

# Commercial Space Transportation License

License Number: LLO 01-058 Rev 4

## NORTHROP GRUMMAN SYSTEMS CORPORATION

is authorized, subject to the provisions of 51 U.S.C. Subtitle V, chapter 509, and the orders, rules, and regulations issued under it, to conduct launches.

**General.** Northrop Grumman Systems Corporation (NGSC) is authorized to conduct:

(i) Flights of Pegasus launch vehicles from Wallops Flight Facility (WFF), Wallops Island, Virginia; and

(ii) Pre-flight ground operations at WFF associated with the conduct of flights that require a Federal Aviation Administration License.

**This license is granted subject to the terms, conditions, and limitations set forth in licensing orders A and B, and any subsequent orders or other written stipulations, issued by the Office of Commercial Space Transportation, which are hereby incorporated by reference.**

**The licensee shall at all times conduct its operations in accordance with the regulations prescribed by the Office of Commercial Space Transportation for the activities authorized by this license.**



US Department  
of Transportation  
**Federal Aviation  
Administration**

800 Independence Ave., SW  
Washington, D.C. 20591

**Original Issued:** March 16, 2001

**Rev 4 Issued On:** June 14, 2023

**Rev 4 Effective On:** June 14, 2023

**MICHELLE S  
MURRAY**

Digitally signed by MICHELLE S  
MURRAY  
Date: 2023.06.14 12:12:23  
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**Michelle S. Murray, Manager  
Safety Authorization Division**

**LICENSE AND ORDERS REVISION HISTORY**

<b>Rev No.</b>	<b>Date</b>	<b>Section</b>	<b>Description</b>
<b>4</b>	<b>06/14/2023</b>	<b>Multiple</b>	<p>Revision 4 – Issued 6/14/2023</p> <ol style="list-style-type: none"> <li>1) Restructured license and orders to fit newest template.</li> <li>2) Renamed from “Orbital Sciences, LLC” to “Northrop Grumman Systems Corporation” in all instances.</li> <li>3) Updated the license expiration from “5 years from March 18, 2021” to March 9, 2026 because 14 CFR parts 415, 417, 431, and 435 will be removed from the Code of Federal Regulations on March 10, 2026.</li> </ol>
<b>3</b>	<b>03/16/2021</b>		<p>Revision 3 – Issued March 16, 2021</p> <ol style="list-style-type: none"> <li>1) Redesignated License Number LLO 01-058 (Rev 2) to LLO 01-058 (Rev 3).</li> <li>2) Changed “Rev 2 Effective: March 18, 2016” to “Rev 3 Effective: March 18, 2021”</li> <li>3) Changed “Orbital Sciences Corporation” to “Orbital Sciences, LLC”.</li> <li>4) Changed Division title of signee from “Manager, Licensing and Safety Division” to “Manager, Safety Authorization Division”.</li> </ol>
<b>2</b>	<b>03/22/2018</b>		<p>Revision 2 – Issued March 10, 2016</p> <ol style="list-style-type: none"> <li>1) Redesignated License Number LLO 01-058 (Rev 1) to LLO 01-058 (Rev 2).</li> <li>2) Changed “Rev 1 Issued On: March 11, 2011” to “Rev 2 Issued: March 10, 2016”</li> <li>3) Changed “Effective On: March 18, 2011” to “Rev 2 Effective: March 18, 2016”</li> <li>4) Changed Division title of signee from “Manager, Licensing and Safety Division” with “Manager, Licensing and Evaluation Division”.</li> </ol>
<b>1</b>	<b>03/11/2011</b>		<p>Revision 1 – Issued March 11, 2011</p> <ol style="list-style-type: none"> <li>1) Due to transfer of code, redesignated Authority to read: “51 USC, Subtitle V, ch. 509”.</li> <li>2) Replaced “Associate Administrator for” with “Office of” prior to all the name Commercial Space Transportation.</li> <li>3) Removed “on flight azimuths and transporting classes of payloads to orbital destinations” as the words are unnecessary. These conditions are specified in the License Order No. LLO 01-058B.</li> <li>4) Removed “commercial space” preceding “launches” in first paragraph, and preceding “flights” in second paragraph.</li> <li>5) Redesignated License No. LLO-058 to LLO 01-058 (Rev 1)</li> </ol>

## OFFICE OF COMMERCIAL SPACE TRANSPORTATION LICENSE ORDER REGARDING

### LAUNCH

AUTHORIZED BY LICENSE NO. LLO 01-058 Rev 4  
ISSUED TO

### NORTHROP GRUMMAN SYSTEMS CORPORATION

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1. **Authority:** This Order is issued to Northrop Grumman Systems Corporation, referred to as NGSC, under 51 U.S.C. Subtitle V, chapter 509, and 14 CFR chapter III.
2. **Purpose:** This Order modifies License No. LLO 01-058 Rev 4 issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation (FAA), authorizing NGSC to conduct launches of its Pegasus launch vehicle as identified in the license application; and prescribes as conditions to License No. LLO 01-058 Rev 4 certain requirements applicable to the launch.
3. **Definitions:** For purposes of License No. LLO 01-058 Rev 4 and any orders issued by the Office pertaining to activities covered by License No. LLO 01-058 Rev 4:
  - a) "Launch" means (i) flight and (ii) pre-flight ground operations, as defined in this section.
  - b) "Flight" means flight of Pegasus launch vehicle utilizing the L-1011 carrier aircraft to orbital destinations, on Pegasus flight azimuths as specified in License Order No. LLO 01-058B issued concurrently by the office. Flight commences upon take-off of the L-1011 carrier aircraft from WFF for carrier aircraft flight to designated release areas for the purpose of releasing a Pegasus launch vehicle. Flight ends upon safing of the Pegasus launch vehicle stages or components that reach earth orbit following separation of the payload from the Pegasus launch vehicle or upon wheels stopping after landing of the L-1011 carrier aircraft at WFF, whichever occurs later.
  - c) "Pre-flight ground operations" mean orbital's operations at WFF associated with the conduct of any flights requiring an FAA license, beginning with the arrival of the launch vehicle at WFF.
  - d) For purposes of License No. LLO 01-058, "take-off" of the L-1011 carrier aircraft is deemed to commence upon roll forward of the carrier aircraft immediately following removal of the Pegasus safe and arm pins.

4. **Authorization:**

a) NGSC is authorized to conduct flights:

- 1) Using Standard Pegasus, Standard Pegasus with Hydrazine Auxiliary Propulsion System (HAPS), Pegasus XL and Pegasus XL with HAPS launch vehicles, in combination with the L-1011 aircraft that must hold a valid FAA airworthiness certificate and must operate in accordance with the operating limitations of that certificate and the applicable sections of 14 C.F. R. Part 91;
- 2) From WFF, Wallops Island, Virginia;
- 3) On Pegasus flight azimuths from 53 to 127 degrees, inclusive;
- 4) Transporting (i) U.S. Government payloads to any orbit, and (ii) communications, remote sensing and scientific research, and Celestis payloads designed to operate in low earth orbit (specifically, apogees less than 3,000 nautical miles and perigees between 100 and 500 nautical miles); and
- 5) According to the launch vehicle, launch vehicle systems, and equipment designs and the safety management program including organization, personnel, functions and procedures represented or referenced in the NGSC application as of the date of this order, and any modifications to the license application approved by the office, in writing.

b) NGSC is authorized to conduct pre-flight ground operations at WFF associated with the conduct of any flights for which an FAA license is required, beginning with the arrival of the Orbital L-1011 with Pegasus launch vehicle attached at WFF.

5. **License Term:** License No. LLO 01-058 Rev-4 terminates on March 9, 2026.

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**OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

**Issued On:** June 14, 2023

**Effective On:** June 14, 2023

## OFFICE OF COMMERCIAL SPACE TRANSPORTATION LICENSE ORDER REGARDING

### FINANCIAL RESPONSIBILITY REQUIREMENTS

UNDER LICENSE NO. LLO 01-058 Rev 4  
ISSUED TO

### NORTHROP GRUMMAN SYSTEMS CORPORATION

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1. **Authority:** This Order is issued to Northrop Grumman Systems Corporation, referred to as NGSC, under 51 U.S.C. Subtitle V, chapter 509, and 14 CFR part 440.
2. **Purpose:** This Order modifies License No. LLO 01-058 Rev 4 issued on March 16, 2001, by the Federal Aviation Administration's Office of Commercial Space Transportation (Office), by prescribing financial responsibility requirements for licensed launch activities in accordance with 14 CFR part 440.
3. **Definitions:** For purposes of this Order, "licensed launch activities" shall mean activities authorized by the License. Other terms used in this Order are defined in accordance with 14 CFR § 440.3.
4. **Liability Insurance:** NGSC shall maintain a policy or policies of liability insurance in accordance with 14 CFR § 440.9(b) in the amount of:
  - a. Liability insurance in the amount of Forty-Three Million, Five Hundred Thousand Dollars (\$43,500,000) for covered claims resulting from a flight commencing upon take-off of the L-1011 carrier aircraft from WFF, Wallops Island, VA; and
  - b. Liability insurance in the amount of Ten Million Dollars (\$10,000,000) for covered claims resulting from pre-flight ground operations performed at WFF.
5. **Government Property Insurance:** NGSC shall maintain a policy or policies of insurance in accordance with 14 CFR § 440.9(d) in the amount of:
  - a. Insurance in the amount of the One Million Dollars (\$1,000,000) for covered property claims resulting from a flight, commencing upon take-off of the L-1011 carrier aircraft from WFF; and
  - b. Insurance in the amount of One Million Dollars (\$1,000,000) for covered property claims resulting from pre-flight ground operations performed at WFF

6. **Covered government property** includes all property owned, leased, or occupied by, or within the care, custody, or control of, the United States and its agencies, and its contractors and subcontractors involved in licensed launch activities at WFF.

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**OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
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