

Commercial Space Transportation License

License Number: LLO 18-105 (Rev 2)

SPACE EXPLORATION TECHNOLOGIES

is authorized, subject to the provisions of 51 USC Subtitle V, ch. 509, and the orders, rules, and regulations issued under it, to conduct launches.

General. Space Exploration Technologies is authorized to conduct:

(i) Flights of Falcon 9 launch vehicles from Launch Complex 40 at Cape Canaveral Air Force Station (CCAFS), each transporting a payload to a low Earth or geosynchronous transfer orbit; and

(ii) pre-flight ground operations at CCAFS involving the Falcon 9 launch vehicles associated with the conduct of any 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, B, C, and D and any subsequent orders issued by the Office of Commercial Space Transportation.

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., S.W.
Washington, D.C. 20591

Original Issued: January 19, 2018
Rev 2 Issued: November 8, 2019
Rev 2 Effective: November 8, 2019

A handwritten signature in black ink that reads "Kenneth Wong".

Manager, Licensing and Evaluation Division

Revision History:

Original License - Issued January 19, 2018

Revision 1 - Issued May 9, 2019

- 1) Paragraph (i) added low Earth orbit and changed communications satellite to payload.

Revision 2 - Issued November 8, 2019

- 1) Paragraph (ii) removed condition that pre-flight ground operations is specifically associated with the flights in Paragraph (i) and replaced with the following: "pre-flight ground operations at CCAFS involving the Falcon 9 launch vehicles associated with the conduct of any flights that require a Federal Aviation Administration license."

License Order No. LLO 18-105A (Rev 1)

OFFICE OF
COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

LAUNCH

AUTHORIZED BY LICENSE NO. LLO 18-105
ISSUED TO

SPACE EXPLORATION TECHNOLOGIES

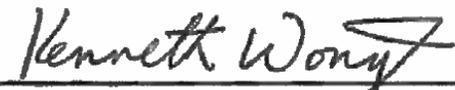
1. Authority: This Order is issued to Space Exploration Technologies, referred to as SpaceX, under 51 U.S.C. subtitle V, chapter 509, and 14 C.F.R. Ch. III.
2. Purpose: This Order modifies License No. LLO 18-105 originally issued on January 19, 2018, by the Federal Aviation Administration's Office of Commercial Space Transportation, authorizing SpaceX to conduct launches of Falcon 9 launch vehicles; and prescribes as conditions to License No. LLO 18-105 certain requirements applicable to the launches.
3. Definitions: For purposes of License No. LLO 18-105 and any orders issued by the FAA pertaining to activities covered by License No. LLO 18-105:
 - (i) "Flight" shall mean the flight of a Falcon 9 launch vehicle, commencing with ignition of the first stage from Cape Canaveral Air Force Station (CCAFS) and transporting a payload to a low Earth or geosynchronous transfer orbit. Flight includes fly back of the Falcon 9 first stage for landing as indicated in the license application. A flight is concluded upon SpaceX's last exercise of control over the Falcon 9 vehicle, including the safing of the Falcon 9 vehicle stages or components that reach Earth orbit, following separation of the payload.
 - (ii) "Pre-flight ground operations" shall mean SpaceX's pre-flight preparations of the Falcon 9 launch vehicle at CCAFS, beginning with the arrival of the Falcon 9 vehicle at CCAFS.
4. Special Reporting Requirements: In addition to all

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applicable reporting requirements under 14 C.F.R. Ch. III, SpaceX must identify any anomaly occurring on a prior Falcon 9 launch that could be material to public safety no later than 15 days before any flight conducted under this license, unless the requirement of 14 C.F.R. § 417.25(a) has already been satisfied.

5. License Term: The term of License No. LLO 18-105 authorizing SpaceX to conduct launches is five (5) years from January 19, 2018.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: 
Kenneth Wong, Manager
Licensing and Evaluation Division

Original Issued: January 19, 2018
Rev 1 Issued: May 9, 2019
Rev 1 Effective: May 9, 2019

Revision History:

Original License - Issued January 19, 2018

Revision 1 - Issued May 9, 2019

- 1) Paragraph (2) replaced "issued concurrently" with "originally issued on January 19, 2018"
- 2) Paragraph (3)(i) added low Earth orbit, changed communications satellite to payload, and replaced "on a droneship or splashdown in the ocean" with "as indicated in the license application"
- 3) Paragraph (5) changed "effective date of this license order" to "January 19, 2018"

License Order No. LLO 18-105B (Rev 4)

OFFICE OF
COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

FLIGHT

AUTHORIZED BY LICENSE NO. LLO 18-105
ISSUED TO

SPACE EXPLORATION TECHNOLOGIES

1. Authority: This Order is issued to Space Exploration Technologies, referred to as SpaceX, under 51 U.S.C. subtitle V, chapter 509, and 14 C.F.R. Ch. III.
2. Purpose: This Order modifies License No. LLO 18-105 originally issued on January 19, 2018, by the Federal Aviation Administration's Office of Commercial Space Transportation, authorizing SpaceX to conduct launches of Falcon 9 launch vehicles; and prescribes as conditions to License No. LLO 18-105 certain requirements applicable to the authorization to conduct the flights of these launch vehicles.
3. Authorization: SpaceX is authorized to conduct flights of launch vehicles:
 - (a) Using a Falcon 9 launch vehicle;
 - (b) From Launch Complex 40 at Cape Canaveral Air Force Station, Florida;
 - (c) On a nominal launch azimuth of 39 degrees or 43 to 44 degrees, for missions to low Earth orbit or 90 degrees for missions to geosynchronous transfer orbit, or 154 degrees for the SAOCOM-1B mission;
 - (d) Transporting a Dragon capsule to low Earth orbit for NASA CRS missions or a payload to a low Earth or geosynchronous transfer orbit; and

License Order No. LLO 18-105B (Rev 3)

- (e) According to the launch vehicle, launch vehicle systems, and safety management program represented in the SpaceX application as of the date of this order, and any amendments to the license application approved by the FAA, in writing.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: _____
Daniel Murray, Manager
Safety Authorization Division

Original Issued: January 19, 2018
Rev 4 Issued: August 24, 2020
Rev 4 Effective: August 24, 2020

Revision History:

Original License - Issued January 19, 2018

Revision 1 - Issued May 9, 2019

- 1) Paragraph (2) replaced "issued concurrently" with "originally issued on January 19, 2018"
- 2) Paragraph (3)(c) added nominal launch azimuth of 39.3 degrees for missions to low Earth orbit.
- 3) Paragraph (3)(d) replaced "communications satellite" with "payload" and added low Earth orbit.

Revision 2 - Issued November 8, 2019

- 1) Paragraph (3)(c) added nominal launch azimuths of 43 and 44 degrees for missions to low earth orbit.

Revision 3 - Issued November 15, 2019

- 1) Paragraph (3)(d) added Dragon capsule for NASA CRS missions to low Earth orbit.

Revision 4 - **Issued August 24, 2020**

- 1) Paragraph (3)(c) added nominal launch azimuth of 154 degrees for the SAOCOM-1B mission.

License Order No. LLO 18-105C (Rev 1)

OFFICE OF
COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

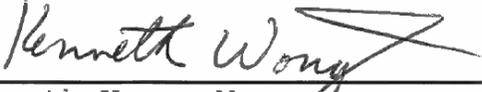
PRE-FLIGHT GROUND OPERATIONS

AUTHORIZED BY LICENSE NO. LLO 18-105
ISSUED TO

SPACE EXPLORATION TECHNOLOGIES

1. Authority: This Order is issued to Space Exploration Technologies, referred to as SpaceX, under 51 U.S.C. subtitle V, chapter 509, and 14 C.F.R. Ch. III.
2. Purpose: This Order modifies License No. LLO 18-105 originally issued on January 19, 2018, by the Federal Aviation Administration's Office of Commercial Space Transportation, authorizing SpaceX to conduct launches of Falcon 9 launch vehicles; and prescribes as conditions to License No. LLO 18-105 certain requirements applicable to the authorization to conduct pre-flight ground operations.
3. Authorization: SpaceX is authorized to conduct pre-flight ground operations at Cape Canaveral Air Force Station (CCAFS) associated with launches of Falcon 9 launch vehicles.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: 
Kenneth Wong, Manager
Licensing and Evaluation Division

Original Issued: January 19, 2018
Rev 1 Issued: May 9, 2019
Rev 1 Effective: May 9, 2019

Revision History:

Original License - Issued January 19, 2018

Revision 1 - Issued May 9, 2019

1) Paragraph (2) replaced "issued concurrently" with "originally issued on January 19, 2018"

2) Paragraph (3)(c) removed "communications satellites to a geosynchronous transfer orbit
on"

OFFICE OF
COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

FINANCIAL RESPONSIBILITY REQUIREMENTS

Under License No. LLO 18-105
Issued to

SPACE EXPLORATION TECHNOLOGIES

1. Authority: This Order is issued to Space Exploration Technologies, referred to as SpaceX, under 51 U.S.C. Subtitle V, chapter 509, and 14 C.F.R. part 440.
2. Purpose: This Order modifies License No. LLO 18-105 issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation, by prescribing financial responsibility requirements for licensed launch activities in accordance with 14 C.F.R. 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 C.F.R. § 440.3.
4. Liability Insurance: SpaceX shall maintain a policy or policies of liability insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R. § 440.9(b) in the amount of:
 - (a) Eighty-Six Million Dollars (\$86,000,000) for covered claims resulting from flight of the Falcon 9 launch vehicle from Cape Canaveral Air Force Station (CCAFS) for geosynchronous transfer orbit (GTO) and low Earth orbit missions (LEO), or One Hundred Eighty Million Dollars (\$180,000,000) for the SAOCOM 1B mission, or Sixty-Eight Million Dollars (\$68,000,000) for Falcon 9 NASA CRS missions if the flight does not include first stage return to land (LZ-1), or One Hundred Sixty Million Dollars (\$160,000,000) for Falcon 9 NASA CRS missions if the flight includes a first stage return to land (LZ-1), and

License Order No. LLO 18-105D (Rev 4)

- (b) Twelve Million Dollars (\$12,000,000) for covered claims resulting from pre-flight operations performed at CCAFS.
5. Government Property Insurance: SpaceX shall maintain a policy or policies of insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R § 440.9(d) in the amount of:
- (a) One Hundred Million Dollars (\$100,000,000) for covered claims resulting from flight of the Falcon 9 launch vehicle from CCAFS for the SAOCOM-1B mission or GTO or LEO missions, or Ninety-Two Million Dollars (\$92,000,000) for Falcon 9 NASA CRS missions, and
- (b) Forty-Three Million Dollars (\$43,000,000) for covered claims resulting from pre-flight operations performed at CCAFS.
6. Covered 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 CCAFS.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: _____
Daniel Murray, Manager
Safety Authorization Division

Original Issued: January 19, 2018
Rev 4 Issued: August 24, 2020
Rev 4 Effective: August 24, 2020

Revision History:

Original License - Issued January 19, 2018

Revision 1 - Issued November 15, 2019

- 1) Paragraph (4) (a) added Sixty-Eight Million Dollars (\$68,000,000) for Falcon 9 NASA CRS missions if no first stage return to land (LZ-1) and One Hundred Sixty Million Dollars (\$160,000,000) for Falcon 9 NASA CRS missions if flight includes first stage return to land (LZ-1).
- 2) Paragraph (5) (a) added Ninety-Two Million Dollars (\$92,000,000) for Falcon 9 NASA CRS missions.

Revision 4 - **Issued August 24, 2020**

- 1) Paragraph (4)(a) added One Hundred Eighty Million Dollars (\$180,000,000) for the SAOCOM 1B mission.
- 2) Paragraph (5)(a) added the SAOCOM 1B mission.