

MEMORANDUM OF AGREEMENT

AMONG

DEPARTMENT OF DEFENSE

FEDERAL AVIATION ADMINISTRATION

AND

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION:

ON

FEDERAL INTERACTION

WITH LAUNCH SITE OPERATORS

## I. PURPOSE

This Memorandum of Agreement (Agreement) explains the respective roles and responsibilities of the Department of Defense, the Federal Aviation Administration, and the National Aeronautics and Space Administration, in their interactions with launch site operators. Launch site operators may include state government agencies, state-chartered entities, state-sponsored entities and commercial entities. “Spaceport” is a popular term used to describe entities involved in launch-site-related activities. Some state government agencies, state-chartered entities, state-sponsored entities and other commercial entities call themselves spaceports.

## II. SCOPE

This Agreement applies to current and prospective FAA-licensed launch site operators on, or outside, federal installations. It does not apply to operation of a launch site performed as part of a federal space activity carried out by, or exclusively for, the federal government.

## III. DEFINITIONS

This section contains terms defined in 49 U.S.C. § 70102. They are: citizen of the United States, launch, launch property, launch services, launch site, launch vehicle, payload and person.

Additional terms used in this Agreement are defined as follows:

A. Commercial Launch Operator: Any person licensed to conduct a launch under 49 U.S.C. Subtitle IX, ch. 701.

B. Launch Site Operator: Any person who operates a launch site and offers use of a launch site on or outside a federal installation to launch operators other than itself, under a license issued by the FAA in accordance with 49 U.S.C. Subtitle IX, ch. 701 using facilities under its ownership or control.

C. Operation of a Launch Site: Consists of operation and maintenance of launch property, which must include at least one launch pad. In addition to a launch pad, operation of a launch site may also include operation and maintenance of any of the following launch systems and facilities built for or used in the preparation or launch of a launch vehicle, on or outside a federal installation, provided the property in question is owned or controlled by the launch site operator:

1. Processing facilities with associated test and checkout equipment (e.g., for payloads, launch vehicles, integration, etc.),
2. Range systems and facilities (e.g., telemetry receiving and processing; optical and/or radar tracking; command, control and communication; safety analysis, checkout and display, etc.),
3. Storage facilities (e.g., for flight hardware, tools, equipment, supplies, etc.), or
4. Launch infrastructure (e.g., production, storage, distribution, transfer systems and equipment for propellants and other commodities; utility systems; emergency response and fire protection capabilities; etc.).

#### IV. OBJECTIVES

Consistent with National Space Transportation Policy [Presidential Decision Directive/National Science and Technology Council-4 (PDD/NSTC-4)], National Space Policy (PDD/NSTC-8), and 49 U.S.C. § 70101 et seq., the agencies' objectives in entering into this Agreement are to:

- A. Facilitate and encourage access by the private sector and state and local governments to federal launch property and services which are excess or otherwise not needed for public use.
- B. Encourage commercial, state and local government investment and participation in the development and improvement of U.S. launch systems, infrastructure and facilities.
- C. Not preclude or deter commercial space sector activities, except for public safety or national security reasons.
- D. Provide stable and predictable access to appropriate space transportation-related hardware, facilities and services on a reimbursable basis.
- E. Encourage free market competition within the U.S. private sector by providing equality of opportunity for access to federal launch property and services for all elements of the U.S. commercial space sector.
- F. Consider the commercial availability, on reasonable terms and conditions, of substantially equivalent launch property or launch services (in terms of price, quality and schedule) from a domestic source before making federal launch property or launch services available for use by the U.S. commercial space sector.
- G. Provide use of launch property and launch services to the U.S. commercial space sector on a space available, non-interference basis with federal activities. Critical national security

or civil sector mission requirements may take precedence over commercial use of federal launch property and launch services.

H. Establish and maintain a customer-friendly interface with all U.S. commercial space sector users of federal launch property and launch services.

I. Continue to streamline and simplify federal involvement, approval processes and required documentation.

J. When feasible, seek to maintain continued efficient operation of ongoing, established commercial sector space activities using federal launch bases and ranges.

K. Minimize the regulatory burden on the U.S. commercial space sector by clearly delineating federal agency requirements and oversight responsibilities, thereby minimizing overlap and duplication.

## V. TERMS OF AGREEMENT

A. Environmental and Safety Compliance. DOD, FAA, NASA, in consultation with other agencies, as appropriate, will work together to develop an interagency agreement describing procedures to minimize duplication of environmental and safety requirements and compliance verification activities for launch site operators. It will include procedures for exchange of information on any changes that affect compliance issues.

1. Environmental Review. Regardless of whether operation of a launch site occurs on or outside a federal installation, federal environmental requirements apply. Examples include the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. § 4321 et seq.) and the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Parts 1500-1508).

2. Environmental Impact Analysis Process (EIAP).

a. Under this agreement, the lead federal agency is responsible for preparing and circulating environmental documentation to parties to this agreement that are acting as cooperating agencies. For purposes of Section V, a cooperating agency is defined in 40 CFR 1508.5. Under the CEQ Regulation, although launch site operators may provide environmental information to a federal agency for its consideration and use, an Environmental Impact Statement (EIS) must be prepared by the lead federal agency or a consultant selected by that agency. The lead federal agency may require a launch site operator to prepare initial environmental

documentation and/or provide necessary funds and information for the lead agency to prepare an Environmental Assessment (EA) with Finding of No Significant Impact (FONSI), if appropriate, and/or Draft and Final EIS and Record of Decision (ROD), with associated mitigation plans. The lead federal agency may also require a launch site operator to prepare documentation and/or provide necessary funds and information for the lead agency to process and obtain relevant environmental permits and otherwise demonstrate compliance with other environmental statutes, regulations, and Executive Orders and environmental commitments made in associated NEPA documents.

b. For operation of a launch site on a federal installation, the agency that owns the installation shall act as the lead agency. The FAA shall act as a cooperating agency in completing the EIAP. For operation of a launch site outside federal installations, the FAA shall act as the lead agency. Any federal agency that will provide property or services to the launch site operator may act as a cooperating agency in completing the EIAP. A federal cooperating agency shall be guided by 40 CFR 1506.3 in making determinations associated with an EA, FONSI, EIS, or ROD issued by the lead agency.

c. The lead agency shall ensure that parties to this agreement that may act as cooperating agencies are provided an opportunity for early involvement in the EIAP.

### 3. Environmental Compliance Verification.

a. The lead agency shall ensure that parties to this agreement that act as cooperating agencies are notified of any substantial changes to the proposed operation of the launch site and/or the environmental impacts of the operation of the launch site.

b. For operation of a launch site on a federal installation, the agency that owns the installation shall be the lead agency responsible for coordinating access to the installation for federal, state and local environmental regulatory agencies to verify compliance with environmental requirements. The owner agency also shall be responsible for ensuring operation of the launch site is consistent with the provisions of and the environmental commitments made in the associated NEPA documents.

c. For operation of a launch site outside a federal installation, the FAA shall act as the lead agency responsible for ensuring operation of the launch site is consistent with the provisions of and the environmental commitments made in the associated NEPA documents.

#### 4. Safety.

a. For operation of a launch site on a federal installation, the agency that owns the installation shall be responsible for establishing and ensuring the launch site operator's compliance with the installation's safety requirements. The FAA and any federal agency that provides property or services to the launch site operator shall accept the safety requirements of the lead agency.

b. For operation of a launch site outside a federal installation, the FAA shall be responsible for establishing and ensuring compliance with FAA safety requirements.

c. To minimize duplication, the FAA, DOD and NASA will work together to define respective roles, responsibilities and procedures for mishap investigations.

B. Licensing of Launch Site Operators. Unless otherwise determined by the FAA, "operation of a launch site," as defined in this Agreement, requires a license. The FAA will make a determination on whether a launch site operator license is required in accordance with 49 U.S.C. Subtitle IX, ch. 701. The FAA will make its determination taking into account the scope of the launch site operator's proposed activity. The FAA's safety review will acknowledge that the launch site operator must comply with federal safety requirements and compliance verification procedures specified by the lead federal agency. The licensing process will include a review to ensure that proposed activities are consistent with U.S. national security and foreign policy interests, using the established interagency review process.

#### C. Financial Responsibility and Allocation of Risk Requirements Applicable to Activities Conducted on a Federal Installation

1. Licensed Launch Activities. In accordance with 49 U.S.C. § 70112, the FAA determines appropriate levels of financial responsibility (e.g., insurance) applicable to licensed launch activities and allocates risks associated with those activities. For this purpose, federal property includes property of the government that is leased or assigned to, or in the care, custody and control of, a launch site operator.

a. The FAA's determination of financial responsibility requirements is based on the maximum probable loss (MPL) that would result from licensed launch activities up to a statutory ceiling of \$100 million for government property insurance and \$500 million for third-party liability insurance. A licensed launch operator is responsible for federal property

damage or loss, or liability of the federal government to non-launch participants, up to the amounts of required insurance.

b. Under 49 U.S.C. § 70112(b), the federal government waives claims for its property damage or loss resulting from licensed launch activities that exceed the amount of required government property insurance.

c. The liability insurance required as a condition of each launch license must cover claims against certain launch participants, including the licensee's contractors and subcontractors.

2. Licensed Operation of a Launch Site (Exclusive of Licensed Launch Activities).

For purposes of establishing financial responsibility requirements for a launch site operator, operation of a launch site does not include launch activities separately licensed by the FAA under 49 U.S.C. subtitle IX, ch. 701.

a. The federal government establishes requirements to protect itself, its agencies and personnel from liability, property loss or damage, death or injury resulting from operation of a launch site involving a federal facility or personnel. In accordance with 49 U.S.C. § 70112(e), the FAA ensures there is adequate protection against these risks to the federal government and may require assurances in addition to financial responsibility (e.g., insurance).

b. MPL-based financial responsibility requirements do not apply to the operation of a launch site unless the federal agency that owns the installation decides to apply them. Upon request of the cognizant federal agency, the FAA will perform an MPL analysis and provide the results to the requesting agency.

c. There is no federal statutory authority that provides for payment by the federal government of third-party claims resulting from operation of a launch site separate from licensed launch activities, nor can the Secretary of Transportation waive claims of another federal agency that generally makes facilities or equipment available for use by a launch site operator, unless used for a particular launch separately licensed by the FAA.

d. Statutory-based (49 U.S.C. § 70113) reciprocal waivers of claims are applicable only to parties involved in launch services for a licensed launch. While a launch site operator functioning as a contractor or subcontractor to a licensed launch operator and its customers may benefit from these waivers as required under a particular license, a launch site

operator remains responsible for damage or loss of federal property resulting from the operation of a launch site unless a cognizant federal agency otherwise agrees to waive property claims. The federal agency providing a launch site operator access to facilities or services may impose insurance or other financial responsibility requirements in the agreements under which access is granted.

e. A launch site operator remains free to obtain liability insurance or other financial protection in amounts consistent with its own business plan or enter into voluntary risk allocation schemes that it or its customers deem appropriate.

D. Federal Agency Pricing for Launch Property and Services. The price charged for the use of U.S. government facilities, equipment, and services will be based on the following principles:

1. Prices charged to U.S. private sector, state and local government space activities for the use of U.S. Government facilities, equipment and services will be based on costs consistent with Federal guidelines, applicable statutes and the commercial guidelines contained within National Space Policy. The U.S. government will not seek to recover design and development costs or investments associated with any existing facilities or new facilities required to meet U.S. government needs and to which the U.S. government retains title.

2. Consistent with mission requirements, NASA and DoD will seek to use consistent pricing practices for facilities, equipment and services.

E. Foreign Involvement in Operation of a Launch Site.

1. Foreign involvement in operation of a launch site could include development of U.S. launch infrastructure, use of foreign space launch vehicles, use of infrastructure support (test, processing, equipment, facilities, ranges, etc.), or use of launch site operator's technical services. Foreign involvement is subject to federal law, including, but not limited to:

- a. Arms Export Control Act (22 U.S.C. § 2778 et. seq.)
- b. Export Administration Act (50 U.S.C. app. § 2401 et. seq.)
- c. START, and
- d. Missile Technology Control Regime (MTCR)

2. Any project involving the exporting of information on U.S. launch infrastructure, the importing of foreign launch vehicles, the exporting of technical interface data



for U.S. launch processing systems or equipment, or the exchange of any technical information related to space launch vehicles requires review through existing interagency regulatory mechanisms and is subject to provisos resulting from that government review. Consistent with federal policy, the agencies will continue to oppose missile programs of proliferation concern and retain a presumption of denial against exports of complete space launch systems. Exports of MTCR items from an MTCR country may be allowed on a case-by-case basis for peaceful space launch programs.

3. All foreign launch systems, and any required site modifications at launch site operator facilities, are subject to all applicable requirements and compliance verification procedures imposed by the cognizant government agency. This includes any safety requirements that apply to the design and construction of ground systems or facilities, all ground operations, flight operations, flight termination system designs, and launch vehicle designs.

F. State Government-Related Launch Site Operators. Federal agencies will not distinguish among launch site operators on the basis of affiliation with any state. The federal government considers all launch site operators who are citizens of the United States to be elements of the U.S. commercial space sector for purposes of applying federal law and space policy.

G. Real Property. Any launch site operator planning to operate on a federal installation must have appropriate operations support agreements and real property instruments in place with the federal agency that owns the installation before beginning any activity, including: occupying facilities, beginning construction or modification activities, delivering hardware to the installation, or beginning any operations. Federal agencies will apply the same terms and conditions for use of excess launch property and launch services to launch site operators and commercial launch operators. Existing assignments of real property are not affected by this Agreement.

## VI. IMPLEMENTATION

DoD, FAA, and NASA should use this Agreement as a basis for written implementing procedures to carry out their respective responsibilities in interacting with launch site operators.

SIGNED:

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Paul G. Kaminski  
Under Secretary of Defense (Acquisition & Technology)

Date: \_\_\_\_\_

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Barry L. Valentine  
Acting Administrator, Federal Aviation Administration

Date: \_\_\_\_\_

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Daniel S. Goldin  
Administrator, National Aeronautics and Space Administration

Date: \_\_\_\_\_