

ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GEORGE C. MARSHALL SPACE FLIGHT CENTER
AND
UNIVERSITY OF ALABAMA
UNDER
SPACE ACT UMBRELLA AGREEMENT
NO. SAA8-2440354, DATED _____
SAA8-2440354.1

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of NASA MSFC testing catalyst wafers design to operate with the "green" monopropellant ASCENT (Formerly AF-M315E).

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).

ARTICLE 2. RESPONSIBILITIES

A. NASA will use reasonable efforts to:

1. Arrange and participate in joint kickoff meeting.
2. Provide consultation to UA's Materials Sciences Department.
3. Provide physical parameters of catalyst wafers for testing.
4. Perform and complete wafer cold flow test.
5. Perform and complete propellant decomposition test.
6. Deliver test data and report to UA.
7. Return tested wafers to UA.
8. Test thruster.
9. Provide thruster test results and final reporting.

B. UA will use reasonable efforts to:

1. Participate in joint kickoff meeting.
2. Provide wafers and parameters necessary for testing.
3. Review and accept report and provide feedback.
4. Have optimized new wafers manufactured based on cold flow and wafer report data.
5. Install new optimized wafers in a thruster for testing.
6. Review and accept final report and provide feedback.

ARTICLE 3. SCHEDULE AND MILESTONES

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

1. With UA's participation, NASA MSFC will arrange joint kickoff meeting	Within two weeks of Effective Date
2. NASA MSFC will provide consultation to UA's Materials Sciences Departments	As needed
3. NASA MSFC will provide physical parameters of catalyst wafers for testing	Within two months from Effective Date
4. UA will provide wafers and parameters necessary for testing	Three months after receiving physical parameters
5. NASA MSFC will perform and complete wafer cold flow test	Approximately four months after receipt of wafers
6. NASA MSFC will perform and complete propellant decomposition test	Approximately four months after the completion of cold flow test
7. NASA MSFC will deliver test data and report to UA	One month after test(s) completion
8. UA will review, accept report, and provide feedback if necessary	One month after report delivery
9. NASA MSFC will return tested wafers	Upon cold flow and wafer test project completion
10. UA will have optimized new wafers manufactured based on cold flow and wafer report data	Three months after receipt of data and report from NASA MSFC
11. UA will install new optimized wafers in a thruster for testing at NASA MSFC	One month after receipt of new manufactured wafers
12. NASA MSFC will test thruster	One month after receipt of thruster
13. NASA MSFC will provide thruster test results and final report	Within one month after completion of thruster tests
14. UA will review, accept final report, and provide feedback	Within one month upon receipt of data and final report

ARTICLE 4. FINANCIAL OBLIGATIONS

A. Partner agrees to reimburse NASA an estimated cost of \$153,445 for NASA to carry out its responsibilities under this Annex.

Each payment shall be marked with MSFC and SAA8-2440354.1.

B. NASA will not provide services or incur costs beyond the current funding. Although NASA has made a good faith effort to accurately estimate its costs, it is understood that NASA provides no assurance that the proposed effort under this Annex will be accomplished for the estimated amount. Should the effort cost more than the estimate, Partner will be advised by NASA as soon as possible. Partner shall pay all costs incurred and have the option of canceling the remaining effort, or providing additional funding in order to continue the proposed effort under the revised estimate. Should this Annex be terminated, or the effort completed at a cost less than the agreed-to estimated cost, NASA shall account for any unspent funds within one year after completion of all effort under this Annex, and promptly thereafter, at Partner's option return any unspent funds to Partner or apply any such unspent funds to other activities under the Umbrella Agreement. Return of unspent funds will be processed via Electronic Funds Transfer (EFT) in accordance with 31 C.F.R. Part 208 and, upon request by NASA, Partner agrees to complete the Automated Clearing House (ACH) Vendor/Miscellaneous Payment Enrollment Form (SF 3881).

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of one year.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights 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 provided.

1. Background Data:

None

2. Third Party Proprietary Data:

None

3. Controlled Government Data:

None

4. 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 two years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

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.

Technical Points of Contact

NASA George C. Marshall Space Flight Center
Nicole Vaughn
Propulsion Engineer
Mail Suite: ER64
Marshall Space Flight Center, AL 35812
Phone: 434-409-6395
Fax: 256-544-6396
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UNIVERSITY OF ALABAMA
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Phone: 205-348-1589
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gthompson@eng.ua.edu

ARTICLE 9. MODIFICATIONS

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

ARTICLE 10. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
GEORGE C. MARSHALL SPACE
FLIGHT CENTER

UNIVERSITY OF ALABAMA

BY: _____
Lisa Bates
Director Engineering Directorate

BY:  _____
Jennifer Camp
Associate Vice President of Research
and Administration

DATE: _____

DATE: Aug-15-2024