

# Commercial Space Transportation License

License Number: LRLO 16-092 (Rev 1)

**VIRGIN  
GALACTIC, LLC**

is authorized, subject to the provisions of 51 USC Subtitle V, ch. 509, and the orders, rules, and regulations issued under it, to conduct suborbital reusable launch vehicle (RLV) missions.

**General.** Virgin Galactic, LLC is authorized to conduct RLV missions to launch SpaceShipTwo (SS2) utilizing WhiteKnightTwo (WK2). The RLV missions authorized by this license commence and conclude at either Mojave Air and Space Port or Spaceport America.

This license is granted subject to the terms, conditions, and limitations set forth in licensing orders A, B, C, 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.



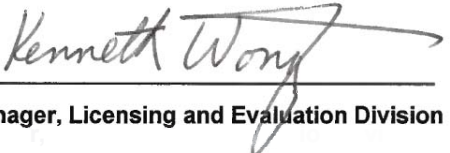
US Department  
of Transportation  
**Federal Aviation  
Administration**

800 Independence Ave., S.W.  
Washington, D.C. 20591

**Original Issued:** [Publish Date]

**Rev 1 Issued:** October 24, 2017

**Rev 1 Effective:** October 24, 2017

  
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Manager, Licensing and Evaluation Division

**Revision History:**

Original License – Issued July 29, 2016

Revision 1 – Issued October 24, 2017

- 1) Under General: Replaced “The RLV missions authorized by this license commence and conclude at Mojave Air and Space Port” with “The RLV missions authorized by this license commence and conclude at either Mojave Air and Space Port or Spaceport America”
- 2) Changed “Issued: July 29, 2016” to “Original Issued: July 29, 2016” and added “Rev 1 Issued: October 24, 2017”
- 3) Changed “Effective: July 29, 2016” to “Rev 1 Effective: October 24, 2017”

OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
LICENSE ORDER REGARDING

**REUSABLE LAUNCH VEHICLE (RLV) MISSIONS**

AUTHORIZED BY LICENSE NO. LRLO 16-092  
ISSUED TO

VIRGIN GALACTIC, LLC

1. Authority: This Order is issued to Virgin Galactic, LLC (referred to as VG) under 51 U.S.C. subtitle V, chapter 509, and 14 C.F.R. Ch. III.
2. Purpose: This Order modifies License No. LRLO 16-092 originally issued July 29, 2016, by the Federal Aviation Administration's Office of Commercial Space Transportation, authorizing VG to conduct suborbital RLV missions to launch the SpaceShipTwo (SS2) reusable launch vehicle utilizing the WhiteKnightTwo (WK2) carrier aircraft; and prescribes as conditions to License No. LRLO 16-092 certain requirements applicable to those missions.
3. Definitions: For purposes of License No. LRLO 16-092 and any orders issued by the FAA pertaining to activities covered by License No. LRLO 16-092:
  - (a) "Launch" means pre-flight ground operations, flight, and activities after flight necessary to return SS2 and WK2 to a safe condition. Launch ends after vehicle or vehicle impact or landing on Earth, after activities necessary to return the vehicle or vehicle to a safe condition on the ground after impact or landing, or after activities necessary to return the site to a safe condition, whichever occurs latest.
  - (b) "Pre-flight ground operations" involve VG's pre-flight preparations of SS2 and WK2 at Mojave Air and Space Port or Spaceport America".
  - (c) "Flight" means flight of SS2 commencing upon take-off of WK2 from either Mojave Air and Space Port or Spaceport America with the intent to launch SS2. Flight ends after vehicle or vehicle impact or landing on Earth. For a landing of either WK2 or SS2, flight ends upon wheels stopping. For a flight of WK2 that

License Order No. LRLO 16-092A (Rev 4)

does not land and come to a complete stop, flight and launch end when WK2 impacts Earth and any subsequent operation is subject to Title 49.

4. License Term: The term of License No. LRLO 16-092 authorizing VG to conduct RLV missions is two (2) years from July 29, 2022.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By: MICHELLE S MURRAY Digitally signed by MICHELLE S MURRAY  
Date: 2022.07.26 22:00:33 -04'00'  
Michelle S. Murray, Manager  
Safety Authorization Division, ASA-100

Original Issued: [Publish Date]  
Rev 4 Issued: July 26, 2022  
Rev 4 Effective: July 29, 2022

**Revision History:**

Original License - Issued July 29, 2016

Revision 1 - Issued October 24, 2017

- 1) In paragraph 2, replaced "License No. LRLO 16-092 issued concurrently" with License No. LRLO 16-092 originally issued July 29, 2016"
- 2) In paragraph 3(b) added "or Spaceport America"
- 3) In paragraph 3(c), replaced "Flight means flight of SS2 commencing upon take-off of WK2 from Mojave Air and Space Port with the intent to launch SS2" with "Flight means flight of SS2 commencing upon take-off of WK2 from either Mojave Air and Space Port or Spaceport America with the intent to launch SS2." In paragraph 3(c), replaced "For SS2 and WK2, flight ends upon wheels stopping after landing" with "For SS2 and WK2, flight ends upon wheels stopping after landing at the site where flight began."
- 4) Changed "Issued on: July 29, 2016" to "Original Issued: July 29, 2016" and added "Rev 1 Issued: October 24, 2017"
- 5) Changed "Effective On: July 29, 2016" to "Rev 1 Effective: October 24, 2017"
- 6) Note: References to License LRLO 16-092 are valid for any subsequent revision.

Revision 2 - Issued July 26, 2018

- 1) Changed "Rev 1 Issued: October 24, 2017" to "Rev 2 Issued: July 26, 2018"

- 2) Changed "Rev 1 Effective: October 24, 2017" to "Rev 2 Effective: July 29, 2018"
- 3) In paragraph 4, changed July 29, 2016 to July 29, 2018.

Revision 3 - Issued July 24, 2020

- 1) In paragraph 3(a), replaced "Launch" means pre-flight ground operations, flight, and activities after flight necessary to return SS2 and WK2 to a safe condition. "Launch" means pre-flight ground operations, flight, and activities after flight necessary to return SS2 and WK2 to a safe condition. Launch ends after vehicle or vehicle impact or landing on Earth, after activities necessary to return the vehicle or vehicle to a safe condition on the ground after impact or landing, or after activities necessary to return the site to a safe condition, whichever occurs latest.
- 2) In paragraph 3(c), replaced "For SS2 flight ends upon wheels stopping after landing." "Flight ends after vehicle or vehicle impact or landing on Earth. For a landing of either WK2 or SS2, flight ends upon wheels stopping. For a flight of WK2 that does not land and come to a complete stop, flight and launch end when WK2 impacts Earth and any subsequent operation is subject to Title 49.
- 3) Changed "Rev 2 Effective: July 29, 2018" to "Rev 3 Effective: July 29, 2020"
- 4) In paragraph 4, changed July 29, 2020 to July 29, 2022.

Revision 4 - Issued July 24, 2022

- 1) Changed "Rev 3 Effective: July 29, 2020" to "Rev 4 Effective: July 29, 2022"
- 2) In paragraph 4, changed July 29, 2020 to July 29, 2022.

**License Order No. LRLO 16-092B (Rev 3)**

OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
LICENSE ORDER REGARDING

**FLIGHT**

AUTHORIZED BY LICENSE NO. LRLO 16-092  
ISSUED TO

VIRGIN GALACTIC, LLC

1. Authority: This Order is issued to Virgin Galactic (referred to as VG), under 51 U.S.C. subtitle V, chapter 509, and 14 C.F.R. Ch. III.
2. Purpose: This Order modifies License No. LRLO 16-092 issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation, authorizing VG to conduct suborbital RLV missions to launch the SpaceShipTwo (SS2) reusable launch vehicle utilizing the WhiteKnightTwo (WK2) carrier aircraft; and prescribes as conditions to License No. LRLO 16-092 certain requirements applicable to the authorization to conduct flights.
3. Authorization: VG is authorized to conduct flights:
  - (a) Using SS2, in combination with the WK2 carrier aircraft that must hold a valid FAA experimental 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;
  - (b) From Mojave Air and Space Port, California, and Spaceport America, New Mexico;
  - (c) Transporting non-deployed scientific, experimental, or inert payloads;
  - (d) According to the launch vehicle, launch vehicle systems, flight profiles, and safety management program represented in the VG application as of the date of this order, and any amendments to the license application approved by the FAA, in writing.

4. Responsibility and Authority of SS2 Pilot In Command:

- (a) Prior to flight, VG must designate the pilot in command of the SS2 vehicle who is directly responsible for, and is the final authority as to, the operation of that vehicle.
- (b) In an in-flight emergency requiring immediate action, the pilot in command may deviate from any requirement of this License and Order to the extent required to meet that emergency.
- (c) Each pilot in command who deviates from a requirement of this License and Order must, upon request, send a written report of that deviation to the FAA's Licensing and Evaluation Division Manager.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By: JAMES R  
REPCHECK  
Randy Repcheck, Manager  
Safety Authorization Division

 Digitally signed by JAMES R  
REPCHECK  
Date: 2021.06.24 15:42:01 -04'00'

Originally Issued On: July 29, 2016  
Rev 3 Issued On: June 24, 2021  
Effective On: June 24, 2021

**Order No. LRLO 16-092B (Rev 3)**

Revision History:

Original License - Issued July 29, 2016+

Revision 1 - Issued September 8, 2016

- 1) In paragraph 3(d), replaced "flight profile (Kelso Valley trajectory)" with "flight profiles"
- 2) Changed "Issued on: July 29, 2016" to "Original Issued On: July 29, 2016" and added "Rev 1 Issued On: September 8, 2016"
- 3) Changed "Effective On: July 29, 2016" to "Rev 1 Effective On: September 8, 2016"

Revision 2 - Issued October 18, 2017

- 1) In paragraph 3(b) added "and Spaceport America."
- 2) Removed "Rev 1 Issued On: September 8, 2016" and added "Rev 2 Issued On: October 18, 2017"
- 3) Removed "Rev 1 Effective On: September 8, 2016" and added "Rev 2 Issued On: October 18, 2017. Note: References to License LRLO 16-092 are valid for any subsequent revision."
- 4) Removed paragraph 6.
- 5) Note: References to License LRLO 16-092 are valid for any subsequent revision.

Revision 3 - Issued June 24, 2021

- 1) Removed paragraph 5, "Space Flight Participant Restriction".



OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
LICENSE ORDER REGARDING

**FINANCIAL RESPONSIBILITY REQUIREMENTS**

UNDER LICENSE NO. LRLO 16-092  
ISSUED TO

VIRGIN GALACTIC, LLC

1. Authority: This Order is issued to Virgin Galactic (referred to as VG), under 51 U.S.C. Subtitle V, chapter 509, and 14 C.F.R. part 440.
2. Purpose: This Order modifies License No. LRLO 16-092 originally issued July 29, 2016, 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: VG 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 following amounts:
  - (a) Forty-Five Million Dollars (\$45,000,000) for covered claims resulting from a flight, commencing upon take-off of the WhiteKnightTwo carrier aircraft from Mojave Air and Space Port and Thirty-Six Million Dollars (\$36,000,000), from Spaceport America.
  - (b) Three Million Dollars (\$3,000,000) for covered claims resulting from pre-flight ground operations performed at Mojave Air and Space Port and Spaceport America.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By: Kenneth Wong  
Kenneth Wong, Manager  
Licensing and Evaluation Division

Original Issued: September 8, 2016  
Rev 1 Issued: October 24, 2017  
Rev 1 Effective: October 24, 2017

**Revision History:**

Original License - Issued July 29, 2016

Revision 1 - Issued October 24, 2017

- 1) In paragraph 4(a) added "and Thirty-Six Million Dollars (\$36,000,000), from Spaceport America" and in paragraph 4(b) added "and Spaceport America"
- 2) Changed "Issued on: September 8, 2016" to "Original Issued: September 8, 2016" and added "Rev 1 Issued: October 24, 2017"
- 3) Changed "Effective On: September 8, 2016" to "Rev 1 Effective: October 24, 2017"
- 4) Note: References to License LRLO 16-092 are valid for any subsequent revision.