

ORDER JO 7210.77

Effective Date: 12/19/2016

SUBJ: Non-Federal Weather Observation Program Operation and Administration

The Federal Aviation Administration (FAA) Non-Federal Weather Observation (NF-OBS) program is a component of the National Airspace System (NAS). Non-Federal entities, such as fixed-base operators, airports, state and local governments, and private businesses (NF-OBS Sponsors) provide the resources necessary to ensure the performance of this aviation service. This order provides the procedures and processes for NF-OBS program operation and administration.

The procedures set forth in this order apply to all NF-OBS Sponsors and personnel who provide aviation weather observation services. NF-OBS weather observers are required to apply the provisions of this order as it pertains to their observational responsibilities. Observers are required to exercise and apply good judgment when encountering situations that are not covered in this order.

Timothy L. Arel Vice President, Air Traffic Services Air Traffic Organization

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Chapter 1: General Information

1-1. Purpose of This Order. This order conveys instructions, standards, and guidance for the administration of the Non-Federal Weather Observation (NF-OBS) Program.

1-2. Audience. This order applies to Non-Federal Observation Sponsors and personnel responsible for providing aviation surface weather observation services and FAA entities who support the NF-OBS Program.

1-3. Where to Find This Order. This order is available on the FAA Web site at http://faa.gov/air_traffic/publications and http://employees.faa.gov/tools_resources/orders_notices/.

1-4. Background. The NF-OBS Program is a voluntary program for non-Federal entities to provide or augment weather observation services addressed in FAA Order JO 7900.5. Order JO 7210.77 has been created to provide guidance for NF-OBS weather observing procedures and practices to include FAA Program and Operational requirements, roles, quality control, costs, equipment, and site establishment.

1-5. Distribution. This order is distributed to select offices in Washington Headquarters, all terminal air traffic field facilities, all Alaska Flight Service Stations (FSS), the National Weather Service (NWS), and Non-Federal Weather Observation Sponsors and personnel identified in Paragraph 1-2.

1-6. Definitions and Acronyms.

- a. AIS-R Aeronautical Information System Replacement.
- **b.** ASOS Automated Surface Observation System.
- **c. AWOS** Automated Weather Observing System.
- e. FAA Federal Aviation Administration.
- **f. FAR** Federal Aviation Regulation.
- **g.** MOA Memorandum of Agreement.

h. METAR – Meteorological Aerodrome Report. A scheduled observation between 45 and 59 minutes past the hour.

i. NF-OBS – Non-Federal Weather Observation.

j. NF-OBS(F) – Non-Federal Weather Observation station that provides augmentation and backup to an automated weather system with Aviation Selected Special Weather Report (SPECI) capability.

k. NF-OBS(B) – Non-Federal Weather Observation station that provides backup-only service during automated weather system/communications or sensor outages, and manual weather observation service in the event of a total system failure. At sites with automated systems without SPECI capability, the observer may augment the present weather in the Remarks field. The observer may not otherwise edit weather observations generated by an automated system.

I. NF-OBS(M) – Non-Federal Weather Observation station with no automated weather system that provides manual observations.

m. NWS – National Weather Service.

n. OID – Operator Interface Device. A computer input/output device that presents visual images or information and permits the user to input data.

o. OT – Operator terminal. A computer input/output device that presents visual images or information and permits the user to input data.

p. SAWRS – Supplemental Aviation Weather Reporting Station.

q. SPECI – Aviation Selected Special Weather Report. An unscheduled observation taken when there is a significant change in the observation since the previous METAR observation was taken or if an aircraft mishap has occurred.

Chapter 2: General Program Requirements

2-1. Program Requirements. Aviation weather observation requirements and procedures are addressed by FAA Order JO 7900.5, *Surface Weather Observing*. The NF-OBS Program Office should initiate a Memorandum of Agreement (MOA), as described in Appendix A to this Order, with the NF-OBS Sponsor. Failure of the Sponsor (or FAA) to comply with the MOA could result in suspension or termination of the MOA and/or removal from the NF-OBS program.

2-2. Level of Service. The designation NF-OBS applies to authorized sites. The levels of service Sponsors are permitted to perform are specified below:

a. Sponsors at sites that are rated Service Level C or above must provide at least that designated level of service in accordance with FAA Order JO 7900.5, but at their discretion, may elect to provide a higher level of service.

b. Sponsors at sites that are rated Service Level D, or at sites with an automated system not included in the Service Standards, must provide either Service Level C or higher service, or backup-only service during automated system/communications or sensor outages.

If the Sponsor elects to provide back-up only service, the Sponsor must provide backup for critical element failures during automated system outages in accordance with FAA Order JO 7900.5. An element is considered failed if it is missing, garbled, or unquestionably erroneous. Critical elements are listed below:

- (1) Wind direction, speed, and character (gust, squalls, etc.),
- (2) Visibility,
- (3) Present Weather,
- (4) Sky Condition,
- (5) Temperature/Dew Point, and
- (6) Altimeter Setting.

c. Sponsors at sites with no automated weather system must provide manual weather observation service. The Sponsor must provide the critical elements listed below:

(1) Wind direction, speed, and character (gust, squalls, etc.),

- (2) Visibility,
- (3) Present Weather,
- (4) Sky Condition,

- (5) Temperature/Dew Point,
- (6) Altimeter Setting, and
- (7) Remarks.

2-3. Operational Requirements. Weather collection and dissemination requirements are defined in FAA Order JO 7900.5. Operational levels of service and hours of operation must be annotated in the Site's MOA.

2-4. Visibility Chart and Point of Observation Requirements. Visibility Chart requirements and Siting Criteria for Visual Weather Observations are specified in FAA Order JO 7210.3, *Facility Operation and Administration*. The Air Traffic Manager (ATM) or, in the absence of an ATM, the NF-OBS Supervisor must assume responsibility for developing and maintaining the visibility chart.

2-5. NF-OBS Operator Interface Device (OID) and Operator Terminal (OT)

Requirements. When available, NF-OBS(F) and NF-OBS(B) personnel must use the ASOS OID or Automated Weather Observing Systems (AWOS) Operator Terminal (OT). At sites where OID is not available, the Sponsor must develop local site-specific procedures for backing up the automated system during partial or total automated system/communications or sensor outages. Personnel at sites without OID or OT must not transmit aviation weather reports concurrently with the automated weather system

2-6. FAA Roles. FAA Air Traffic Services provides operational oversight of the NF-OBS program in accordance with FAA Order JO 7900.5. FAA provides an information package to potential Sponsors, which includes operational and certification requirements. The FAA is responsible for preparing the MOA.

Note: Where applicable, the Memorandum of Agreement must contain site-specific requirements regarding the use of Government facilities and equipment.

2-7. Record Keeping and Forms. The NF-OBS Sponsor must follow record-keeping requirements specified in FAA Order JO 7900.5. Electronic practice observations must be sent to <u>9-AJT-HQ-ASWO@faa.gov</u> no later than the sixth day of the month. Paper versions of practice observations must remain on site for 12 months.

2-8. Quality Control. FAA and the National Weather Service (NWS) monitor weather observations transmitted by NF-OBS sites and may contact the Sponsor to resolve issues identified under their quality control programs. FAA will coordinate resolution of quality control issues with the Sponsor.

Chapter 3: Memorandum of Agreement

3-1. Memorandum of Agreement (MOA). A written MOA will be executed between the FAA and NF-OBS Sponsor (Appendix A). This agreement is approved by the FAA Chief Counsel and is site specific according to operational needs. Once the agreement has been completed, signed copies must be retained by the Sponsor and the FAA. MOAs must contain the provision that all modifications to the agreement must be in writing. Termination of the agreement requires at least a 90-day notice.

3-2. Multiple Sponsors at One Site. When two or more entities seek to sponsor a site, one must be designated as the Lead Sponsor. The Lead Sponsor is the primary signatory on the MOA, and the party with whom the FAA will coordinate all aspects of program management. Lead Sponsors must ensure there is only one official weather observation available at any given time. Lead Sponsors must document their working arrangement by including it as an attachment to the MOA. Sponsors must adhere to the terms of the MOA and all other program requirements.

3-3. Observer Certification. The Sponsor is responsible for providing trained and qualified personnel to observe, record, and disseminate weather observations. FAA will certify personnel in accordance with the requirements outlined in the FAA Order JO 7900.5. In order to certify the first observer at a site, the Sponsor must acquire the services of an observer with a current certification from another site.

Chapter 4: Costs and Equipment

4-1. Financial Responsibilities. The Sponsor is responsible for all costs associated with the NF-OBS Program.

4-2. Equipment. The Sponsor is responsible for procuring, installing, operating, moving, protecting, calibrating, and maintaining back-up weather equipment in accordance with FAA Order JO 6560.20, and other FAA Technical Operations requirements as outlined in the MOA.

4-3. Operator Interface Device (OID) or Operator Terminal (OT). The Government may

provide an OID or OT, if available. The Sponsor is responsible for procuring, installing, operating, moving, protecting, and maintaining any communications lines necessary.

Note: ASOS OID requests must be submitted to the Surveillance and Weather Support Team (AJW-135) via Non-Federal-Program@faa.gov.

Chapter 5: NF-OBS Site Startup

5-1. NF-OBS Site Startup Requirements. In order to establish a new NF-OBS site, prospective Sponsors must meet the requirements defined in FAA Order JO 7210.3, FAA Order JO 7900.5, FAA Order JO 6560.20, and the Office of the Federal Coordinator for Meteorology (OFCM) FMH-1, Federal Meteorological Handbook. FAA will verify compliance with requirements via remote inspection.

5-2. NF-OBS Site Startup Process.

a. The prospective Sponsor informs FAA of its intent to apply for admission into the NF-OBS Program via <u>9-AJT-HQ-ASWO@faa.gov</u>.

b. FAA sends an information package to the prospective sponsor, which identifies the process to follow for entry into the NF-OBS Program. Included in the package are the following:

(1) Non-Federal Observer Policy, JO 7210.77

(2) Aviation Surface Weather Observation Certificate

(3) FAA Orders JO 7900.5, JO 7210.3, and JO 6560.20

(4) NF-OBS Equipment Instructions and Guidelines

(5) Updated Approval of Standalone and Back-up Weather Equipment for FAA Tower, Non-FAA Contract Towers and Other Aviation Facilities Memo

(6) NF-OBS Weather Sensor Survey

(7) Weather Site Self-Inspection Checklist

c. The Sponsor must complete the NF-OBS Weather Sensor Survey. Forward completed documents to FAA via <u>9-AJT-HQ-ASWO@faa.gov</u>.

d. FAA Technical Operations will inform the Sponsor of the equipment verification process results and forwards a copy to FAA Air Traffic Services.

Note: If an ASOS OID is required, the Sponsor will submit a completed National Weather Service Request for Change (NWSRC) Form 1001 to the FAA via <u>Non-Federal-Program@faa.gov</u>.

e. Using the completed Weather Site Self-Inspection Checklist, FAA conducts a remote inspection of the proposed weather observing office, location, and certification status of personnel.

f. Pending satisfactory outcome of the equipment verification and remote inspection, the Sponsor will receive a copy of the Non-Federal Observation Program Memorandum of Agreement (MOA) for signature.

g. Where required, FAA certifies weather observers.

h. Signed copies of the MOA must be retained by the Sponsor and FAA.

APPENDIX A: SAMPLE Memorandum of Agreement/NF-OBS TEMPLATE

NON-FEDERAL OBSERVATION PROGRAM MEMORANDUM of AGREEMENT

between

FAAAir Traffic Services

and

<SPONSOR NAME>

for

Aviation Weather Observations at <AIRPORT NAME> (LOCID)

ARTICLE I. PARTIES

The parties to this Agreement are the Federal Aviation Administration (FAA) and <SPONSOR NAME>.

ARTICLE 2. SCOPE

a. Purpose:

The purpose of this Agreement between the Federal Aviation Administration (FAA) and <SPONSOR NAME> is to establish responsibilities for taking, disseminating, and documenting aviation weather observations at <AIRPORT NAME (LOCID)> at times/days specified below.

b. Roles and responsibilities:

Parties are bound by a duty of good faith and best effort in achieving the goals of the Agreement.

1) The FAA will perform the following activities:

a) Certification Test. Provide certification tests to observers through <SPONSOR NAME>, provided the qualified observers meet the requirements outlined in FAA Order 7900.5, *Surface Weather Observing*. This includes testing for vision and demonstrated proficiency.

b) Back-up Stand-alone Sensors. Review, analyze, and approve back-up standalone sensors installation/calibration status using the documentation submitted for approval.

c) Authorization Notification. Upon satisfactory completion of the certification test, the observer must comply with the "site specific" requirements identified in Paragraph 4 of

this agreement. The FAA will issue a separate letter to the sponsor authorizing the certified observer to commence weather observations at their specific location.

2) The Sponsor will perform the following activities:

a) **Operational Guidance.** Follow operational requirements, and identify and procure all back-up items required for the performance of their NF-OBS function, in accordance with the following documents:

i. FAA Order JO 7210.77, Non-Federal Weather Observation Program Operation and Administration

ii. FAA Order JO 7900.5, Surface Weather Observing.

iii. FAA Order JO 7210.3, Facility Operation and Administration.

iv. FAA Advisory Circular, 150/5220-16, Automated Weather Observing Systems (AWOS) for Non-Federal Applications.

v. FAA Order JO 6560.13, Maintenance of Aviation Meteorological Systems.

vi. FAA Order JO 6560.20, Siting Criteria for Automated Weather Observing Systems (AWOS).

vii. The latest version of FAA Memorandum, "Ongoing Approval of Standalone Backup Weather Equipment for Contract Towers, Non-FAA Control Towers, and Other Aviation Facilities."

b) For Site Establishment: The sponsor must provide the items identified below to the FAA for review/approval:

i. Correspondence, prior to the purchase of any equipment, providing details on the proposed back-up equipment and its siting.

ii. Photos of the sensor's serial number and calibration sticker showing the date of the last calibration (applies for any sensor that requires calibration). Also full contact information (address/phone) of the certified calibration entity performing the calibration.

iii. Photos of sensor installation (if applicable) and the surrounding area, suitable to convey sensor general surroundings (e.g., if sensors are vented properly to the outside environment, or if there may be encroachment concerns).

iv. A written declaration stating that back-up weather sensors have been installed in accordance with FAA Order 6560.20, comply with the latest version of FAA memorandum, "Ongoing Approval of Standalone Back-up Weather Equipment for Contract Towers, Non-FAA Control Towers, and Other Aviation Facilities, and will only be operated under the

approved conditions identified in this agreement.

c) Maintain and store back-up equipment calibration/performance records in a readily retrieval location at the site.

d) For Periodic Review: When requested, provide to the FAA any information or documents that are needed to validate the back-up equipment is still acceptable and continues to meet FAA installation, calibration, and accuracy requirements. Provide the items identified below to the FAA for review/approval:

i. A photocopy of the sensor's serial number and calibration sticker showing the date of the last calibration (applies for any sensor that requires calibration). Also full contact information (address/phone) of the certified calibration entity performing the calibration.

ii. Ground inspection report which reflects that the installation is in accordance with the criteria in FAA Order 6560.20, and suitable for the FAA to assess any sensor encroachment occurring since the initial installation or previous inspection.

iii. For all back-up sensors, the sponsor must take and document comparative readings to the local ASOS/AWOS or other local FAA certified automated weather systems (acceptable for periodic checks, but it would not be appropriate for annual revalidation/inspection).

3) Sponsor site-specific requirements and performance.

a) Select one of the following:

[] NF-OBS(F) - Certified observers will provide full augmentation and back-up weather observation service (minimum Service Level C standard, according to JO 7900.5, Appendices B & D) during the following times and days: [Insert specific times (zulu) / days / months, etc., or specify that this service will be provided on an as-needed, on-call basis].

[] NF-OBS(B) - Certified observers will provide backup-only weather observation service during the following times and days: [Insert specific times (zulu) / days / months, etc., or specify that this service will be provided on an as-needed, on-call basis].

[] NF-OBS(M) - Certified observers will provide full manual weather observation service during the following times and days: [Insert specific times (zulu) / days / months, etc., or specify that this service will be provided on an as-needed, on-call basis].

b) Select one of the following:

[] Make all observations taken and recorded available to all aviation interests at the airport (for example, pilots conducting operations, airport operations personnel, etc.), for official use only.

[] Make all observations taken and recorded available to all aviation interests at the airport (for example, pilots conducting operations, airport operations personnel, etc.), for official use only, and ensure long-line transmission of all observations taken and recorded.

c. Contributions of the Parties:

No funds are intended by the parties to be obligated on this agreement.

d. Type of Agreement:

This Agreement is an "other transaction." It is not intended to be, nor may it be construed as, a partnership, corporation, or other business organization.

ARTICLE 3. EFFECTIVE DATE and TERM

The effective date of this Agreement is the date on which it is signed by the FAA or <SPONSOR NAME>, whichever is later. The Parties must review and renew this Agreement at least every three (3) years, unless this Agreement is terminated by the parties as provided herein.

ARTICLE 4. REPORTING REQUIREMENTS

No additional reporting requirements. FAA Reserves the right to revise reporting requirements.

ARTICLE 5. INTELLECTUAL PROPERTY

a. Rights in Data

The Government retains Government Purpose Rights in all data developed under this agreement.

"Data" means recorded information, regardless of form or method of recording, which includes but is not limited to, technical data, computer software, trade secrets, and mask works. The term does not include financial, administrative, cost, pricing, or management information.

"Government Purpose Rights" means the rights to -

- (1) Use, modify, reproduce, release, perform, display, or disclose data within the government without restriction; and,
- (2) Release or disclose technical data outside the government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for government purposes.

"Government Purpose" means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive acquisition by or on behalf of the government but do not include the rights to use, modify, reproduce, release, perform, display, or disclose data for commercial purposes or authorize others to do so.

b. Rights in Inventions

The respective rights of the Government and the other parties to this agreement are the same as those found at T.5-10 "Patent Rights – Retention by the Contractor (Short Form)."

ARTICLE 6. LEGAL AUTHORITY

This Agreement is entered into under the authority of 49 U.S.C. 106(1) and (m), which authorizes agreements and other transactions on such terms and conditions as the Administrator determines necessary.

49 USC 44720(a), Meteorological Services (permits the FAA Administrator to make recommendations to the Secretary of Commerce on providing meteorological services necessary for the safe and efficient movement of aircraft in air commerce);

49 USC 44502(a)(1)(A), General Facilities and Personnel Authority (authorizes the FAA Administrator to acquire, establish, improve, operate, and maintain air navigation facilities);

49 USC 44708, Inspecting and Rating Air Navigation Facilities;

ARTICLE 7. POINTS OF CONTACT

<SPONSOR NAME> must provide contact information to the FAA. Any changes to contact information must be provided to the FAA within 10 working days of the actual change.

FAA Program Office

< SPONSOR NAME>

ARTICLE 8. FUNDING AND PAYMENT

No funds will be obligated under this Agreement. < SPONSOR NAME> is responsible for all costs associated with its NF-OBS Program, and for procuring, installing, operating, moving, protecting and maintain back-up weather equipment in accordance with FAA Order JO 6560.20, and other FAA Technical Operations requirements as outlined in this agreement.

ARTICLE 9. CHANGES, MODIFICATIONS

Changes and/or modifications to this Agreement must be in writing and signed by the FAA and the representative or designee of < SPONSOR NAME>. The modification must cite the subject Agreement, and must state the exact nature of the modification. No oral statement by any person

shall be interpreted as modifying or otherwise affecting the terms of this Agreement.

The FAA reserves the right to modify this Agreement to reflect changes in the FAA operating policies and procedures. Such modifications must be effective within 10 days following the mailing of the written notification to the sponsor by the FAA regardless of whether <SPONSOR NAME> has signed and executed the written modification and returned it to the FAA.

ARTICLE 11. TERMINATION

In addition to any other termination rights provided by this Agreement, either party may terminate this Agreement at any time prior to its expiration date, with or without cause, and without incurring any liability or obligation to the terminated party (other than payment of amounts due and owing and performance of obligations accrued, in each case on or prior to the termination date) by giving the other party at least ninety (90) days prior written notice of termination. Upon receipt of a notice of termination, the receiving party must take immediate steps to stop the accrual of any additional obligations, which might require payment.

Non-compliance with the terms of this Agreement is grounds for termination of this Agreement.

ARTICLE 12. SUSPENSION OF AGREEMENT

Failure of the Sponsor (or FAA) to comply with this agreement could result in suspension of this agreement. A return to compliance will reinstate a suspended agreement.

ARTICLE 13. ORDER OF PRECEDENCE

In the event of any inconsistency between the terms of the Agreement, the inconsistency must be resolved by giving preference in the following order:

(a) The Agreement,

(b) The Attachments.

ARTICLE 14. CONSTRUCTION OF THE AGREEMENT

This Agreement is an "other transaction" issued under 49 U.S.C 106 (1) and (m) is not a procurement contract, grant, or cooperative agreement. Nothing in this Agreement may be construed as incorporating by reference or implication any provision of Federal acquisition law or regulation.

Each party acknowledges that all parties hereto participated equally in the negotiation and drafting of this Agreement and any amendments thereto, and that, accordingly, this Agreement must not be construed more stringently against one party than against the other.

ARTICLE 15. DISPUTES

Where possible, disputes will be resolved by informal discussion between the parties. In the event

the parties are unable to resolve any disagreement through good faith negotiations, the dispute will be resolved by FAA Air Traffic Services. The decision is final unless it is timely appealed to the FAA Administrator, whose decision is not subject to further administrative review and, to the extent permitted by law, is final and binding.

ARTICLE 16. WARRANTIES

The FAA makes no express or implied warranties as to any matter arising under this Agreement, or as to the ownership, merchantability, or fitness for a particular purpose of any property, including any equipment, device, or software that may be provided under this Agreement.

ARTICLE 17. INSURANCE

<SPONSOR NAME> must arrange by insurance or otherwise for the full protection of <SPONSOR NAME> from and against all liability to third parties arising out of, or related to, its performance of this Agreement. The FAA assumes no liability under this Agreement for any losses arising out of any action or inaction by <SPONSOR NAME>, its employees, contractors, or any third party acting on its behalf. <SPONSOR NAME> agrees to hold the United States harmless against any claim by third persons for injury, death, or property damage arising out of or in connection with its performance under this Agreement.

ARTICLE 18. LIMITATION OF LIABILITY

Claims for damages of any nature whatsoever pursued under this Agreement must be limited to direct damages only up to the aggregate amount of \$0 funding obligated under this Agreement at the time the dispute arises. In no event shall the FAA be liable for claims for consequential, punitive, special and incidental damages, claims for lost profits, or other indirect damages.

ARTICLE 19. CIVIL RIGHTS ACT

<SPONSOR NAME> must comply with Title VI of the Civil Rights Act of 1964 relating to nondiscrimination in federally assisted programs and provide a certification to that effect.

ARTICLE 20. OFFICIALS NOT TO BENEFIT

AMS Clause 3.2.5-1, "Officials Not to Benefit" and Clause 3.2.5-7, "Disclosure Regarding Payments to Influence Certain Federal Transactions" are attached hereto and incorporated by reference into this Agreement.

ARTICLE 21. PROTECTION OF INFORMATION

The parties agree that they must take appropriate measures to protect proprietary, privileged, or otherwise confidential information that may come into their possession as a result of this Agreement.

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AGREED:

<sponsor name=""></sponsor>	Federal Aviation Administration
BY:	BY:
TITLE:	TITLE:
DATE:	DATE: