# Commercial Space Transportation License

License Number: LRLO 16-092

**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 Mojave Air and Space Port.

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

Issued On: July 29, 2016

Effective On: July 29, 2016

Kenneth Wong

Manager, Licensing and Evaluation Division

**License Order No. LRLO 16-092A**

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 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 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.

   (b) "Pre-flight ground operations" involve VG's pre-flight preparations of SS2 and WK2 at Mojave Air and Space Port.

   (c) "Flight" means flight of SS2 commencing upon take-off of WK2 from Mojave Air and Space Port with the intent to launch SS2. For SS2 and WK2, flight ends upon wheels stopping after landing.

4. License Term: The term of License No. LRLO 16-092 authorizing VG to conduct RLV missions is two (2) years from July 29, 2016.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: Kenneth Wong

Kenneth Wong, Manager
Licensing and Evaluation Division

Issued On: July 29, 2016
Effective On: July 29, 2016

**License Order No. LRLO 16-092B (Rev 1)**

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 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 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;

   (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.

5. Space Flight Participant Restriction: VG must successfully verify the integrated performance of the SS2/WK2 vehicle hardware and any software in an operational flight environment before allowing any space flight participant on board during a flight. Verification must include flight testing, and the results must be provided to the FAA prior to conducting a mission with a space flight participant on board.

6. Envelope Expansion Flight Restriction: No less than one week from an envelope expansion flight, VG must provide the FAA verification evidence of ground propulsion system envelope expansion test results and any newly derived Pass/Fail criteria with updated hazard reports.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: Kenneth Wong

Kenneth Wong, Manager
Licensing and Evaluation Division

Original Issued: July 29, 2016
Rev 1 Issued On: September 8, 2016
Rev 1 Effective On: September 8, 2016

**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"

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 on 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.

   (b) Three Million Dollars ($3,000,000) for covered claims resulting from pre-flight ground operations performed at Mojave Air and Space Port.

**License Order No. LRLO 16-092C**

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: Kenneth Wong

Kenneth Wong, Manager
Licensing and Evaluation Division

Issued On: September 8, 2016
Effective On: September 8, 2016