

**APPENDIX D**

**FAA LETTER OF AGREEMENT**

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

Albuquerque Air Route Traffic Control Center  
8000 Louisiana Blvd. NE  
Albuquerque, NM 87109

MAY 21 2009

Danny R.J. Ball  
Site Manager CSBF  
PO Box 319  
Palestine, Texas 75802

Dear Mr. Ball:

Enclosed is the new Letter of Agreement (LOA) between Columbia Scientific Balloon Facility, Albuquerque Air Route Traffic Control Center (ARTCC) and Fort Worth ARTCC. Several changes were made to update names and contact information. The letter does not contain any changes to the procedures currently in use at the Fort Sumner facility.

Three (3) copies of the LOA are enclosed. Please sign and return one (1) each to Albuquerque and Fort Worth Centers in the provided envelopes, keeping the third copy for your records. The effective date is June 22, 2009.

If you have any questions, please contact Support Specialist Rick Miller, (505) 856-4533.

Sincerely,

  
Terry L. Locke  
Air Traffic Manager

Enclosures (3)

Albuquerque Center, Fort Worth Center and Columbia Scientific Balloon Facility  
Letter of Agreement

EFFECTIVE: June 22, 2009

**SUBJ: UNMANNED FREE BALLOON OPERATIONS FROM THE FT. SUMNER,  
NEW MEXICO MUNICIPAL AIRPORT**

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1. **PURPOSE.** This agreement establishes responsibilities and procedures to assure balloon operations by the Columbia Scientific Balloon Facility (CSBF) are compatible with air traffic control (ATC) operations.
2. **SCOPE.** This agreement is applicable to unmanned free balloon operations conducted from Fort Sumner, New Mexico Municipal Airport by the CSBF.
3. **RESPONSIBILITIES.**
  - a. The Director, Columbia Scientific Balloon Facility, shall ensure:
    - 1) Compliance with FAR 101, Subpart D, Unmanned Free Balloons.
    - 2) All operational personnel are knowledgeable of and comply with the provisions of this agreement.
  - b. The Air Traffic Managers, Albuquerque Center and Fort Worth Center shall ensure all operational personnel are knowledgeable of and comply with the provisions of this agreement.
4. **PROCEDURES.**
  - a. For Balloons with Payloads Less Than Six Pounds (Sounding Balloons). The CSBF shall:
    - 1) Ensure prior notification is accomplished with the 27th Special Operations Wing Command Post, Cannon AFB, NM at (505) 784-2253.
    - 2) Ensure prior notification is accomplished with the Fort Worth Automated Flight Service Station (AFSS) at 1-877-487-6867 for NOTAM dissemination.
    - 3) Provide the following information to the Albuquerque Center Southeast Specialty Front Line Manager (FLM) at (505) 856-4573:
      - (a) The balloon(s) launch time, immediately after the launch.
      - (b) Unless otherwise specified by the Southeast FLM, the time the balloon vacates FL180, FL260, and FL450 during ascent and descent.
      - (c) The planned impact point stated as NAVAID (radial/distance). Should there be a change, the CSBF shall forward a new impact point.

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- 4) If applicable, notify the Ft. Worth Center Operations Specialist at (817) 858-7504 when the balloon enters their airspace. Specify the following:
  - (a) The position and altitude.
  - (b) The direction of movement and speed.
  - (c) The planned impact point stated as NAVAID (radial/distance). Should there be a change, the CSBF shall forward a new impact point.
  - (d) Unless otherwise specified by the Operations Specialist, when the balloon vacates FL450, FL260, FL180, and reaches the ground.
- b. For Balloons with Payloads In Excess of Six Pounds.
  - 1) Pre-Launch Operations and Coordination. The CSBF shall:
    - (a) Operate a central control and communications point at the Ft. Sumner launch site. A representative shall be immediately available at (575) 355-9445/9437 from 1 hour prior to launch until after impact.
    - (b) Ensure prior notification is accomplished with the 27th Special Operations Wing, Cannon AFB, NM.
    - (c) Ensure prior notification is accomplished with the Fort Worth Automated Flight Service Station (AFSS) for NOTAM dissemination.
    - (d) Equip the balloon with a Mode C transponder adjusted to respond on Mode 3/A, code 4453.
    - (e) At initiation of inflation, notify the Albuquerque Center MOS at (505) 856-4591, of the expected launch time.
    - (f) Provide the Southeast Specialty FLM, at (505) 856-4573, with 10 minutes prior to launch estimate.
  - 2) Post-Launch Operations and Coordination. The CSBF shall:
    - (a) Turn the transponder on from launch to FL600. In addition, maintain the capability in the control van or tracking aircraft to turn the transponder on whenever requested by the applicable Center.

**Note:** Albuquerque Center has the option to have CSBF terminate the flight if the transponder is inoperative.

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(b) Provide the Southeast Specialty FLM:

- 1 The balloon(s) launch time, immediately after the launch.
- 2 Unless otherwise specified by the FLM, the time the balloon vacates each 10,000 foot level up to and including FL600 during ascent.
- 3 Estimated ground speed of the balloon while airborne.
- 4 Planned impact point stated as NAVAID (radial/distance). Should there be a change, the CSBF control van or chase aircraft shall forward a new impact point.

(c) Conduct the balloon flight so:

- 1 The average rate of ascent is greater than 400 feet per minute from the surface to FL600.
- 2 The rate of descent is from 600 to 1,000 feet per minute between FL600 and the surface for an inflated balloon system being operated in a controlled descending mode.
- 3 When visual or electronic tracking is not maintained by the control van, a tracking aircraft shall accompany the balloon, at all times when it is at or below FL600. The tracking aircraft shall remain in radio communication with the appropriate Center facility on the specified VHF frequency.

(d) Ensure the control van or tracking aircraft advises the Albuquerque Center MOS of the appropriate NAVAID radial and distance when the balloon exits Albuquerque Center's airspace. The control van or tracking aircraft shall notify the appropriate adjacent Center of the balloon entry into their airspace, specifying the following:

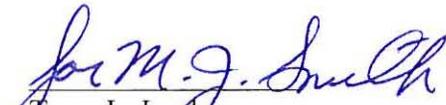
- 1 The balloon flight # (CSBF---N) and transponder code 4453.
- 2 The position and altitude.
- 3 The direction of movement and speed.
- 4 The ETA over facility boundary.

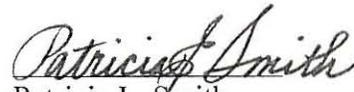
(e) Notify the appropriate Center:

- 1 One hour prior to planned cut down.
- 2 At the time the decision is made to terminate the flight, the balloon's position and estimated impact point.

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- 3 Unless otherwise specified, the time the balloon vacates each 10,000 foot level during descent, starting at FL600.
- (f) Obtain approval and instructions from the appropriate Center prior to having the control van or tracking aircraft transmit a cut down command. Center instructions shall be adhered to.
- (g) Immediately notify the applicable Center:
- 1 If safety devices required by FAR 101.35 become inoperative.
  - 2 Upon impact of the balloon and its payload.
- (h) Comply with the applicable Center's instructions to terminate the balloon flight by the most expeditious method, if it is determined that continued operations would create a hazard to aircraft.

  
Terry L. Locke  
Air Traffic Manager  
Albuquerque ARTCC

  
Patricia L. Smith  
Air Traffic Manager  
Fort Worth ARTCC

  
Danny R.J. Ball  
Site Manager  
Columbia Scientific Balloon Facility