

# Commercial Space Transportation License

License Number: LLO 14-091 Rev 5

## 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:

- (a) Flights of Antares Configuration 230+ launch vehicles from Pad 0A at Wallops Flight Facility (WFF) transporting Cygnus Visiting Vehicles and specified secondary payloads to low Earth orbit; and
- (b) Pre-flight ground operations at WFF associated with the flights identified in paragraph (a) of this license, of Antares Configuration 230+ launch vehicles.

**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:** June 12, 2014

**Rev 5 Issued On:** July 13, 2023

**Rev 5 Effective On:** July 13, 2023

**MICHELLE S  
MURRAY**

**Michelle S. Murray, Manager  
Safety Authorization Division**

Digitally signed by MICHELLE S  
MURRAY  
Date: 2023.07.13 18:00:00  
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**LICENSE AND ORDERS REVISION HISTORY**

Rev No.	Date	Section	Description									
5	07/13/2023	Multiple	<p>Revision 5 – Issued 07/13/2023</p> <p>1) Restructured license and orders to fit newest template.</p> <p>2) Renamed from “Orbital Sciences, LLC” to “Northrop Grumman Systems Corporation” in all instances.</p> <p>3) In Order B, revised the MPL amounts as follows:</p> <table><tr><th>Loss Category</th><th>Pre-flight MPL</th><th>Flight MPL</th></tr><tr><td>US Govt Property Total</td><td><del>\$5,000,000</del> \$20,000,000</td><td><del>\$44,000,000</del> \$20,000,000</td></tr><tr><td>Third Party Total</td><td><del>\$9,000,000</del> \$8,000,000</td><td><del>\$90,000,000</del> \$38,000,000</td></tr></table>	Loss Category	Pre-flight MPL	Flight MPL	US Govt Property Total	<del>\$5,000,000</del> \$20,000,000	<del>\$44,000,000</del> \$20,000,000	Third Party Total	<del>\$9,000,000</del> \$8,000,000	<del>\$90,000,000</del> \$38,000,000
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4	09/15/2020		<p>Revision 4 – Issued September 15, 2020</p> <p>1) Administrative name change from Orbital Sciences Corporation to Orbital Sciences LLC</p>									
3	06/07/2019		<p>Revision 3 – Issued June 7, 2019</p> <p>1) Changed Antares launch vehicle configuration from 230 to 230+.</p>									
2	09/28/2016		<p>Revision 2 – Issued September 28, 2016</p> <p>1) Added “and secondary payloads” to low Earth orbit.</p>									
1	04/11/2016		<p>Revision 1 – Issued April 11, 2016</p> <p>1) Changed Antares launch vehicle configuration from 130 to 230.</p>									

## OFFICE OF COMMERCIAL SPACE TRANSPORTATION LICENSE ORDER REGARDING

### LAUNCH

AUTHORIZED BY LICENSE NO. LLO 14-091 Rev 5  
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 14-091 Rev 5 issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation (FAA), authorizing NGSC to conduct launches of its Antares Configuration 230+ launch vehicles as identified in the license application; and prescribes as conditions to License No. LLO 14-091 Rev 5 certain requirements applicable to the launch.
3. **Definitions:** For purposes of License No. LLO 14-091 Rev 5 and any orders issued by the Office pertaining to activities covered by License No. LLO 14-091 Rev 5:
  - a) "Launch" means (i) flight and (ii) pre-flight ground operations, as defined in this section.
  - b) "Flight" means flight of Antares Configuration 230+ launch commencing with ignition of the first stage from Wallops Flight Facility (WFF) for the purposes of transporting a Cygnus Visiting Vehicle and any secondary payloads to low Earth orbit. A flight is concluded upon Orbital's last exercise of control over the Antares Configuration 230+ launch vehicle, including the safing of Antares Configuration 230+ launch vehicle stages or components that reach Earth orbit following separation of the payloads.
  - c) "Pre-flight ground operations" mean NGSC'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.
4. **Authorization:**
  - a) NGSC is authorized to conduct the flights
    - i) Using Antares Configuration 230+ launch vehicles;
    - ii) From Wallops Flight Facility (WFF), Virginia;

- iii) On the ground track and trajectory presented in the license application;
  - iv) Transporting to low Earth orbit Cygnus Visiting Vehicles and specified secondary payloads;  
and
  - v) According to the launch vehicle, launch vehicle systems, and safety management program represented in the Orbital application as of the date of this order, and any amendments to the license application approved by the FAA, in writing.
- b) NGSC is authorized to conduct pre-flight ground operations at WFF associated with the launches of the Cygnus Visiting Vehicles on Antares Configuration 230+ launch vehicles.
5. **Special Reporting Requirements:** In addition to all applicable reporting requirements under 14 C.F.R. Ch. III, NGSC must identify any anomaly occurring prior to an Antares launch that could be material to public safety and notify the FAA no less than 30 days before any flight conducted under this license, unless the requirement of 14 C.F.R. § 417.25(a) had already been satisfied.
6. **License Term:** The term of License No. LLO 14-091 is five (5) years from September 15, 2020.

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

**Issued On:** July 13, 2023  
**Effective On:** July 13, 2023

## OFFICE OF COMMERCIAL SPACE TRANSPORTATION LICENSE ORDER REGARDING

### FINANCIAL RESPONSIBILITY REQUIREMENTS

UNDER LICENSE NO. LLO 14-091 Rev 5  
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 14-091 Rev 5 issued on July 13, 2023, 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 Thirty-Eight Million Dollars (\$38,000,000) for covered claims resulting from flight of the Antares Configuration 230+ launch vehicle from Wallops Flight Facility (WFF).
  - (b) Liability insurance in the amount of Eight Million Dollars (\$8,000,000) for covered claims resulting from pre-flight 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 Twenty Million Dollars (\$20,000,000) for covered claims resulting from flight of the Antares Configuration 230+ launch vehicle from WFF.
  - (b) Insurance in the amount of Twenty Million Dollars (\$20,000,000) for covered claims resulting from pre-flight 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  
FEDERAL AVIATION ADMINISTRATION**

**Issued On:** July 13, 2023

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