ANNEX BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GEORGE C. MARSHALL SPACE FLIGHT CENTER AND SHELL INTERNATIONAL EXPLORATION AND PRODUCTION, INC UNDER SPACE ACT UMBRELLA AGREEMENT NO. SAA8-2338064, DATED____(ANNEX NUMBER 1).

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of characterizing insulating materials at cryogenic temperatures for model calibration and foam selection and performing tests on a number of different types of insulation foams. Up to fifteen (15) Monostrain and three (3) Cryoflex tests run at cryogenic temperatures will be performed at the MSFC Hydrogen Test Facility in building 4628. The test data and specimen characterizations will be provided post-test to the Partner.

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. <u>RESPONSIBILITIES</u>

NASA MSFC will use reasonable efforts to:

- 1. Participate in meetings scheduled by Partner
- 2. Develop Test Plan for Partner's test specimens
- 3. Prepare Partner's specimens for testing
- 4. Conduct materials testing and characterization
- 5. Provide Test Report and sample characterizations
- 6. Return test specimens

Shell will use reasonable efforts to:

- 1. Schedule meetings for exchange of technical data and activity status
- 2. Provide test requirements
- 3. Review and approve Test Plan
- 4. Provide sample materials
- 5. Disposition test materials and specimens

ARTICLE 3. SCHEDULE AND MILESTONES

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

1. Partner	provides test requirements.	Effective Date plus 2 weeks
2. NASA	MSFC develops Test Plan.	Milestone 1 plus 2 weeks.
3. Partner	approves Test Plan.	Milestone 2 plus 2 weeks.
4. Partner	provides sample materials to NASA MSFC.	Milestone 3 plus 2 weeks
5. NASA	MSFC prepares test specimens.	Milestone 4 plus 2 weeks
6. NASA	MSFC performs testing.	Milestone 5 plus 1 month
7. NASA characteri	MSFC compiles Test Report and sample zation.	Milestone 6 plus 6 weeks
8. NASA Partner.	Delivers Final Test Report and test specimens to	Milestone 7 plus 1 week

ARTICLE 4. FINANCIAL OBLIGATIONS

A. Partner agrees to reimburse NASA an estimated cost of \$119,500 for NASA to carry out its responsibilities under this Annex.

Each payment shall be marked with MSFC SAA8-2338064 Annex 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 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. LIABILITY AND RISK OF LOSS

For the responsibilities and activities conducted under this Annex, and any claims arising thereunder, the following sentence shall be added to the end of Paragraph C, Article 8 (titled "Liability") of the Umbrella Agreement:

Partner's liability for such repair and restoration shall not exceed \$100,000.00.

ARTICLE 6. 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 two years.

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.

 Background Data: None
Third Party Proprietary Data: None
Controlled Government Data: None
The following software and related Data will be provided to Partner under a separate Software Usage Agreement: None

ARTICLE 7. 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 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 8. <u>RIGHT TO TERMINATE</u>

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

ARTICLE 9. 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	SHELL INTERNATIONAL
Center	EXPLORATION AND PRODUCTION, INC
Lauren Fisher	Neeharika Rajagiri
AST, Structural Materials	150 North Dairy Ashford
Marshall Space Flight Center, AL 35812	Houston, TX 77079-1116

Phone: 256-961-3925 lauren.m.fisher@nasa.gov Phone: 832-762-2888 Neeharika.Rajagiri@shell.com

ARTICLE 10. 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 11. 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

SHELL INTERNATIONAL EXPLORATION AND PRODUCTION, INC

6	DocuSigr	ned by:
	Julie	Ferland
v z k	0004054	0.175.004

Mary E. KoelblJulie FerlandDirector Engineering DirectorateVP Innovation Excellence

DATE:_____

Apr 24, 2023 DATE:

Shell Contract Ref No. CW 772760

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Signer Events

Julie Ferland Julie.Ferland@shell.com VP Innovation Excellence Security Level: Email, Account Authentication (None)

Time Zone: (UTC) Dublin, Edinburgh, Lisbon, London

Holder: Ed Holgate ed.holgate@shell.com

Signature Docusigned by: Julie Ferland

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