

**ORDER**

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

7110. 104

9/7/90

Non-Federal Automated Weather Observation System (AWOS) Connection to the  
Weather Message Switching Center (WMSC).  
**SUBJ:**

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1. PURPOSE. This order establishes guidelines and procedures to be employed by regional air traffic divisions in validating and documenting requests for the collection of non-federal AWOS data into the national data base and distribution system.

2. DISTRIBUTION. This directive is distributed to the branch level in headquarters and regional Air Traffic, Airway Facilities; the Systems Maintenance Service, Weather and Flight Service Systems Service, Office of System Capacity and Requirements.

3. BACKGROUND.

a. States and local aviation authorities have for some time been installing and commissioning non-fed AWOS units. We have established a policy which results in those non-fed AWOS locations that are at least AWOS-3 equivalent or better and where they are the only observation in the control zone, qualifying for national dissemination. In addition, regional air traffic divisions must certify an aviation requirement exists for the data. This data was to be collected by the AWOS/ASOS Data Acquisition System (ADAS). Due to a delay in the operational deployment of the ADAS, we must look for interim solutions for collecting this data.

b. We have implemented a GS-200 system at the Weather Message Switching Center (WMSC), which essentially has the same logic/software in it, as is planned for the ADAS. The primary difference between this system and ADAS is the geographical placement of these systems and the local direct interfaces to be supported by ADAS. Inasmuch as we deemed it appropriate to field this interim system (GS-200) for the collection of Federal AWOS, it seems appropriate to offer interim access for non-Fed's as well.

4. PROCEDURES. Air Traffic divisions will accept requests from state aviation authorities only. The requests must include:

a. AWOS equipment is AWOS-3 equivalent or better.

- b. AWOS equipment is certified, in accordance with AC 150/5220-16A, Automated Weather Observing Systems (AWOS) for Non-Federal Applications.
- c. No other observation will exist in that control zone during periods of automatic operations of the AWOS.
- d. State-wide contact point, available 24 hours per day, for WMSC personnel to report problems to. A single contact point for all non-FED AWOS within a state is required.
- e. The state authority must agree that when ADAS is deployed, that the FAA retains the authority to direct them to take action to be reconnected to the appropriate ADAS connection point.

5. CONNECTIVITY/DOCUMENTATION REQUIREMENTS. There are four options being provided for interim collection of non-Fed AWOS data. They are defined in Appendix 1, guidelines. Each option also requires the following:

- a. The state to sign a Memorandum of Agreement with the regional Air Traffic division.
- b. Agreement within the MOA to convert the AWOS data to the current or future SAO format (except option 3).
- c. Report the data into the national system (WMSC) within the timing or criteria defined by the FAA.
- d. Bear all communications, quality assurance, trouble-shooting and administrative costs of operating their non-Fed systems.
- e. Otherwise comply with the provisions of AC 150/5220-16A, Automated Weather Observing Systems (AWOS) for Non-Federal Applications.
- f. Upon commissioning an AWOS, it becomes the official observation. Any SAWRS (Supplemental Aviation Weather Reporting Station) is decertified or converted to a backup role, augmentation role, or both. A new SAWRS agreement shall be negotiated and observers certified by the National Weather Service for these functions.

6. OVERVIEW. The FAA actively supports non-Federal entities of the aviation community who desire to make more and improved meteorological data available for national consumption. Due to WMSC capacity restraints, we will only validate the first 250 requests. WMSC will be replaced in late CY-92 and this constraint will be eliminated. Any questions on this order should be directed to Cloyd Shirley, ATP-115, on FTS 267-9354.



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## APPENDIX 1. NON-FEDERAL AWOS CONNECTION OPTIONS

1. NADIN INDIRECT: This option, the State utilizes a vendor who is already connected to NADIN. The State contracts with the vendor to use the existing NADIN interface, convert the state AWOS data to SAO format, collect and disseminate the data into NADIN on the schedule or parameters defined by the FAA. The FAA and the vendor will modify their Memorandum of Agreement as necessary.
2. NADIN DIRECT: This option, the State must establish a interface with NADIN employing the logic and protocol defined in the NADIN to Multipoint User document. This document is available from ATP-110 upon request. The state must transmit the AWOS data from various state locations to the NADIN location designated by the FAA. Connection is available at each NADIN concentrator (co-located at each ARTCC site). In addition, the state must convert the AWOS format to SAO format, and collect/disseminate the data on the schedule or parameters defined by the FAA.
3. GS200 DIRECT: This option is identical to the Federal system GS200. The FAA will install additional GS200 equipment at WMSC to accommodate these additional locations and circuits. The state must establish an interface with the GS200, employing the logic and protocol defined for ADAS. This document is available from the ADAS program office, ANW-140, upon request. The GS200 logic converts the AWOS data to SAO format, controls the collection/dissemination schedule and parameters for the state. The state must lease the circuit and any associated modem equipment from CONTEL for this connection. The FAA has a total systems type contract with CONTEL, which precludes any mixture of telco vendors circuits/equipment.
4. GS200 DIAL-UP: This option utilizes a standard GS200 system, which does not have the special logic for conversion/scheduling requirements. The state will be assigned a phone number and password for accessing the designated ARTCC or FSS GS200. In addition, they must convert the AWOS format to SAO format and comply with the schedule or parameters designated by the FAA. These interfaces require a Hayes compatible 300 to 2400BPS modem and employ standard PC based communications protocol.

