## ANNEX NO. 5 BETWEEN

# THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER WALLOPS FLIGHT FACILITY

AND
ROCKET LAB USA
UNDER
SPACE ACT UMBRELLA AGREEMENT
GSFC-21-32608

#### ARTICLE 1. PURPOSE

This Annex shall be for the purpose of establishing safety certification of the operationally complete Rocket Lab USA Autonomous Flight Termination System (AFTS) consisting of NASA Autonomous Flight Termination Unit (NAFTU) software integrated onto Rocket Lab USA Hardware. Safety certification of the Rocket Lab AFTS is required before the Rocket Lab USA Electron Vehicle will be permitted to launch from the Wallops Flight Facility (WFF) Range.

## ARTICLE 2. RESPONSIBILITIES

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

1. Certify the operationally complete Rocket Lab USA integrated product of NAFTU software onto Rocket Lab USA hardware for the Rocket Lab USA Electron Vehicle, including assessing RCC 319 tailoring effort and compliance with FAA and NASA safety NASA will review the following documents (or documents of similar content) provided by Rocket Lab USA:

## Safety-critical Software Documentation Listing

System Software Documentation Software life Cycle Process Standard Software Assurance Standard Software Project Management Plan Human Factors Engineering Standard/Plan

## Software Development Documentation

Software configuration Management Plan Software Quality Assurance Plan Software Development Plan Software Design Documentation Software Coding Standards

# Requirements Documentation

Software Requirements Specification

### **Integration Requirements**

## **Selection Documentation**

Host Computer System Validation Power Up and Restart Safe State Conditions

Software Partitioning Methods

Communication Methods for Software (between partitions and with external links)

Programming Language Selection Assessment (if applicable)

Safety-Critical System Events

Identification of Critical Data Values

Software Metrics (Complexity, Size, etc.)

**COTS** Component Validation

NAFTU/RL HW ICD

NAFTU/RL HW Design

Updated Integrated Software/Hardware hazard analysis.

### Assessment IV&V) Documentation

Assessment (IV&V) Process Plan Evaluation Reports

**Anomaly Reports** 

## **Test Documentation**

Integrated Test Plan

**Integrated Test Procedures** 

**Integrated Test Report** 

## **Support Documentation**

User Documentation and Procedures Operations and Maintenance Plan

This certification process is defined as the compliance assessment, and if demonstrated, will provide sufficient evidence of Rocket Lab USA AFTS system satisfying Wallops Flight Facility range safety requirements.

- 2. In accordance with NASA Procedure and Guideline Directive No. 390-PG-8715.1.16\*, WFF Range Safety Manual 2019, and NASA 800-PG-8715.5.1, NASA will establish a safety certification team to assess compliance with NASA and FAA requirements and, if acceptable, certify all elements of the Rocket Labs USA AFTS
- \*Note NASA Procedure and Guideline Directive No. 390-PG-8715.1.16 is currently in the approval process. Compliance with NASA Procedure and Guideline Directive No. 390-PG-8715.1.16 is required for certification.
- B. Rocket Lab USA will use reasonable efforts to:
  - 1. Provide all necessary documentation referenced in A.1 above to NASA.

2. Provide access to all technical information, flight hardware, and data related to the operationally complete Rocket Lab USA AFTS system which may be necessary for certification.

### ARTICLE 3. SCHEDULE AND MILESTONES

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

integrated product of NAFTU software onto Rocket Lab USA hardware for the Rocket Lab USA Electron Vehicle, including assessing the RCC 319 tailoring effort and compliance with safety	NASA will complete its safety certification review 60 days from receipt of final documentation.
complete Rocket Lab USA integrated product of NAFTU Software onto Rocket Lab USA Hardware for the Rocket Lab USA Electron Vehicle to launch from the WFF Range, following Rocket Lab USA submission of all acceptable required documentation	NASA will provide notice of certification within 90 days following completion of safety certification review.

#### ARTICLE 4. FINANCIAL OBLIGATIONS

A. Rocket Lab USA agrees to reimburse NASA an estimated cost of \$100,000 for NASA to carry out its responsibilities under this Annex. Each payment shall be marked with GSFC-21-32608 Annex 5.

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

#### ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

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

#### ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or two years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

## ARTICLE 7. RIGHT TO TERMINATE

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

#### ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA Wallops Flight Facility

Derek Flowers Capture/FormulationManager 802/Advanced Projects Office Wallops Island, VA 23337 Phone: 757-824-1751

Phone: /5/-824-1/51 derek.j.flowers@nasa.gov ROCKET LAB USA

Shaun D'Mello Vice President, Launch 3881 McGowen Street Lakewood, CA 90712-3881 Phone: 714 465-5737

Phone: 714 465-5737 s.dmello@rocketlab.co.nz

## ARTICLE 9. MODIFICATIONS

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

# ARTICLE 10. SIGNATORY AUTHORITY

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

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WALLOPS FLIGHT FACILITY

**ROCKET LAB USA** 

DocuSigned by:

Peter Beck
Peter Beck
CEO