NONREIMBURSABLE

COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT (CRADA)

NO. <NASA will supply>

BETWEEN

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AND

<COLLABORATING PARTY—FULL NAME>

FOR

<CubeSat mission name(s)>

CUBESAT LAUNCH OPPORTUNITY

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1.0 AUTHORITY AND PARTIES

In accordance with the Federal Technology Transfer Act (FTTA), 15 U.S.C. § 3710a, this CRADA (herein after, "Agreement") is entered into by the National Aeronautics and Space Administration located at 300 E Street SW, Washington, DC 20546 (hereinafter referred to as "NASA") and <full name of Collaborating Party>, located at <Collaborating Party's address>, (hereinafter referred to as "Collaborating Party"). NASA and the Collaborating Party may be individually referred to as a "Party" and collectively referred to as the "Parties."

2.0 BACKGROUND AND PURPOSE

This Agreement shall be for the purpose of providing the Collaborating Party the opportunity to develop a CubeSat experiment addressing one or more aspects of science, exploration, technology, or education, consistent with NASA's mission, and for flight of the CubeSat experiment on a NASA-provided or -arranged launch vehicle, consistent with the terms of the Agreement.

2.1. NASA Headquarters is a Federal laboratory, as defined by 15 U.S.C. §3703(4).

2.2. The performance of the activities specified by this Agreement is consistent with the science, exploration, technology development, education, or operations encompassed by NASA's strategic goals and outcomes as identified in the NASA Strategic Plan and the technology transfer mission of NASA.

2.3. NASA has expertise, capabilities, and/or information in research and development in the physical, engineering, and life sciences and in the launch of research satellites adapted to the pursuit of said areas.

2.4. Collaborating Party has interest, resources, capabilities, and/or information in conducting investigations which address one or more aspects of science, exploration, technology development, education, or operations encompassed by NASA's strategic goals and outcomes as identified in the NASA Strategic Plan.

2.5. This Agreement shall be for the purpose of defining responsibilities of the Parties in the provision of a launch opportunity (-ies) through the NASA CubeSat Launch Initiative (the "CSLI"), intended for the <CubeSat mission name> CubeSat payload as an auxiliary (or secondary) payload on planned mission as outlined in the Statement of Work (Appendix A). The CubeSat payloads that meet the requirements of the CSLI are for the purpose of conducting investigations which address one or more aspects of science, exploration, technology development, education, or operations encompassed by NASA's strategic goals and outcomes, as identified in the NASA Strategic Plan. Collaborating Party is required to share raw data that it obtains, as well as create and deliver a final report to NASA resulting from its CubeSat-related investigations, for which NASA provides launches, that demonstrate how progress was made in achieving said strategic goals and outcomes as provided in the Statement of Work (Appendix A).

3.0 DEFINITIONS

3.1. Definitions. The following definitions are applicable to this entire Agreement, unless a specific Article indicates otherwise.

a. "Contributing Entity(ies)" means an employee, contractor, subcontractor, grantee, or other entity, at all levels, having a legal relationship with NASA or Collaborating Party, that is assigned, tasked, or contracted to perform activities under this Agreement.

b. "Cooperative Work" means research, development, engineering, or other tasks performed under this Agreement by NASA or Collaborating Party working individually or together pursuant to Responsibilities in the Statement of Work (Appendix A).

c. "Create" in relation to any copyrightable work means when the work is fixed in any tangible medium or expression for the first time, as provided for at 17 U.S.C. §101.

d. "Data" means recorded information, regardless of form, the media on which it may be recorded, or the method of recording.

e. "Government Purpose" means the right of the Government to use, duplicate, or disclose Data, in whole or in part, and in any manner, and to make and use Inventions, for Government purposes only, and to have or permit others to do so for Government purposes only. Government Purpose includes competitive procurement but does not include the right to have or permit others to use Data or Inventions for commercial purposes.

f. "Intellectual Property" means patents, trademarks, copyrights, and trade secrets.

g. "Invention" means any invention or discovery that is or may be patentable or otherwise protected under Title 35, United States Code, or any novel variety of plant that is or may be patentable under the Plant Variety Protection Act. (15 U.S.C. § 3703(7)).

h. "Made" when used in conjunction with any Invention means the conception or first actual reduction to practice of such Invention.

i. "Management Point of Contact" means the person identified by each Party to receive all notices and correspondence regarding the Agreement that is not related to performing the Cooperative Work.

j. "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:
   (i.) known or available from other sources without restriction;
   (ii.) known, possessed, or developed independently, and without reference to the Proprietary Data;

(iii.) made available by the owners to others without restriction; or
(iv.) required by law or court order to be disclosed.

k. "Technical Point of Contact" means the technical point of contact identified by the Parties who has the responsibility for the performance of the Cooperative Work, on behalf of the Parties.

l. "CubeSat" means a type of space research nanosatellite, the base dimensions of which are about 10x10x11 centimeters each (i.e., a "Unit" or "1U").

m. "Integrator" means the entity responsible for integrating the CubeSat into a dispenser and performing specific integration and testing activities in preparation for integration onto the launch vehicle.

4.0 RESPONSIBILITIES, SCHEDULE, AND MILESTONES

4.1. Statement of Work. Cooperative Work performed under this Agreement shall be performed in accordance with the Statement of Work ("SOW") attached hereto as Appendix A. Each Party agrees to participate in the Cooperative Work and to utilize such personnel, resources, facilities, equipment, skills, know-how, and information as it considers necessary, consistent with its own policies, missions, and requirements. The SOW shall contain responsible tasks of both Parties as well as schedules and milestones for said tasks as appropriate.

4.2. Review of Work. Periodic conferences may be held between NASA and Collaborating Party to review the progress of the Cooperative Work. It is understood that the nature of this Cooperative Work is such that completion of the milestones in accordance with Appendix A, or within the limits of financial support allocated, cannot be guaranteed. Accordingly, it is agreed that all Cooperative Work is to be performed on a reasonable-efforts basis.

4.3. Scope Change. If at any time either Technical Point of Contact (identified in Article 19) determines that the research data dictates a substantial change in the direction of the work, that Technical Point of Contact shall promptly notify the other Technical Point of Contact, and the Parties shall make a good faith effort to agree on any necessary change to the SOW and/or this Agreement as set forth in Article 23, Modifications, of this Agreement.

5.0 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).

6.0 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, the Collaborating Party 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 usage 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 Collaborating Parties, NASA, in its sole discretion, shall determine the priority as between those Collaborating Parties. This Agreement does not obligate NASA to seek alternative government property or services under the jurisdiction of NASA at other locations.

7.0 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.

8.0 LIABILITY

A. The objective of this Article is to establish a cross-waiver of liability in the interest of encouraging participation in the exploration, exploitation, and use of outer space. The Parties intend that the cross-waiver of liability be broadly construed to achieve this objective.

B. For purposes of this Article:

1. The term "Damage" means:

    a. Bodily injury to, or other impairment of the health of, or death of, any person;
    b. Damage to, loss of, or loss of use of, any property;
    c. Loss of revenue or profits; or
    d. Other direct, indirect, or consequential Damage.

2. The term "Launch Vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries Payloads, persons, or both.

3. The term "Payload" means all property to be flown or used on or in a Launch Vehicle.

4. The term "Protected Space Operations" means all Launch Vehicle or Transfer Vehicle activities and Payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an agreement for launch services. Protected

Space Operations begins at the signature of this Agreement and ends when all activities done in implementation of this Agreement are completed. It includes, but is not limited to:

a. Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch Vehicles or Transfer Vehicles, Payloads, or instruments, as well as related support equipment and facilities and services; and
b. All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services.

"Protected Space Operations" excludes activities on Earth that are conducted on return from space to develop further a Payload's product or process for use other than for the activities within the scope of an agreement for launch services.

5. The term "Related Entity" means:

a. A contractor or subcontractor of a Party at any tier;
b. A user or customer of a Party at any tier; or
c. A contractor or subcontractor of a user or customer of a Party at any tier.

The terms "contractor" and "subcontractor" include suppliers of any kind.

The term "Related Entity" may also apply to a State, or an agency or institution of a State, having the same relationship to a Party as described in paragraphs B.5.a. through B.5.c. of this Article, or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph B.4. above.

6. The term "Transfer Vehicle" means any vehicle that operates in space and transfers Payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A Transfer Vehicle also includes a vehicle that departs from and returns to the same location on a space object.

C. Cross-waiver of liability:

1. Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in paragraphs C.1.a. through C.1.d. of this Article based on Damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for Damage, whatever the legal basis for such claims, against:

a. The other Party;

b. A party to another NASA agreement that includes flight on the same Launch Vehicle;
c. A Related Entity of any entity identified in paragraphs C.1.a. or C.1.b. of this Article; or
d. The employees of any of the entities identified in paragraphs C.1.a. through C.1.c. of this Article.

2. In addition, each Party shall extend the cross-waiver of liability, as set forth in paragraph C.1. of this Article, to its own Related Entities by requiring them, by contract or otherwise, to:

    a. Waive all claims against the entities or persons identified in paragraphs C.1.a. through C.1.d. of this Article; and
    b. Require that their Related Entities waive all claims against the entities or persons identified in paragraphs C.1.a. through C.1.d. of this Article.

3. For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

4. Notwithstanding the other provisions of this Article, this cross-waiver of liability shall not be applicable to:

    a. Claims between a Party and its own Related Entity or between its own Related Entities;
    b. Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to this Agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;
    c. Claims for Damage caused by willful misconduct;
    d. Intellectual Property claims;
    e. Claims for Damage resulting from a failure of a Party to extend the cross-waiver of liability to its Related Entities, pursuant to paragraph C.2. of this Article; or
    f. Claims by a Party arising out of or relating to another Party's failure to perform its obligations under this Agreement.

5. Nothing in this Article shall be construed to create the basis for a claim or suit where none would otherwise exist.

D. To the extent that activities under this Agreement are not within the definition of "Protected Space Operations," defined above, the following unilateral waiver of claims applies to activities under this Agreement.

1. Collaborating Party hereby waives any claims against NASA, its employees, its related entities, (including, but not limited to, contractors and subcontractors at any tier, grantees, investigators, customers, users, and their contractors and subcontractors, at any tier) and employees of NASA's related entities for any injury to, or death of, Collaborating Party employees or the employees of Collaborating Party's related entities, or for damage to, or loss of, Collaborating Party'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.

2. Collaborating Party further agrees to extend this unilateral waiver to its related entities by requiring them, by contract or otherwise, to waive all claims against NASA, its related entities, and employees of NASA and employees of NASA's related entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement.

With respect to products or processes resulting from a Party's participation in an agreement, 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 defense and settlement of any claims.

9.0 INTELLECTUAL PROPERTY RIGHTS

9.1. Intellectual Property Rights – Data Rights

9.1.1. General

1. Data exchanged under this Agreement is exchanged without restriction except as otherwise provided herein.

2. 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 set out in the definition of "Proprietary Data" set forth in this Agreement. If a Party believes that any such exceptions apply, it shall notify the other Party before any unrestricted use, disclosure, or reproduction of the Data.

3. The Parties will not exchange preexisting Proprietary Data under this Agreement unless authorized herein or in writing by the owner.

4. 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.

5. The Data rights herein apply to the employees and Contributing Entities of Collaborating Party. Collaborating Party shall ensure that its employees and Contributing Entity employees know about and are bound by the obligations under this Article.

6. 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 Collaborating Party gives, or is required to give, the U.S. Government without restriction.

7. Collaborating Party may use the following or a similar restrictive notice on Proprietary Data.

> Proprietary Data Notice
> The data herein include Proprietary Data and are restricted under the Data Rights provisions of Cooperative Research and Development Agreement <Agreement number from CRADA title page> for <CubeSat mission name> CubeSat Launch Opportunity

Collaborating Party should also mark each page containing Proprietary Data with the following or a similar legend: "Proprietary Data – Use And Disclose Only Under the Notice on the Title or Cover Page."

8. Except as otherwise provided in Article 9:

(i.) The Government obtains royalty-free, nonexclusive, and irrevocable Government Purpose Rights in any Data first produced in the performance of work under this Agreement.
(ii.) In order that the Government may exercise its rights in Data, the Government, upon request to the Collaborating Party, shall have the right to review and/or obtain delivery of Data first produced in the performance of work under this Agreement and authorize others to receive Data to use for Government Purposes.

9.1.2. Data First Produced by Collaborating Party Under this Agreement

If Data first produced by Collaborating Party or its Contributing 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.

9.1.3. 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).

9.1.4. 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.

9.1.5. Data Subject to Export Control

Whether or not marked, technical data subject to the export laws and regulations of the United States provided to Collaborating Party under this Agreement must not be given to foreign persons or transmitted outside the United States without proper U.S. Government authorization.

9.1.6 Copyright

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

a. 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.
b. Data without the indication of paragraph 9.1.6(a) is presumed to be first produced under this Agreement. Except as otherwise provided in paragraph 9.1.3. of this clause, and in the Inventions and Patent Rights clause of this Agreement for protection of reported inventions, it may be reproduced, distributed, and used to prepare derivative works for any purpose.

9.2. Intellectual Property Rights – Invention and Patent Rights

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

9.2.1. NASA has determined that section 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, except as provided herein.

10.0 RADIO FREQUENCY AUTHORIZATION

10.1 Compliance

The Parties agree that use of Radio Frequencies (RF) for any purpose such as the tracking and control of the spacecraft and for the transmission of information (data) to and from the spacecraft, or any other RF emitting devices, will be in accordance with all U.S. laws and regulations, and with the International Radio Regulations promulgated by the International Telecommunication Union (ITU). The Collaborating Party shall obtain radio frequency authorization from the Federal Communications Commission (FCC) in accordance with the Rules and Regulations, Title 47, of the Code of Federal Regulations.

11.0 REMOTE SENSING AUTHORIZATION

The Parties agree that use of CubeSats to remotely sense the Earth from space will be in accordance with all U.S. laws and regulations, and with the National Commercial Space Programs Act (51 U.S.C. § 60101). The Collaborating Party shall obtain remote sensing authorization from the National Oceanic and Atmospheric Administration Satellite and Information Services (NOAA/NESDIS) in accordance with the Rules and Regulations, 15 CFR Part 960, of the Code of Federal Regulations.

12.0 USE OF NASA NAME AND EMBLEMS

12.1. NASA Name and Initials

Collaborating Party 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 or Media" clause, Collaborating Party 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 Communications or designee ("NASA Communications") for review and approval. Approval by NASA Communications shall be based on applicable law and policy governing the use of the NASA name and initials.

12.2. NASA Emblems

Use of NASA emblems (*i.e.*, NASA Seal, NASA Insignia, NASA logotype, NASA Program Identifiers, and the NASA Flag) are governed by 14 C.F.R. Part 1221. The Collaborating Party must submit any proposed use of the emblems to NASA Communications for review and approval.

13.0 RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA

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

14.0 DISCLAIMERS

14.1. 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 right 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.

14.2. 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. Collaborating Party agrees that nothing in this Agreement will be construed to imply that NASA authorizes, supports, endorses, or sponsors any product or service of Collaborating Party resulting from activities conducted under this Agreement, regardless of the fact that such product or service may employ NASA-developed technology.

15.0 COMPLIANCE WITH LAWS AND REGULATIONS

A. The Collaborating Party 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 Collaborating Party 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 Collaborating Party 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. In the absence of available license exemptions or exceptions, the Collaborating Party 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 Collaborating Party shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of work 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 Collaborating Party will be responsible for all regulatory record-keeping requirements associated with the use of licenses and license exemptions or exceptions.
4. The Collaborating Party will be responsible for ensuring that the provisions of this Article apply to its Contributing Entities.

C. With respect to suspension and debarment requirements:

1. The Collaborating Party 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 Collaborating Party 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, Collaborating Party 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 Collaborating Party will ensure that the provisions of this Article apply to its Related Entities.

E. The Collaborating party hereby certifies that it is not China or a Chinese-owned company, and that the Collaborating party will not participate, collaborate, or coordinate bilaterally with China or any Chinese-owned company, at the prime recipient level or at any subrecipient level, whether the bilateral involvement is funded or performed under a no-exchange of funds arrangement. "China" or "Chinese-owned" means the People's Republic of China, any company owned by the People's Republic of China or any company incorporated under the laws of the People's Republic of China, including academic institutions.

F. Collaborating Party shall disclose to NASA if it intends to rely upon Russian entities for development of its CubeSat system. Collaborating Party shall not subcontract to Russian entities without first receiving written approval from NASA.

16.0 TERM

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 (5) five years from the effective date, whichever comes first.

17.0 TERMINATION

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

In the event the Collaborating Party unilaterally terminates, notice to NASA must explain in detail why the Collaborating Party is terminating and the research and STEM accomplishments to date for the project.

If the Collaborating Party fails to perform its obligations under this Agreement, NASA may terminate this Agreement for default providing Collaborating Party with written notice of such non-performance and a reasonable opportunity to cure.

In the event of termination by either party, any property or materials provided to NASA by Collaborating Party, or to the Collaborating Party by NASA, shall be returned to the Collaborating Party or NASA respectively.

Each Party will be solely responsible for all costs it has incurred under this Agreement through the effective date of termination.

18.0 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*., "Financial Obligations", "Liability", and "Intellectual Property Rights" shall survive such expiration or termination of this Agreement.

19.0 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		<Collaborating Party's name>	
Name:	Jeanie Hall	Name:	
Title:	Launch Services Program Executive	Title:	
E-mail:	jeanie.m.hall-1@nasa.gov	E-mail:	
Telephone:	(202) 358-1461	Telephone:	
Address:	NASA Headquarters 300 E Street S.W. Washington, DC 20546-0001	Address:	<Department Name if applicable> <Street Address> <City, State, 9-digit zip if avail>

Technical Points of Contact:

NASA		<Collaborating Party's name>	
Name:	Liam Cheney	Name:	
Title:	Mission Manager	Title:	
E-mail:	liam.j.cheney@nasa.gov	E-mail:	
Telephone:	(805) 588-0469	Telephone:	
Address:	NASA Mail Code: VA-C Kennedy Space Center, FL 32899	Address:	< Department Name if applicable > <Street Address> <City, State, 9-digit zip if avail>

20.0 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 Collaborating Party will consult and attempt to resolve all issues arising from the implementation of this Agreement. If they are unable to come to an 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 a 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.

21.0 TITLE TO PROPERTY AND SHIPPING

21.1. Title to Tangible Personal Property

All tangible personal property produced or acquired under this Agreement shall become the property of the Party that funded such production or acquisition. For any tangible personal property produced or acquired using joint funds, said tangible personal property shall become the property of the U.S. Government. Upon completion of the Cooperative Work performed under this Agreement, each Party shall take possession of its respective property, to the extent that it is accessible, and bear the costs of the removal and transportation to its own facility. Any disposal of property shall be in accordance with applicable Federal, State, and local requirements. The Parties agree that each CubeSat that has been launched pursuant to this Agreement shall be considered as having been destroyed and unrecoverable.

21.2. Shipping and Risk of Loss

Collaborating Party shall ship each CubeSat and any associated equipment, by carrier or other means of its own choosing, to NASA at Collaborating Party's own risk and expense to the NASA Integrator location as specified in the Statement of Work (Appendix A). Collaborating Party assumes risk of loss or damage to the same until NASA's integrator accepts delivery thereof.

22.0 INVESTIGATION OF MISHAPS AND CLOSE CALLS

In the case of a close call, mishap or mission failure, the Parties agree to provide assistance to each other in the conduct of any investigation. For all NASA mishaps or close calls, Collaborating Party agrees to comply with NPR 8621.1, "NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping".

23.0 MODIFICATIONS

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

24.0 ASSIGNMENT

Neither this Agreement nor any interest arising under it will be assigned by the Collaborating Party 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.

25.0 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.

26.0 INDEPENDENT RELATIONSHIP

This Agreement is not intended to constitute, create, give effect, 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.

27.0 LOAN OF GOVERNMENT PROPERTY

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

28.0 SIGNATORY AUTHORITY

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

Approval:

<Collaborating Party's name>

_____ _____

Signature Date

<Signatory Authority Name, Title, E-mail address>
<Institution's Name>
<Address>

National Aeronautics and Space Administration

_____ _____

Signature Date

Bradley Smith
Director, Launch Services
NASA Headquarters, 300 E Street S.W., Washington DC 20546-0001

APPENDIX A

STATEMENT OF WORK

1. BACKGROUND

Through the NASA CubeSat Launch Initiative, the NASA Launch Services Program (LSP) manifests CubeSats on U.S. Government and commercial launch vehicles to support the CubeSat community. A CubeSat is a type of space research nanosatellite; the base CubeSat dimension is approximately 10x10x11 centimeters (one "Unit" or "1U"). CubeSats typically range from one to twelve Units in volume. The Collaborating Party will work with both LSP and a Launch Service Integrator (Integrator) to perform the analytical/physical integration and launch of their CubeSat.

2. RESPONSIBILITIES AND MILESTONES

A. Collaborating Party will use reasonable efforts to perform the following tasks:

1. Collaborating Party shall provide a Primary Point of Contact for interfacing with NASA LSP. Collaborating Party should plan sufficient resources to interface with both the LSP and the Integrator during the CubeSat integration and launch campaign.

2. Collaborating Party shall comply with all mission-specific technical and safety requirements.

3. Collaborating Party shall provide to NASA and the Integrator evidence that demonstrates compliance with regulatory obligations regarding radio-frequency authorization. Specifically, the Collaborating Party shall provide: (1) A detailed technical description of the spacecraft, including description of its communications system; (2) a copy of the application for radio frequency license/authorization as submitted to the Federal Communications Commission (FCC); (3) a copy of the radio-frequency license/authorization when obtained; and (4) if amateur satellite service frequencies are employed, a copy of the International Amateur Radio Union (IARU) coordination letter, when obtained.

4. Collaborating Party shall provide to NASA and the Integrator documentation demonstrating compliance with regulatory obligations regarding the operations of space-based remote sensing systems. Specifically, if the Collaborating Party has a remote sensing system, they shall provide a copy of the National Oceanic and Atmospheric Administration (NOAA) commercial remote sensing license when obtained, or a determination letter from NOAA indicating that no license is required.

5. Collaborating Party shall prepare a comprehensive project status and present it at a Mission Readiness Review or Integration Readiness Review approximately one month prior to dispenser integration, per the mission specific schedule.

6. Collaborating Party shall deliver their CubeSat and any associated equipment to the domestic address specified by the Integrator for integration at approximately L-3 months, per the mission specific schedule.

7. Collaborating Party shall provide to NASA, no later than deployment plus nine months, a report that, based on the project proposal's selected Focus Areas, includes the Education outcomes, Technology Developed or Demonstrated, and/or Scientific Research resulting from their CubeSat Mission. Collaborating Party shall select and report on progress and accomplishments specific to their mission. Further details of what is expected for the Final Mission Report package can be found in the separate Attachment. It is the Collaborating Party's responsibility to determine the due date based on the deployment date and submit the package in the requested timeframe of 9 months.
    a. Education focused missions shall address education accomplishments, appropriate to their mission, in alignment with the NASA Education goals and objectives identified in the NASA Strategic Plan or other NASA strategic documents.
    b. Technology Development/Demonstration focused missions shall report on the technology goals or objectives identified in the NASA Strategic Plan or other NASA strategic documents, and the progress toward that goal made by their mission. Collaborating Party shall provide all technical performance data (relevant to proposed demonstration elements) collected during the mission.
    c. Scientific Research missions shall report on the scientific research goals or objectives identified in the NASA Strategic Plan or other NASA strategic documents, and the progress toward that goal made by the mission. Collaborating Party shall provide all scientific data collected during the mission.

B. NASA will use reasonable efforts to perform the following tasks:

1. Identify a launch opportunity for Collaborating Party's CubeSat and provide the planned launch date to Collaborating Party at approximately L-12 months.

2. Provide situational mentoring (including, but not limited to educational programs and workshops focused on systems design, systems engineering, program management, etc.) to the Collaborating Party in an effort to invest in the enhancement of research, academic and technology capabilities contributing toward building a diverse STEM workforce.

3. Provide an Integrator point of contact to Collaborating Party.

4. Point Collaborating Party to NASA science and technology resources that may be helpful to Collaborating Party's project.

5. Provide or facilitate provision of the mission-specific technical and safety requirements to Collaborating Party per the mission specific schedule.

6. Place the CubeSat in the orbit acceptable to Collaborating Party.

C. The Parties will use reasonable efforts to perform the following joint tasks:

1. Support analytical and physical integration of the CubeSat to the dispenser and onto the launch vehicle.

2. Support periodic mission integration teleconferences, as required.

3. Support integrated testing with the dispenser as required.

4. Conduct and support mission reviews, as required.

APPENDIX B

CROSS-WAIVER OF LIABILITY FOR LAUNCH AGREEMENTS FOR SCIENCE OR SPACE EXPLORATION ACTIVITIES UNRELATED TO THE INTERNATIONAL SPACE STATION (If necessary when the signing entity can't bind all students/faculty/administrators involved in the activity)

<Collaborating Party's name> herein agrees to be subject to the provisions of this cross-waiver clause, § 1266.104 *Cross-waiver of liability for launch agreements for science or space exploration activities unrelated to the International Space Station* for any activities related to the *<Agreement number from CRADA title page>* *<CubeSat mission name>* CubeSat launch Opportunities CRADA.

(a.) The purpose of this section is to implement a cross-waiver of liability between the parties to agreements for NASA's science or space exploration activities that are not related to the International Space Station (ISS) but involve a launch. It is intended that the cross-waiver of liability be broadly construed to achieve this objective.

(b.) For purposes of this section:

(1.) The term "Party" means a party to a NASA agreement for science or space exploration activities unrelated to the ISS that involve a launch.

(2.) (i) The term "related entity" means:

(A.) A contractor or subcontractor of a Party at any tier;
(B.) A user or customer of a Party at any tier; or
(C.) A contractor or subcontractor of a user or customer of a Party at any tier.

(ii.) The terms "contractor" and "subcontractor" include suppliers of any kind.

(iii.) The term "related entity" may also apply to a State or an agency or institution of a State, having the same relationship to a Party as described in paragraphs (b.)(2.)(i.)(A.) through (b.)(2.)(i.)(C.) of this section, or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph (b.)(6.) of this section.

(3.) The term "damage" means:

(i.) Bodily injury to, or other impairment of health of, or death of, any person;
(ii.) Damage to, loss of, or loss of use of any property;
(iii.) Loss of revenue or profits; or
(iv.) Other direct, indirect, or consequential damage.

(4.) The term “launch vehicle” means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.

(5.) The term “payload” means all property to be flown or used on or in a launch vehicle.

(6.) The term “Protected Space Operations” means all launch or transfer vehicle activities and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an agreement for launch services. Protected Space Operations begins at the signature of the agreement and ends when all activities done in implementation of the agreement are completed. It includes, but is not limited to:

(i) Research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer vehicles, payloads, or instruments, as well as related support equipment and facilities and services; and

(ii) All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services. The term “Protected Space Operations” excludes activities on Earth that are conducted on return from space to develop further a payload's product or process for use other than for the activities within the scope of an agreement for launch services.

(7.) The term “transfer vehicle” means any vehicle that operates in space and transfers payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A transfer vehicle also includes a vehicle that departs from and returns to the same location on a space object.

(c.)

(1.) Cross-waiver of liability: Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in paragraphs (c.)(1.)(i.) through (c.)(1.)(iv.) of this section based on damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims, against:

(i.) Another Party;
(ii.) A party to another NASA agreement that includes flight on the same launch vehicle;
(iii.) A related entity of any entity identified in paragraphs (c.)(1.)(i.) or (c.)(1.)(ii.) of this section; or
(iv.) The employees of any of the entities identified in paragraphs (c.)(1.)(i.) through (c.)(1.)(iii.) of this section.

(2.) In addition, each Party shall extend the cross-waiver of liability, as set forth in paragraph (c.)(1.) of this section, to its own related entities by requiring them, by contract or otherwise, to:

(i.) Waive all claims against the entities or persons identified in paragraphs (c.)(1.)(i.) through (c.)(1.)(iv.) of this section; and

(ii.) Require that their related entities waive all claims against the entities or persons identified in paragraphs (c.)(1.)(i.) through (c.)(1.)(iv.) of this section.

(3.) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(4.) Notwithstanding the other provisions of this section, this cross-waiver of liability shall not be applicable to:

(i) Claims between a Party and its own related entity or between its own related entities;
(ii) Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to the agreement or is otherwise bound by the terms of this cross-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 damages resulting from a failure of a Party to extend the cross-waiver of liability to its related entities, pursuant to paragraph (c.)(2.) of this section; or
(vi) Claims by a Party arising out of or relating to another Party's failure to perform its obligations under the agreement.

(5.) Nothing in this section shall be construed to create the basis for a claim or suit where none would otherwise exist.

(6.) This cross-waiver shall not be applicable when 51 U.S.C. Subtitle IX, Chapter 509 is applicable.

<Collaborating Party's name>

_____ _____

Signature Date

<Signatory Authority Name>
<Title>
<Address>

APPENDIX B

CROSS-WAIVER OF LIABILITY FOR AGREEMENTS FOR ACTIVITIES RELATED TO THE INTERNATIONAL SPACE STATION (If necessary when the signing entity can't bind all students/faculty/administrators involved in the activity)

<Collaborating Party's name> herein agrees to be subject to the provisions of this cross-waiver clause, § 1266.102 *Cross-waiver of liability for agreements for activities related to the International Space Station* for any activities related to the *<Agreement number from CRADA title page> <CubeSat mission name>*CubeSat launch Opportunities CRADA.

(c.) The objective of this section is to implement NASA's responsibility to flow down the cross-waiver liability in Article 16 of the IGA to its related entities in the interest of encouraging participation in the exploration, exploitation, and use of outer space through the International Space Station (ISS). The IGA declares the Partner States' intention that the cross-waiver of liability be broadly construed to achieve this objective.

(d.) For purposes of this section:

(8.) The term "Party" means a party to a NASA agreement involving activities in connection with the ISS.

(9.) (i) The term "related entity" means:

(A.) A contractor or subcontractor of a Party or a Partner State at any tier;
(B.) A user or customer of a Party or a Partner State at any tier; or
(C.) A contractor or subcontractor of a user or customer of a Party or a Partner State at any tier.

(iv.) The terms "contractor" and "subcontractor" include suppliers of any kind.

(v.) The term "related entity" may also apply to a State or an agency or institution of a State, having the same relationship to a Partner State as described in paragraphs (b.)(2.)(i.)(A.) through (b.)(2.)(i.)(C.) of this section, or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph (b.)(6.) of this section.

(10.) The term "damage" means:

(v.) Bodily injury to, or other impairment of health of, or death of, any person;

(vi.) Damage to, loss of, or loss of use of any property;

(vii.) Loss of revenue or profits; or

(viii.) Other direct, indirect, or consequential damage.

(11.) The term “launch vehicle” means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.

(12.) The term “payload” means all property to be flown or used on or in a launch vehicle or the ISS.

(13.) The term “Protected Space Operations” means all launch or transfer vehicle activities, ISS activities, and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of the IGA, MOUs concluded pursuant to the IGA, and implementing arrangements. It includes, but is not limited to:

(iii) Research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer vehicles, the ISS, payloads, or instruments, as well as related support equipment and facilities and services; and

(iv) All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services. “Protected Space Operations” also includes all activities related to evolution of the ISS, as provided in Article 14 of the IGA. “Protected Space Operations” excludes activities on Earth which are conducted on return from the ISS to develop further a payload's product or process for use other than for ISS-related activities in implementation of the IGA.

(14.) The term “transfer vehicle” means any vehicle that operates in space and transfers payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A transfer vehicle also includes a vehicle that departs from and returns to the same location on a space object.

(15.) The term “Partner State” includes each Contracting Party for which the IGA has entered into force, pursuant to Article 25 of the IGA or pursuant to any successor agreement. A Partner State includes its Cooperating Agency. It also includes any entity specified in the Memorandum of Understanding (MOU) between NASA and the Government of Japan to assist the Government of Japan’s Cooperating Agency in the implementation of that MOU.

(c.)

(7.) Cross-waiver of liability: Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in paragraphs (c.)(1.)(i.) through (c.)(1.)(iv.) of this section based on damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims, against:

(v.) Another Party;

(vi.) A Partner State other than the United States of America;

(vii.) A related entity of any entity identified in paragraphs (c.)(1.)(i.) or (c.)(1.)(ii.) of this section; or

(viii.) The employees of any of the entities identified in paragraphs (c.)(1.)(i.) through (c.)(1.)(iii.) of this section.

(8.) In addition, each Party shall, by contract or otherwise, extend the cross-waiver of liability, as set forth in paragraph (c.)(1.) of this section, to its own related entities by requiring them, by contract or otherwise, to:

(iii.) Waive all claims against the entities or persons identified in paragraphs (c.)(1.)(i.) through (c.)(1.)(iv.) of this section; and

(iv.) Require that their related entities waive all claims against the entities or persons identified in paragraphs (c.)(1.)(i.) through (c.)(1.)(iv.) of this section.

(9.) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(10.) Notwithstanding the other provisions of this section, this cross-waiver of liability shall not be applicable to:

(vii) Claims between a Party and its own related entity or between its own related entities;

(viii) Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to the agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;

(ix) Claims for damage caused by willful misconduct;

(x) Intellectual property claims;

(xi) Claims for damages resulting from a failure of a Party to extend the cross-waiver of liability to its related entities, pursuant to paragraph (c.)(2.) of this section; or

(xii) Claims by a Party arising out of or relating to another Party's failure to perform its obligations under the agreement.

(11.) Nothing in this section shall be construed to create the basis for a claim or suit where none would otherwise exist.

(12.) This cross-waiver shall not be applicable when 51 U.S.C. Subtitle IX, Chapter 509 is applicable.

<Collaborating Party's name>

_____ _____

Signature Date

<Signatory Authority Name>
<Title>
<Address>