

REIMBURSABLE SPACE ACT AGREEMENT  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
LYNDON B. JOHNSON SPACE CENTER  
AND AMAZON.COM SERVICES LLC  
FOR PROJECT KUIPER MMOD RISK ASSESSMENT.

ARTICLE 1. AUTHORITY AND PARTIES

In accordance with the National Aeronautics and Space Act (51 U.S.C. § 20113(e)), this Agreement is entered into by the National Aeronautics and Space Administration Lyndon B. Johnson Space Center, located at 2101 NASA Parkway, Houston, Texas 77058 (hereinafter referred to as "NASA" or "NASA JSC") and Amazon.com Services LLC located at 410 Terry Avenue North, Seattle, WA 98109-5210 (hereinafter referred to as "Partner" or "Amazon"). NASA and Partner may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE

This reimbursable Space Act Agreement documents activities to assess micrometeoroid and orbital debris (MMOD) risk for a satellite Amazon is developing, with evaluations of MMOD risk sensitivity for various orbits and risk assessments based on design choices. NASA JSC would provide Amazon with assessments of a potential loss of satellite in known reference orbits due to MMOD impacts.

The Johnson Space Center (JSC) Hypervelocity Impact Technology (HVIT) group, part of the JSC Astromaterials Research and Exploration Science (ARES) Division, is the lead NASA organization for MMOD risk assessments and evaluating risk reduction options. HVIT uses the Bumper Code to assess MMOD risk, which contains ballistic limit equations relevant to a wide variety of spacecraft structures based on many (thousands) of hypervelocity impact tests. HVIT is recognized worldwide for its initiative in addressing orbital debris and shielding issues.

Using its unique skills set in hypervelocity impact and MMOD risk assessments, the ARES HVIT group will advise, assess, and perform analysis on Amazon systems to determine risk from MMOD to future Amazon missions. ARES personnel also will advise Amazon, as needed, on risk assessments based on ARES personnel's extensive knowledge on the orbital debris population and risk that may affect Amazon spacecraft design and operations. NASA JSC, as needed, will provide risk assessments on technical reviews of Amazon's planned overall mission design.

The work under this agreement would include assessing potential loss of satellite, risks, and Probability of no Penetration (PnP) by critical hardware elements and identifying those elements presenting the greatest risks. Analysis outputs, using the Bumper 3 MMOD risk analysis code, the Micrometeoroid Engineering Model (MEM) 3, and Orbital Debris Engineering Model (ORDEM) 3.2 software, would include MMOD risk,



failure modes, and failure criteria for each critical hardware element. The combination of JSC-HVIT capabilities in MMOD impact risk assessments, MMOD shielding design expertise, hypervelocity impact test evaluation, and shielding performance equation development (i.e., ballistic limit equations), is not available in the commercial world. The assessment would be broken down by orbit altitude, as appropriate for Amazon's Kuiper constellation. This work would help Amazon evaluate the safety of its satellite constellation.

### ARTICLE 3. RESPONSIBILITIES

A. NASA JSC will use reasonable efforts to:

1. Risk Assessment – provide MMOD probability-of-no penetration (PnP) risk assessments of the Kuiper satellite using loss of spacecraft failure modes for three constellation altitude/inclination orbits.
  - a) Provide updates to the MMOD risk analysis by including the results of hypervelocity testing into the Bumper software, as well as supplying guidance to Amazon personnel using Bumper software.
  - b) Provide Bumper software training to Amazon personnel. Bumper software will be released via NASA-JSC technology transfer office process.
2. Provide status updates via web conferences with Amazon personnel.
3. Testing activities
  - a) Impact testing – NASA-JSC to perform a total of 50 hypervelocity impact tests (.17 cal launcher) for the purpose of understanding MMOD risk to current spacecraft design. Test articles will be supplied by Amazon while NASA will supply target fixtures, projectiles, witness plates and other materials required for the tests. Test articles will include one of the following components:
    - Electrical harnesses. Testing will be conducted while the harness is energized at the time of impact for the purpose of monitoring electrical shorts and arcing.
    - Solar cells.
    - Optical lens assemblies.
    - Batteries. Cell temperature and voltage will be recorded before and after impact for the purpose of monitoring for internal shorts.
  - b) Impact testing of Kuiper spacecraft subsystems – NASA-JSC to perform up to 10 additional blocks of testing for the purpose of informing partner of MMOD impact damage risk. Each block of hypervelocity testing will comprise 25 hypervelocity tests (20 tests using the .17 cal and 5 tests using the .50 cal).
4. Reporting - each block of testing shall be followed by a delivered report two weeks after completion of all testing within that block of testing.

B. Partner will use reasonable efforts to:

1. Provide JSC with Kuiper constellation information, Finite Element Model (FEM), Solid Model, and design information.
2. Support regular status meetings with NASA-JSC.



3. Provide harnesses, lenses, batteries, solar cells, or any Amazon-specific hardware or monitoring equipment for hypervelocity testing. Provide specified voltage and current information for the harness testing, as well as support Amazon-specific monitoring and/or post-test evaluation requirements.

**ARTICLE 4. SCHEDULE AND MILESTONES**

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

<b>MILESTONE</b>	<b>MILESTONE DATE</b>
1. NASA performs responsibility 1a of completing risk assessment.	Initial delivery within 6-months of agreement execution. Additional assessments will be provided as requested for each block of testing described in responsibility 3a and 3b.
2. NASA performs responsibility 1b of providing Bumper training.	Each FY, 2-months after partner request.
3. NASA performs responsibility 2 of status updates.	Within 2-weeks of agreement execution, then as needed or on a 2-week schedule.
4. NASA performs responsibility 3a for hypervelocity testing.	After partner request, within FY24 (i.e., complete by the end of FY24)
5. NASA performs responsibility 3b for up to 2 additional blocks of hypervelocity testing	After partner request, within FY25
6. NASA performs responsibility 3b for up to 3 additional blocks of hypervelocity testing	After partner request, within FY26
7. NASA performs responsibility 3b for up to two additional blocks of hypervelocity testing	After partner request, within FY27
8. NASA performs responsibility 3b for up to 3 additional blocks of hypervelocity	After partner request, within FY28



testing

9. NASA delivers test report after block of testing. Within two weeks of the completion of each test block.

ARTICLE 5. FINANCIAL OBLIGATIONS

A. Partner agrees to reimburse NASA an estimated cost of \$3,390,087.27 for NASA to carry out its responsibilities under this Agreement. In no event will NASA transfer any U.S. Government funds to Partner under this Agreement. Payment must be made by Partner in advance of initiation of NASA's efforts on behalf of the Partner The Partner agrees to pay NASA JSC \$250,000.00 prior to initiation of work under this Agreement. Subsequent advance payments will be determined based on the testing and analysis requested and scheduled to ensure that funds are resident with NASA before Federal Obligations are incurred in support of this Agreement. Each payment shall be marked with JSC SAA-XI-24-40565.

B. Payment shall be payable to the National Aeronautics and Space Administration through the NASA Shared Services Center (NSSC) (choose one form of payment):

(1) U.S. Treasury FEDWIRE Deposit System, Federal Reserve Wire Network Deposit System;

(2) pay.gov at <https://www.nasa.gov/specials/nssc-pay/> and select the appropriate NASA Center for the agreement from the drop down; or

(3) check. A check should be payable to NASA and sent to:

NASA Shared Services Center  
 FMD – Accounts Receivable For the Accounts of: Lyndon B. Johnson Space Center  
 Building 1111,  
 Jerry Hlass Rd.,  
 Stennis Space Center, MS 39529

Payment by electronic transfer (#1 or #2, above), is strongly encouraged, and payment by check is to be used only if circumstances preclude the use of electronic transfer. All payments and other communications regarding this Agreement shall reference the Center name, title, date, and number of this Agreement.

C. NASA will not provide services or incur costs beyond the existing payment. 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 Agreement will be accomplished for the above 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 has the option of canceling the remaining effort, or providing additional funding in order to continue the proposed effort under the revised estimate. Should this Agreement 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 (1) year after completion of all effort under this Agreement, and promptly thereafter return any unspent funds to Partner. 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).

D. Notwithstanding any other provision of this Agreement, 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 Agreement is estimated based upon the Parties' current understanding of the projected availability of NASA goods, services, facilities, or equipment. In the event that NASA's projected availability changes, Partner shall be given reasonable notice of that change, so that the schedule and milestones may be adjusted accordingly. The Parties agree that NASA's use of the goods, services, facilities, or equipment shall have priority over the use planned in this Agreement. Should a conflict arise, NASA in its sole discretion shall determine whether to exercise that priority. Likewise, should a conflict arise as between two or more non-NASA Partners, NASA, in its sole discretion, shall determine the priority as between those Partners. This Agreement does not obligate NASA to seek alternative government property or services under the jurisdiction of NASA at other locations.

#### ARTICLE 7. NONEXCLUSIVITY

This Agreement is not exclusive; accordingly, NASA may enter into similar agreements for the same or similar purpose with other private or public entities.

#### ARTICLE 8. LIABILITY

A. Partner hereby waives any claims against NASA or one or more of its Related Entities for any injury to, or death of, Partner or one or more of its Related Entities, or for damage to, or loss of, Partner's property or the property of its Related Entities, arising from or related to activities conducted under this Agreement, whether such injury, death, damage, or loss arises through negligence or otherwise, except in the case of willful misconduct. For purposes of this Agreement, "Related Entities" shall mean contractors and subcontractors of a Party at any tier; grantees, investigators, customers, and users of a Party at any tier and their contractors or subcontractor at any tier; or, employees of the Party or any of the foregoing.



B. Partner further agrees to extend this unilateral waiver to its related entities by requiring them, by contract or otherwise, to waive all claims against NASA and its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement. In the event the U.S. Government incurs any liability based upon Partner's failure to provide for the waiver by Partner's Related Entities set out above, Partner agrees to indemnify and hold the U.S. Government harmless against such liability, including costs and expenses incurred by the U.S. Government in defending against any suit or claim for liability by Partner's Related Entities.

C. In the event U.S. Government property is damaged as a result of activities conducted under this Agreement, except in the case of gross negligence or willful misconduct by NASA, Partner shall be solely responsible for the repair and restoration of such property subject to NASA direction. Prior to issuing such direction, NASA will consider input from Partner and other factors such as the extent to which damage was attributable to the activity and the respective responsibilities of each party as described in the agreement.

D. Notwithstanding the other provisions of this Article, the waiver of liability set forth in this section shall not be applicable to:

- i. Claims between Partner and its own Related Entity or between its own Related Entities;
- ii. Claims made by a natural person, his/her estate, survivors, or anyone claiming by or through him/her (except when such person or entity is a Party to this Agreement or is otherwise bound by the terms of this waiver) for bodily injury to, or other impairment of health of, or death of, such person;
- iii. Claims for damage caused by willful misconduct;
- iv. Intellectual property claims;
- v. Claims for damage resulting from a failure of Partner to extend the waiver of liability to its Related Entities, pursuant to paragraph B of this Article; or
- vi. Claims by Partner arising out of or relating to NASA's failure to perform its obligations under this Agreement.

#### ARTICLE 9. LIABILITY - PRODUCT LIABILITY

With respect to products or processes resulting from a Party's participation in an SAA, each Party that markets, distributes, or otherwise provides such product, or a product designed or produced by such a process, directly to the public will be solely responsible for the safety of the product or process.

#### ARTICLE 10. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. General



1. "Related Entity" as used in this Data Rights Article means a contractor, subcontractor, grantee, or other entity having a legal relationship with NASA or Partner, that is assigned, tasked, or contracted to perform activities under this Agreement.
2. "Data," means recorded information, regardless of form, the media on which it is recorded, or the method of recording.
3. "Proprietary Data," means Data embodying trade secrets developed at private expense or commercial or financial information that is privileged or confidential, and that includes a restrictive notice, unless the Data is:
  - a. known or available from other sources without restriction;
  - b. known, possessed, or developed independently, and without reference to the Proprietary Data;
  - c. made available by the owners to others without restriction; or
  - d. required by law or court order to be disclosed.
4. Data exchanged under this Agreement is exchanged without restriction except as otherwise provided herein.
5. 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 meets one of the exceptions in 3. above. If a Party believes that any exceptions apply, it shall notify the other Party before any unrestricted use, disclosure, or reproduction of the Data.
6. The Parties will not exchange preexisting Proprietary Data under this Agreement unless authorized herein or in writing by the owner.
7. If the Parties exchange Data having a notice that the Receiving Party deems is ambiguous or unauthorized, the Receiving Party shall tell the Providing Party. If the notice indicates a restriction, the Receiving Party shall protect the Data under this Article unless otherwise directed in writing by the Providing Party.
8. The Data rights herein apply to the employees and Related Entities of Partner. Partner shall ensure that its employees and Related Entity employees know about and are bound by the obligations under this Article.
9. Disclaimer of Liability: NASA is not restricted in, or liable for, the use, disclosure, or reproduction of Data without a restrictive notice or for Data Partner gives, or is required to give, the U.S. Government without restriction.

#### B. Data First Produced by Partner Under this Agreement

If Data first produced by Partner or its Related Entities under this Agreement is given to NASA, and the Data is Proprietary Data, and it includes a restrictive notice, NASA will use reasonable efforts to protect it. The Data will be disclosed and used (under suitable protective conditions) only for U.S. Government purposes.

#### C. Data First Produced by NASA Under this Agreement

If Partner requests that Data first produced by NASA under this Agreement be protected, and NASA determines it would be Proprietary Data if obtained from Partner, NASA will use reasonable efforts to mark it with a restrictive notice and protect it for two years after its development. During this restricted period the Data may be disclosed and used (under suitable protective conditions) for U.S. Government purposes only, and thereafter for any



purpose. Partner must not disclose the Data without NASA's written approval during the restricted period, but Partner may disclose such Data, under suitable protective conditions, to an Affiliate of Partner. "Affiliate" means any entity that directly or indirectly controls, is controlled by or is under common control with Partner, and "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of an entity, whether through the ownership of voting securities or otherwise. The Partner will be responsible for ensuring that the provisions of this article apply to its Affiliates. The restrictions placed on NASA do not apply to Data disclosing a NASA-owned invention for which patent protection is being considered.

#### D. Publication of Results

The National Aeronautics and Space Act (51 U.S.C. § 20112) requires NASA to provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof. As such, NASA may publish unclassified and non-Proprietary Data resulting from work performed under this Agreement. The Parties will coordinate publication of results allowing a reasonable time to review and comment.

#### E. Data Disclosing an Invention

If the Parties exchange Data disclosing an invention for which patent protection is being considered, and the furnishing Party identifies the Data as such when providing it to the Receiving Party, the Receiving Party shall withhold it from public disclosure for a reasonable time (one (1) year unless otherwise agreed or the Data is restricted for a longer period herein).

#### F. Copyright

Data exchanged with a copyright notice and with no restrictive notice is presumed to be published. The following royalty-free licenses apply:

1. If indicated on the Data that it was produced outside of this Agreement, it may be reproduced, distributed, and used to prepare derivative works only for carrying out the Receiving Party's responsibilities under this Agreement.
2. Data without the indication of F.1. is presumed to be first produced under this Agreement. Except as otherwise provided in paragraph E. of this Article, and in the Invention and Patent Rights Article of this Agreement for protection of reported inventions, the Data may be reproduced, distributed, and used to prepare derivative works for any purpose.

#### G. Data Subject to Export Control

Whether or not marked, technical data subject to the export laws and regulations of the United States provided to Partner under this Agreement must not be given to foreign





persons or transmitted outside the United States without proper U.S. Government authorization.

#### ARTICLE 11. INTELLECTUAL PROPERTY RIGHTS - INVENTION AND PATENT RIGHTS

A. "Related Entity" as used in this Invention and Patent Rights Article means a contractor, subcontractor, grantee, or other entity having a legal relationship with NASA or Partner assigned, tasked, or contracted with to perform activities under this Agreement.

B. The invention and patent rights herein apply to employees and Related Entities of Partner. Partner shall ensure that its employees and Related Entity employees know about and are bound by the obligations under this Article.

C. NASA has determined that 51 U.S.C. § 20135(b) does not apply to this Agreement. Therefore, title to inventions made (conceived or first actually reduced to practice) under this Agreement remain with the respective inventing party(ies). No invention or patent rights are exchanged or granted under this Agreement. NASA and Partner will use reasonable efforts to report inventions made jointly by their employees (including employees of their Related Entities). The Parties will consult and agree on the responsibilities and actions to establish and maintain patent protection for joint invention, and on the terms and conditions of any license or other rights exchanged or granted between them.

#### ARTICLE 12. USE OF NASA NAME AND NASA EMBLEMS

##### A. NASA Name and Initials

Partner shall not use "National Aeronautics and Space Administration" or "NASA" in a way that creates the impression that a product or service has the authorization, support, sponsorship, or endorsement of NASA, which does not, in fact, exist. Except for releases under the "Release of General Information to the Public and Media" Article, Partner must submit any proposed public use of the NASA name or initials (including press releases and all promotional and advertising use) to the NASA Associate Administrator for the Office of Communications or designee ("NASA Communications") for review and approval. Approval by NASA Office of Communications shall be based on applicable law and policy governing the use of the NASA name and initials.

##### B. NASA Emblems

Use of NASA emblems (i.e., NASA Seal, NASA Insignia, NASA logotype, NASA Program Identifiers, and the NASA Flag) is governed by 14 C.F.R. Part 1221. Partner



must submit any proposed use of the emblems to NASA Communications for review and approval.

ARTICLE 13. RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA

NASA or Partner may, consistent with Federal law and this Agreement, release general information regarding its own participation in this Agreement as desired.

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 authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that a copy of this Agreement will be disclosed, without redactions, in accordance with the NTAA.

ARTICLE 14. DISCLAIMER OF WARRANTY

Goods, services, facilities, or equipment provided by NASA under this Agreement are provided “as is.” NASA makes no express or implied warranty as to the condition of any such goods, services, facilities, or equipment, or as to the condition of any research or information generated under this Agreement, or as to any products made or developed under or as a result of this Agreement including as a result of the use of information generated hereunder, or as to the merchantability or fitness for a particular purpose of such research, information, or resulting product, or that the goods, services, facilities or equipment provided will accomplish the intended results or are safe for any purpose including the intended purpose, or that any of the above will not interfere with privately-owned rights of others. Neither the government nor its contractors shall be liable for special, consequential or incidental damages attributed to such equipment, facilities, technical information, or services provided under this Agreement or such research, information, or resulting products made or developed under or as a result of this Agreement.

ARTICLE 15. DISCLAIMER OF ENDORSEMENT

NASA does not endorse or sponsor any commercial product, service, or activity. NASA’s participation in this Agreement or provision of goods, services, facilities or equipment under this Agreement does not constitute endorsement by NASA. Partner agrees that nothing in this Agreement will be construed to imply that NASA authorizes, supports, endorses, or sponsors any product or service of Partner resulting from activities conducted under this Agreement, regardless of the fact that such product or service may employ NASA-developed technology.



## ARTICLE 16. COMPLIANCE WITH LAWS AND REGULATIONS

A. The Parties shall comply with all applicable laws and regulations including, but not limited to, safety; security; export control; environmental; and suspension and debarment laws and regulations. Access by a Partner to NASA facilities or property, or to a NASA Information Technology (IT) system or application, is contingent upon compliance with NASA security and safety policies and guidelines including, but not limited to, standards on badging, credentials, and facility and IT system/application access, including use of Interconnection Security Agreements (ISAs), when applicable.

B. With respect to any export control requirements:

1. The Parties will comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 C.F.R. Parts 120 through 130, and the Export Administration Regulations (EAR), 15 C.F.R. Parts 730 through 799, in performing work under this Agreement or any Annex to this Agreement. In the absence of available license exemptions or exceptions, the Partner shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data and software, or for the provision of technical assistance.

2. The Partner shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of work under this Agreement or any Annex under this Agreement, including instances where the work is to be performed on-site at NASA and where the foreign person will have access to export-controlled technical data or software.

3. The Partner will be responsible for all regulatory record-keeping requirements associated with the use of licenses and license exemptions or exceptions.

4. The Partner will be responsible for ensuring that the provisions of this Article apply to its Related Entities

5. The Partner will be responsible for ensuring that the provisions of this Article apply to its Affiliates, as defined in Article 10,

C. With respect to suspension and debarment requirements:

1. The Partner hereby certifies, to the best of its knowledge and belief, that it has complied, and shall comply, with 2 C.F.R. Part 180, Subpart C, as supplemented by 2 C.F.R. Part 1880, Subpart C.

2. The Partner shall include language and requirements equivalent to those set forth in subparagraph C.1., above, in any lower-tier covered transaction entered into under this Agreement.

D. With respect to the requirements in Section 889 of the National Defense Authorization Act (NDAA) for Fiscal Year 2019, Public Law 115-232:



1. In performing this Agreement, Partner will not use, integrate with a NASA system, or procure with NASA funds (if applicable), "covered telecommunications equipment or services" (as defined in Section 889(f)(3) of the NDAA).
2. The Partner will ensure that the provisions of this Article apply to its Related Entities.

#### ARTICLE 17. TERM OF AGREEMENT

This Agreement 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 five years from the Effective Date, whichever comes first.

#### ARTICLE 18. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Agreement by providing thirty (30) calendar days written notice to the other Party. In the event of such termination, Partner will be obligated to reimburse NASA for all costs for which the Partner was responsible and that have been incurred in support of this Agreement up to the date the termination notice is received by NASA. Where Partner terminates this Agreement, Partner will also be responsible for termination costs.

#### ARTICLE 19. 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", "Intellectual Property Rights"-related clauses, and "Financial Obligations" shall survive such expiration or termination of this Agreement.

#### ARTICLE 20. 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 Lyndon B. Johnson Space Center  
Heather Cowardin  
Branch Chief Hypervelocity and Orbital  
Debris Office  
Mail Stop: XI5/9E  
2101 NASA Parkway  
Houston, Texas 77058  
Phone: 281-483-2938  
heather.cowardin@nasa.gov

Amazon.com Services LLC  
Adam Theodosopoulos  
Hardware Development Engineer  
410 Terry Avenue North  
Seattle, WA 981095210  
Phone:  
atheodos@amazon.com



### Technical Points of Contact

NASA Lyndon B. Johnson Space Center  
Christopher Cline  
Hypervelocity Impact Technology Office  
Mail Stop: XI5/9E  
2101 NASA Parkway  
Houston, Texas 77058  
Phone: 281-792-2844  
christopher.j.cline@nasa.gov

Amazon.com Services LLC  
Adam Theodosopoulos  
Hardware Development Engineer  
410 Terry Avenue North  
Seattle, WA 98109-5210  
atheodos@amazon.com

### ARTICLE 21. DISPUTE RESOLUTION

Except as otherwise provided in the Article entitled "Priority of Use," the Article entitled "Intellectual Property Rights – Invention and Patent Rights" (for those activities governed by 37 C.F.R. Part 404), and those situations where a pre-existing statutory or regulatory system exists (e.g., under the Freedom of Information Act, 5 U.S.C. § 552), all disputes concerning questions of fact or law arising under this Agreement shall be referred by the claimant in writing to the appropriate person identified in this Agreement as the "Points of Contact." The persons identified as the "Points of Contact" for NASA and the Partner will consult and attempt to resolve all issues arising from the implementation of this Agreement. If they are unable to come to agreement on any issue, the dispute will be referred to the signatories to this Agreement, or their designees, for joint resolution. If the Parties remain unable to resolve the dispute, then the NASA signatory or that person's designee, as applicable, will issue a written decision that will be the final agency decision for the purpose of judicial review. Nothing in this Article limits or prevents either Party from pursuing any other right or remedy available by law upon the issuance of the final agency decision.

### ARTICLE 22. MODIFICATIONS

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

### ARTICLE 23. ASSIGNMENT

Neither this Agreement nor any interest arising under it will be assigned by the Partner or NASA without the express written consent of the officials executing, or successors, or higher- level officials possessing original or delegated authority to execute this Agreement.



ARTICLE 24. APPLICABLE LAW

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

ARTICLE 25. INDEPENDENT RELATIONSHIP

This Agreement is not intended to constitute, create, give effect to or otherwise recognize a joint venture, partnership, or formal business organization, or agency agreement of any kind, and the rights and obligations of the Parties shall be only those expressly set forth herein.

ARTICLE 26. LOAN OF GOVERNMENT PROPERTY

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

ARTICLE 27. SIGNATORY AUTHORITY

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

NATIONAL AERONAUTICS AND  
SPACE ADMINISTRATION  
LYNDON B. JOHNSON SPACE  
CENTER

AMAZON.COM SERVICES LLC

BY: \_\_\_\_\_  
Burt Laws  
Director, Exploration Architecture,  
Integration, and Science

Signed by:  
BY: Rajeev Badyal  
Rajeev Badyal  
Authorized Signatory

DATE: \_\_\_\_\_

DATE: September 8, 2024

