

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO

EDGE OF SPACE SCIENCES INC. (EOSS)

ADDRESS

Russell Chadwick  
4371 North 63<sup>rd</sup> Street  
Boulder, Colorado 80301  
Phone: (W) (303) 497-6318 (H) (303) 530-0228  
Email: Russell.B.Chadwick@noaa.gov

This certificate is issued for the operations specifically described here. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in the certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

- Operation:** Unmanned balloon launches for research purposes.
- Launch sites:** Listed below or as coordinated with ATC.  
Fatton Ranch - Windsor, CO, Gill VOR (GLL) 250° radial at 19 nautical miles (nm) (GLL250019),  
Latitude 40°28' 25.20" N, Longitude 104° 57' 44.40" W  
Deer Trail - Deer Trail, CO Falcon VOR (FQF) 087° radial at 27 nm (FQF087027)  
Latitude 39°36'57" N, Longitude 104°02'47.82" W  
Crow Valley - Briggsdale, CO Gill VOR (GLL) 035° radial at 13 nm,  
Latitude 40°38' 45.00" N, Longitude 104° 20' 18.00" W
- Maximum altitude:** 100,000 feet above mean sea level (MSL).
- Balloon position will be in near real time at [www.wxqa.com/cgi-bin/balon1.cgi](http://www.wxqa.com/cgi-bin/balon1.cgi) or [www.eoss.org/scgi-bin/balon1.cgi](http://www.eoss.org/scgi-bin/balon1.cgi).
- Balloon launch carrying up to a 25 pound string of experiments. Balloon will burst, then package parachute descent for approximately 45 minutes to the surface.
- Times:** 1300 - 2200 UTC or as coordinated with ATC.

WAIVED REGULATIONS BY SECTION AND TITLE

14 CFR 101.33 (b), (c) Operating Limitation; 101.35 (a) (3) Equipment and marking requirements.

STANDARD PROVISIONS

- This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Administration, or any State or municipal official charged with the duty of enforcing laws or regulations.
- The holder of this certificate will be responsible for the strict observance of the terms and provisions contained here.
- This certificate is nontransferable.

NOTE. - This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State or local ordinance.

SPECIAL PROVISIONS

Special Provisions Nos. 1 to 6, inclusive, are set forth on page two.

This certificate is effective on February 21, 2009 through December 31, 2009, subject to cancellation at any time upon notice by the Administrator or his authorized representative.

Western Service Center  
(REGION)

January 22, 2009  
(DATE)

BY DIRECTION OF THE ADMINISTRATOR

  
for Clark Desing  
(SIGNATURE)

Manager, Operations Support Group  
(TITLE)

**EDGE of SPACE SCIENCES, Inc. (EOSS)  
SPECIAL PROVISIONS**

1. Authority to deviate from the Federal Aviation Regulations (FAR) is limited to specific regulations shown on the Certificate of Waiver. All other applicable FARs must be fully complied with.
2. **You must make the following notifications to concerned facilities as listed below:** [NOTE: The notification information listed below is necessary for ATC to advise known aircraft (aircraft Denver Air Route Traffic Control Center (ARTCC) is in communication with) of the balloon and payload location. It does not alleviate EOSS's responsibility to ensure safety to unknown aircraft, persons or their property.]
  - a. **Seven (7) days in advance of the launch:** Contact Denver ARTCC Traffic Management Unit (TMU), (303) 651-4252. Provide your pre-launch notice.
  - b. **Seven (7) days in advance of the launch:** Contact Denver ARTCC Airspace and Procedures Office, either by telephone (303) 651-4532 or fax (303) 651-4220. Provide your pre-launch notice.
  - c. **Twenty-four (24) hours in advance of the launch:** Contact Denver Terminal RADAR Approach Control (DEN TRACON), telephone (303) 342-1590. Provide your pre-launch notice.
  - d. **Between 12 and 72 hours prior to conducting operations:** Contact the Prescott Automated Flight Service Station (AFSS) national NOTAM telephone number at (877) 487-6867. Ask to issue a Notice to Airman (NOTAM), referencing this waiver. Contact Denver ARTCC Airspace and Procedures Office, either by telephone (303) 651-4532 or fax (303) 651-4220. Provide the most current forecast trajectory.
  - e. **Between 30 to 120 minutes prior to conducting operations:** Call Denver ARTCC at (303) 651-4252, to advise of forecast trajectory.
  - f. **Between 30 to 120 minutes prior to conducting operations:** Call Denver TRACON at (303) 342-1590, to advise of forecast trajectory.
  - g. **Fifteen minutes prior to launch:** Call Denver ARTCC TMU, (303) 651-4252 to ensure the cell phone used at the site is working and able to send and receive phone calls.
  - h. **As requested by Denver ARTCC and Denver TRACON:** Provide launch information, en route position reports and "on deck" reports. Advise Denver ARTCC when the balloon has burst or when the balloon is being cut down.
  - i. **Prior to issuing the cut down command:** In the event an unplanned early termination of flight occurs, call Denver ARTCC, telephone (303) 651-4252, to coordinate the optimum time for cut down, to avoid possible conflict with high traffic volume and known aircraft.
  - j. **When operations have ended:** Advise Denver ARTCC at (303) 651-4252, Denver TRACON at (303) 342-1590 when the balloon has landed. Call Prescott AFSS at (877) 487-6867, ask to cancel the NOTAM.
3. Provide the following information to each facility upon **initial** notification:
  - a. Verify the launch location.
  - b. Time of launch and duration of activity.
  - c. Ascent rate, direction, speed, altitude of operation, package separation information and estimated impact location.
  - d. Telemetry monitoring capabilities. Position updates via established internet site are required for each descent package (give separate position reports). Verify the website: [www.wxqa.com/cgi-bin/balon1.cgi](http://www.wxqa.com/cgi-bin/balon1.cgi) and [www.eoss.org/scgi-bin/balon1.cgi](http://www.eoss.org/scgi-bin/balon1.cgi).
  - e. Means of establishing contact with launch site (cellular or satellite phone number).
  - f. Capability to advise the FAA when all launched objects have returned to earth.
4. Safety spotters must scan the airspace within 5 miles of the launch site to ascertain the area is clear of aircraft and will remain clear of aircraft during balloon package launch operation.
5. All operations will be conducted in accordance with the holder's safety rules and codes.
6. The holder must be responsible for safeguarding persons and property on the ground and must ensure all persons connected with the operation are familiar with the waiver and the above special provisions.