

REIMBURSABLE SPACE ACT AGREEMENT  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
ARMSTRONG FLIGHT RESEARCH CENTER  
AND NORTHROP GRUMMAN SYSTEMS CORPORATION  
FOR SUPPORT OF FLIGHT RESEARCH RELATED TO AEROELASTICITY

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 Armstrong Flight Research Center, located at P.O. Box 273, Edwards, CA 93523 (hereinafter referred to as "NASA" or "NASA AFRC") and Northrop Grumman Systems Corporation, acting through its Aeronautics Systems sector Advanced Programs unit, located at One Space Park Drive, Redondo Beach, CA 90278 (hereinafter referred to as "Partner" or "NGSC"). NASA and Partner may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE AND IMPLEMENTATION

The "Purpose" of this Agreement (hereinafter referred to as the "Agreement") is to provide NGSC access to NASA's X-56 Multi-Utility Technology Testbed (MUTT) unmanned aircraft system (UAS), its subsystems, facilities, and equipment to conduct flight research related to aeroelasticity.

The X-56 (MUTT) unmanned aircraft was originally developed by the Air Force Research Laboratory (AFRL) for high risk aeroelastic flight demonstrations and the development of high performance lightweight aircraft technologies. This research effort included a joint collaboration between AFRL, Lockheed Martin Skunk Works (LMSW), and NASA Armstrong Flight Research Center (AFRC). LMSW developed control laws and completed multiple flight tests. In December 2016, the X-56 (MUTT) aircraft was transferred to NASA AFRC to operate under the Advanced Air Transport Technology (AATT) Project and Flight Demonstrations and Capabilities (FDC) Project of NASA's Aeronautics Research Mission Directorate. NASA AFRC continued flight research with the flexible wing set and NASA control laws. The nose and main landing gear were redesigned to provide a statically stable configuration for safe take-offs and landings. Flight aero models were updated after extensive ground vibration tests and moment of inertia tests were completed. The MUTT Ground Control Station (GCS) was relocated to the AFRC Simulation Laboratory to provide more room for the flight crew and improve human factor feature with the cockpit. NASA conducted the Phase 1 flights with the goal to demonstrate active suppression of flutter with the MUTT aircraft, including a statically unstable aircraft configuration.

In support of NGSC's flight-testing efforts, NASA resources may include, but are not limited to, the following:

- a) Flight ops engineering support,
- b) Project Management support,
- c) Crew chief, technician/mechanic support,
- d) Quality engineering support,
- e) Procurement support of hardware/software,
- f) Use of NASA assets,
- g) Associated travel and per diem required for examples above, and
- h) NASA to Government interface activities.

### ARTICLE 3. RESPONSIBILITIES

#### A. NASA AFRC will use reasonable efforts to:

1. Support ground test planning in conjunction with NGSC
2. Review and approve ground test plans for X-56B
3. Deliver X-56A Interface Control Document (ICD), including wing-mate connection ICD
4. Conduct X-56B wing fit-check, sensor system check-out, center-of-gravity check, document ballast options, and adjust landing gear to avoid tip back issues
5. Support Ground Test Execution
6. Conduct airworthiness and flight safety review process per NASA AFRC processes
7. Lead joint development, review, and approval of the flight test plans with NGSC in accordance with NASA flight test approval processes
8. Provide flight test team including project manager, engineers, and technicians to accomplish the flight test campaign
9. Provide NGSC and its contractor(s) access to NASA AFRC and the Edwards flight test range to the extent that is necessary to conduct the flight test of the X-56B MUTT UAS
10. Provide aircraft maintenance, instrumentation, and ground support including Petroleum, Oil, and Lubricant (POL) logistics
11. Provide configuration control of the X-56B MUTT UAS and ground control system (GCS) and provide flight termination system (FTS) configuration review, approval, and management through the established NASA AFRC configuration control processes prior to and during the flight test
12. Provide access to the X-56B aircraft model to NGSC and its contractor(s)
13. Provide flight data to NGSC and its contractor(s)
14. Lead X-56B flight test campaign execution
15. Coordinate with Frequency Management and Range, as required for the X-56B flight test campaign
16. Be responsible for all range and flight operations to accomplish the flight test campaign
17. Participate in post processing of flight test data

18. Electronically transfer all Foreground Technology as that term is defined in Article 9B below to Partner upon receipt and certify in writing to Partner that it has purged its files thereof
19. Provide the X-56A as-flown takeoff, landing, and baseline up-and-away controllers along with the Operational Flight Program (OFP) and Finite Element Model (FEM) to NGSC
20. Coordinate updates to flight simulator with NGSC models
21. Lead mishap investigations, as required
22. Provide project status to NGSC on a bi-monthly basis
23. Ship the wings back to NGSC at the conclusion of the flight testing
24. Provide the following representative, although not all-inclusive, resources:
  - i. Flight ops engineering support;
  - ii. Project Management support;
  - iii. Crew chief, technician/mechanic support;
  - iv. Quality engineering support;
  - v. Procurement support of hardware/software;
  - vi. Use of NASA assets,
  - vii. Associated travel and per diem required for examples above; and
  - viii. NASA to Government interface activities.

B. Partner will use reasonable efforts to:

1. Support ground test planning in conjunction with NASA
2. Provide ground test requirements document
3. Provide pre-flight data to NASA for airworthiness
4. Support ground test execution
5. Support airworthiness and flight safety review process per NASA AFRC processes
6. Support flight test planning in accordance with NASA flight test approval processes
7. Provide flight test requirements document to NASA
8. Support NASA flight test plan documentation
9. Participate in system safety and configuration control working groups
10. Complete updates to the X-56B takeoff, landing, and basic non-active-ASE control laws as necessary to account for the new wings
11. Support flight test execution
12. Provide subject matter experts for control room during real-time operation and flight test rehearsals

#### ARTICLE 4. SCHEDULE AND MILESTONES

The responsibilities specified in Article 3 will be performed on the following schedule.

X-56B Ground Test Planning	August-September 2019
X-56B Ground Test Execution	October - November 2019
X-56B Airworthiness Certification	January - March 2020
X-56B Flight Test Execution	April - July 2020

## ARTICLE 5. FINANCIAL OBLIGATIONS

- A. Partner shall make a \$1,500,000 advance payment to NASA prior to initiation of NASA's Article 3 "Responsibilities". The advance payment shall be scheduled to ensure that funds are resident with NASA before Federal obligations are incurred in support of work on behalf of the Partner.
- 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 [www.nssc.nasa.gov/customerservice](http://www.nssc.nasa.gov/customerservice) (select "Pay NASA" from the Quick Links to the left of the page); or
  - (3) Check. A check should be payable to NASA and sent to:
 

NASA Shared Services Center  
 FMD – Accounts Receivable For the Accounts of: Armstrong Flight  
 Research Center [At the time of payment, please indicate which NASA  
 Center for the Umbrella Agreement or Annex, as appropriate]  
 Building 1111  
 Jerry Hlass Rd.  
 Stennis Space Center, MS 39529
- C. 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.
- D. 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 by giving thirty (30) calendar days written notice IAW Article 17, "Right to Terminate," of this

Agreement, 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 [insert timeframe, cannot exceed one (1) year] after completion of all effort under this Agreement, and promptly thereafter return any unspent funds to Partner.

- E. 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. 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 AND RISK OF LOSS

- A. Partner hereby waives any claims against NASA, its employees, its Related Entities (i.e., contractor, subcontractor, grantee, or other entity having a legal relationship with NASA that is assigned, tasked, or contracted to perform activities under this Agreement), (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, Partner employees or the employees of Partner's 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, no matter how such injury, death, damage, or loss arises, except in the case of gross negligence or willful misconduct.
- 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, 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.

## ARTICLE 9. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

### 1. General

- a. "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.
- b. "Data" means recorded information, regardless of form, the media on which it is recorded, or the method of recording.
- c. "Flight Test Data" means any Data generated by or from the aircraft during flight tests at NASA AFRC, including but not limited to ground tests, taxi tests, actual flights, ASE modeling and simulation environment (including tools), Flight control system synthesis methodology, Flight Test data that quantifies NGSC's active-ASE flight control system performance, and Flight Test data for NGSC's internal control law real time monitoring (to protect NGSC's active-ASE flight control system design).
- d. "NASA Flight Test Data" means the Flight Test Data generated when NASA's controller is being used during aircraft take-off and landing.
- e. "Partner Flight Test Data" means the Flight Test Data generated during flight when Partner's controller is being used.
- f. "Proprietary Data" means Data embodying trade secrets 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 required by law or court order to be disclosed

Data exchanged under this Agreement is exchanged without restriction except if it is Proprietary Data or as otherwise provided herein.

Except as otherwise provided in this Agreement, the Parties are not restricted in the use, disclosure, or reproduction of Data provided under this Agreement that meets one of the exceptions in 9(1)(f)(i)-(iii) 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.

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

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.

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

Disclaimer of Liability: Except for Partner Flight Test Data, NASA is not restricted in, or liable for, the use, disclosure, or reproduction of Data without a restrictive notice or for Data Partner gives the U.S. Government without restriction.

Partner may use the following or a similar restrictive notice:

*Proprietary Data Notice*

*The data herein include Proprietary Data and are restricted under the Data Rights provisions of Space Act Agreement [provide applicable identifying information].*

Partner 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."

2. Data First Produced by Partner Under this Agreement
  - a. Non-Flight Test Data: If Data other than Partner Flight Test Data, is first produced by Partner or its Related Entities under this Agreement and is given to NASA, and the Data is Proprietary Data, and it includes a restrictive notice, NASA will use reasonable efforts to protect it from disclosure in accordance with 18 USC 1905. The Data will be disclosed and used (under suitable protective conditions) only within NASA for the Purpose of this Agreement. Proprietary Data shall not be copied or reproduced, except for such copies as may reasonably be required for this Agreement. If the Proprietary Data is copied or reproduced in whole or in part, the copy or reproduction shall carry the same marking as that which appears on the original.
  - b. Partner Flight Test Data: ALL PARTNER FLIGHT TEST DATA SHALL BE CONSIDERED DATA FIRST PRODUCED BY PARTNER, SHALL

BE CONSIDERED AS BEING MARKED WITH PARTNER'S RESTRICTIVE NOTICE, IS OWNED BY PARTNER, AND SHALL BE PARTNER PROPRIETARY DATA FROM THE MOMENT NASA COLLECTS THE SAME DESPITE THE FACT IT DOES NOT CONTAIN PARTNER'S RESTRICTIVE NOTICE. NASA shall protect all Partner Flight Test Data as Partner Proprietary Data in accordance with 18 USC 1905 and use the Partner Flight Test Data for airworthiness purposes only until the expiration or termination of this Agreement or completion of flight testing, whichever comes first, after which NASA will transfer all Partner Flight Test Data to Partner within 30 calendar days via NGSAFE or the NASA large file transfer system and subsequently and promptly certify in writing to Partner that it has destroyed all such Flight Test Data, including copies thereof. The above requirement to use the Partner Flight Test Data for airworthiness purposes only does not apply to the Data listed in Article 9(3)(b).

3. Data First Produced by NASA Under this Agreement

- a. If Partner requests that Data, other than Partner Flight Test 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 the Data with a restrictive notice and protect it for five years after its development. During this restrictive 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. The restrictions placed on NASA do not apply to Data disclosing a NASA-owned invention for which patent protection is being considered.
- b. Partner Flight Test Data identified below may be used by NASA solely to update aeroelastic models and publish the models in accordance with Article 9(4) below.
  - a. Flight test data describing closed-loop system response functions using non-proprietary Flight Control Systems
  - b. Flight test data derived open-loop system response functions.
  - c. Post-Flight test correlated aeroelastic model definition (as defined by Nastran and ZAERO input data definitions)

For absence of doubt, Data relating to the Partner's active control system shall be treated as Partner Proprietary Data under this Agreement.

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.

#### 5. 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 period of time (one (1) year unless otherwise agreed or the Data is restricted for a longer period herein).

#### 6. 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 6.1. is presumed to be first produced under this Agreement. Except as otherwise provided in paragraph 5. of this Article, and in the Inventions 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.

#### 7. Data Subject to Export Control

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.

#### 8. Handling of Background, Third Party and Controlled Government Data

- a. NASA or Partner (as disclosing Party) may provide the other Party or its Related Entities (as receiving Party):
  - i. Proprietary Data developed at the disclosing Party's expense outside of this Agreement (referred to as Background Data);
  - ii. Proprietary Data of third parties that the disclosing Party has agreed to protect or is required to protect under the Trade Secrets Act (18 U.S.C. § 1905) (referred to as Third Party Proprietary Data); and
  - iii. U.S. Government Data, including software and related Data, the disclosing Party intends to control (referred to as Controlled Government Data).
- b. All Background, Third Party Proprietary and Controlled Government Data provided by disclosing Party to receiving Party shall be marked by disclosing

Party with a restrictive notice and protected by receiving Party in accordance with this Article.

- c. Identification of Data:
  - i. All Background, Third Party Proprietary and Controlled Government Data provided by disclosing Party will be identified in separate document.
  - ii. NASA software and related Data provided to Partner shall be identified in a separate document. Software and related Data will be provided to Partner under a separate Software Usage Agreement (SUA). Partner shall use and protect the related Data in accordance with this Article. Unless the SUA authorizes retention, or Partner enters into a license under 37 C.F.R. Part 404, the related Data shall be disposed of as instructed by NASA.
- d. For such Data identified with a restrictive notice pursuant to 8.b, the receiving Party shall:
  - i. Use, disclose, or reproduce such Data only as necessary under this Agreement;
  - ii. Safeguard such Data from unauthorized use and disclosure;
  - iii. Allow access to such Data only to its employees and any Related Entity requiring access under this Agreement;
  - iv. Except as otherwise provided in this Agreement, preclude disclosure outside receiving Party's organization;
  - v. Notify its employees with access about their obligations under this Article and ensure their compliance, and notify any Related Entity with access about their obligations under this Article; and
  - vi. Dispose of such Data as disclosing Party directs.

## 9. Oral and visual information

If Partner discloses Proprietary Data orally or visually, NASA will have no duty to restrict, or liability for disclosure or use, unless Partner:  
Orally informs NASA at the time of disclosure that the Data is Proprietary Data, and  
Reduces the Data to tangible form with a restrictive notice and gives it to NASA within ten (10) calendar days after disclosure.

## ARTICLE 10. INTELLECTUAL PROPERTY RIGHTS - INVENTION AND PATENT RIGHTS

- A. "Related Entity" as used in this Agreement 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 11. USE OF NAMES AND EMBLEMS

### 1. NASA or Northrop Grumman Systems Corporation Names and Initials

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

### 2. NASA and the Northrop Grumman Systems Corporation Emblems

Use of NASA emblems or emblems belonging to the Northrop Grumman Corporation or Northrop Grumman Systems Corporation (i.e., NASA Seal, NASA Insignia, NASA logotype, NASA Program Identifiers, and the NASA Flag, Northrop Grumman, Northrop Grumman Corporation, Northrop Grumman Systems Corporation, NG logotype, Northrop Grumman Systems Corporation Seal or Insignia) is governed by 14 C.P.R. Part 1221 and Northrop Grumman Systems Corporation Command Media Policies and Procedures. Either Party must submit, in advance, any proposed use of the emblems to the other for review and approval.

ARTICLE 12. 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(e) authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that a copy of this Agreement will be disclosed, without redactions, in accordance with the NTAA.

ARTICLE 13. 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 14. 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 15. 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.

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. NASA agrees to notify the Partner in writing at least ninety (90) business days prior to utilizing foreign persons in activity(ies) in which the Partner will require the technical support of or the direct technical interchange with a foreign person employee or contractor of NASA.
3. 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.
4. The Partner will be responsible for all regulatory record-keeping requirements associated with the use of licenses and license exemptions or exceptions.
5. The Partner will be responsible for ensuring that the provisions of this Article apply to its Related Entities.

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.

## ARTICLE 16. 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 three years from the Effective Date, whichever comes first.

## ARTICLE 17. 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 termination, Partner will be obligated to reimburse NASA for all its costs which have been incurred in support this Agreement up to the date the termination notice was received by NASA. Where Partner terminates this Agreement, Partner will also be responsible for those costs which are incurred as a result of such termination.

## ARTICLE 18. CONTINUING OBLIGATIONS

The rights and obligations of the Parties that, by their nature, would continue beyond the expiration or termination of this Agreement, e.g., "Liability and Risk of Loss" and "Intellectual Property Rights"-related clauses, and "Financial Obligations," shall survive such expiration or termination of this Agreement.

## ARTICLE 19. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Agreement. Annexes may designate Points of Contact for purposes of the Annex activities.

### Management Points of Contact

NASA Armstrong Flight Research Center  
Patricia Ortiz  
Project Manager  
Mail Stop: PO BOX 273  
P.O. Box 273  
Edwards, CA 93523  
Phone: 6612763334  
Fax: n/a  
patricia.ortiz@nasa.gov

Northrop Grumman Systems Corporation  
Aerospace Systems sector  
George Rodgers  
Director Strike, Advanced Design  
One Hornet Way  
El Segundo, CA 90245-2804  
Phone: 3108137120  
Fax: n/a  
george.rodgers@ngc.com

## ARTICLE 20. 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 "Management Points of Contact." The persons identified as the "Management Points of Contact" for NASA and the Partner will consult and attempt to resolve all issues arising from the implementation of this Agreement. 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 administrative remedies. 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 21. INVESTIGATIONS 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, Partner agrees to comply with NPR 8621.1, "NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping".

#### ARTICLE 22. MODIFICATIONS

Any modification to this Umbrella 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. Notwithstanding the foregoing, Partner may assign this Agreement or any interest arising under it without consent to an entity (i) controlling, (ii) controlled by, or (iii) under common control with Partner.

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

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