



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Western Service Area

1601 Lind Avenue SW
Renton, Washington 98057

JAN 12 2017

Edge of Space Sciences, Inc.
ATTN: Russell Chadwick
4371 North 63rd Street
Boulder, Colorado 80301

Dear Mr. Chadwick:

Enclosed is your Federal Aviation Administration (FAA) Form 7711-1, Certificate of Waiver or Authorization (WSA-1702-BAL), issued in response to your application/request to operate unmanned balloon launches/flights up to 115,000 feet Mean Sea Level near Denver, Colorado. The certificate is effective from February 18, 2017, through December 31, 2017, and your compliance with the enclosed special provisions is required when conducting operations specified by the certificate.

If you intend to request renewal of this waiver and/or file a new and separate application, please forward application documents electronically to 9-ATO-WSA-OSG-Part101@faa.gov or submit hard-copy documents to FAA, Western Service Center, Operations Support Group, 1601 Lind Ave. SW, Renton, WA 98057, no fewer than 45 days prior to the event date. Along with your FAA Form 7711-2, *Application for Certificate of Waiver or Authorization*, please include a map clearly depicting the site, as well as a copy of this certificate if requesting renewal.

If you have questions, please contact Rob Riedl, Support Specialist, Western Service Center, Operations Support Group at 425-203-4534 / email: robert.riedl@faa.gov.

Sincerely,

Tracey Johnson
Manager, Operations Support Group
Western Service Center

Enclosure

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO

Edge of Space Sciences, Inc. (EOSS) / Russell B. Chadwick, Vice President

ADDRESS

4371 North 63rd Street, Boulder, CO 80301 / 303-530-0228 / russell.b.chadwick@gmail.com and ...@noaa.gov

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

OPERATIONS AUTHORIZED

Activity: Up to 14 unmanned free balloon launches, in compliance with 14 CFR Part 101, to test atmospheric measuring equipment. Balloon, attachments, and payload must be equipped IAW 14 CFR Part 101.35 (b).
Max. Altitude: 115,000 feet Mean Sea Level (MSL)
Location: Five (5) potential launch sites – see special provisions and attached map/table of launch sites
Time: Official sunrise to sunset applicable to launch site (daylight hours only)
Date/s: 2/18/2017 - 12/31/2017

COA: WSA-1702-BAL

(cc: Prescott AFSS, ZDV, D01)

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

14 CFR 101.35 Equipment and marking requirements (a)(3) ...radar reflective devices...

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached to and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. 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 law or local ordinance

SPECIAL PROVISIONS

Special Provisions Nos. 1 to 7, inclusive, are set forth on the reverse side hereof.

This certificate is effective from February 18, 2017 to December 31, 2017, inclusive, and is subject to cancellation at any time upon notice by the Administrator or his authorized representative.

BY DIRECTION OF THE ADMINISTRATOR

Western Service Area

(Region)


(Signature)

1/12/17

(Date)

Tracey Johnson, Manager,
Operations Support Group (AJV-W2), WSC

(Title)

WSA-1702-BAL SPECIAL PROVISIONS

Prepared for and applicable to:

Edge of Space Sciences, Inc. (EOSS)

(POC: Russell Chadwick, Vice President)

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 Air Traffic Control (ATC) to advise known aircraft of 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:** Provide pre-launch notice to the following:
 - (1) Denver Air Route Traffic Control Center (ARTCC) Traffic Management Unit (TMU) at 303-651-4252
 - (2) Denver ARTCC Airspace and Procedures Office at 303-651-4532 and/or email michelle.flores@faa.gov
 - (3) Denver Terminal Radar Approach Control (TRACON), Airspace and Procedures Office at 303-342-1546 and/or email william.m.dunn@faa.gov
 - b. **Twenty-four (24) hours in advance of the launch:** Contact Denver TRACON Airspace and Procedures Office at 303-342-1546. If unable to reach William Dunn, contact Denver TRACON at 303-342-1590. Provide your pre-launch notice.
 - c. **Between 12 and 72 hours prior to conducting operations:** Contact Prescott Automated Flight Service Station (AFSS) at 877-487-6867 and ask to issue a Notice to Airmen (NOTAM) referencing this waiver.
 - d. **Between 12 and 72 hours prior to launch:** Provide current forecast trajectory to:
 - (1) Denver ARTCC Airspace and Procedures Office at 303-651-4532 and/or email michelle.flores@faa.gov
 - (2) Denver Terminal Radar Approach Control (TRACON), Airspace and Procedures Office at 303-342-1546 and/or email william.m.dunn@faa.gov
 - e. **Between 30 minutes and two (2) hours prior to conducting operations:** Call Denver ARTCC at 303-651-4252 and Denver TRACON at 303-342-1590 to advise them of the forecast trajectory.

- f. **Fifteen (15) minutes prior to launch:** Call Denver ARTCC TMU at 303-651-4252 to ensure the cell phone used at the site is working and able to send and receive phone calls.
 - g. **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.
 - h. **Prior to issuing the cut down command:** In the event an unplanned early termination of flight occurs, call Denver ARTCC at 303-651-4252 to coordinate the optimum time for cut down, to avoid possible conflict with high traffic volume and known aircraft.
 - i. **When operations have terminated:** Advise Denver ARTCC at 303-651-4252 and Denver TRACON at 303-342-1590 when the balloon has landed. Call Prescott AFSS at 877-487-6867 and ask to cancel the NOTAM.
3. Provide the following information to each facility upon **initial** notification:
 - a. Provide/verify/confirm 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 and 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 five (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.
 7. The following map/image on next page depicts launch sites applicable to this certificate:





Randall Collander - NOAA Affiliate <randall.s.collander@noaa.gov>

RE: Unmanned Free Balloon COA Documents (WSA-1701-BAL)

1 message

Robert.Riedl@faa.gov <Robert.Riedl@faa.gov>

Tue, Jan 24, 2017 at 8:03 AM

To: russ4cwop@gmail.com

Cc: Randall.S.Collander@noaa.gov

Hi, Russ, good morning, hope all is well.

Regarding days vs. launches, I read right over that in your application (maybe because this year's applications were "substantially like applications for previous years"). No worries though, let me know when you reach 10 launches and I'll see if the facilities are willing to authorize additional launches (I don't suspect there will be any pushback). Regarding the marking at night line...yes, that is left over from 2015, as well as 2016; however, if you're not launching at night, then 101.35(b) does not apply and there is no need to rewrite/sign the certificate. You may attach a copy of this email to the certificate, understanding that night launches/flights are NOT authorized and that the balloon will be appropriately marked/equipped per 14 CFR Part 101 for daytime (sunrise to sunset) operations. More simply put, you are not required to "nighttime" mark the balloon for "daytime" operations. Hope this helps.

Thanks and have a great day – Rob

Rob Riedl

Aviation Technical Systems Specialist

Tactical Operations Team

FAA, ATO, WSC, OSG, AJV-W23

1601 Lind Ave SW

Renton, WA 98057

Office: (425) 203-4534

FAA Cell: (425) 749-9610

Fax: (425) 203-4580

robert.riedl@FAA.gov

From: Russ Chadwick [mailto:russ4cwop@gmail.com]

Sent: Monday, January 23, 2017 2:53 PM

To: Riedl, Robert (FAA)

Cc: Randy Collander

Subject: Re: Unmanned Free Balloon COA Documents (WSA-1701-BAL)