaRC.	Within one (1) month following Milestone 5
8. NASA LaRC and to complete dissemination of research result.	Within three (3) months following Milestone 7
9. NASA LaRC to host AFRL/RX visitors for tour of LaRC facilities.	As available during Agreement period of performance
10. AFRL/RX to host NASA LaRC visitors for tour of AFRL/RX facilities.	As available during Agreement period of performance

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/RX, 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/RX'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/RX 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/RX (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/RX 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.
5. 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/RX, 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

NASA or AFRL/RX 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/RX 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 one (1) year and five (5) months from the effective date, whichever comes first.

ARTICLE 13. TERMINATION

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	
<u>NASA Langley Research Center</u> Amanda Levy Agreements Lead, Space Technology and Exploration Directorate Mail Stop 104 Hampton, VA 23681 p. 757.902.6991 e. amanda.k.levy@nasa.gov	<u>Air Force Research Laboratory</u> Office of Technology Transfer and Partnerships Materials & Manufacturing Directorate 2977 Hobson Way Wright-Patterson AFB, OH 45433 p. 937.255.0017 e. afrl.rx.t2@us.af.mil
Technical Points of Contact	
<u>NASA Langley Research Center</u> Dr. Valerie Wiesner Senior Research Materials Engineer Mail Stop 226 Langley Research Center Hampton, VA 23681 Phone: 757.864.4384 valerie.l.wiesner@nasa.gov	<u>Air Force Research Laboratory</u> Dr. Lisa Rueschhoff, Senior Materials Research Engineer Materials & Manufacturing Directorate Ceramics Branch (AFRL/RXNC) Wright-Patterson AFB, OH 45433 p. 937.815.4105 e. lisa.rueschhoff.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/RX 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 5 (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/RX.

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
MATERIALS AND MANUFACTURING
DIRECTORATE

BY: _____

GREG STOVER
Director
Space Technology & Exploration
Directorate

DATE: _____

BY: _____

CHRISTINA F. RUSNOCK, Colonel, USAF
Deputy Director
Materials and Manufacturing Directorate

DATE: _____