

**NATIONAL WEATHER SERVICE INSTRUCTION 10-941
NOVEMBER 29, 2005**

***Operations and Services
Hydrologic Services Program, NWSPD 10-9
FLOOD WARNING SYSTEMS***

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OPR: OS31 (S. Francis)

Certified by: OS3 (T. Graziano)

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SUMMARY OF REVISIONS: This directive supersedes NWS Instruction 10-941, dated October 15, 2003. The following revisions were made to this instruction:

- (1) In sections 1, 2, and 6, removes unclear wording, and incorporates minor editorial changes for clarity.
- (2) In section 3, more clearly describes the policy governing the use and licensing of radio transmitters in automated flood warning systems, and moves the more procedural information to NWS Manual 10-942.
- (3) In section 4, changes “Memorandum of Understanding” to “Memorandum of Agreement.”
- (4) In section 5, more precisely defines the technical assistance NWS will provide to flood warning system owners.

Signed LeRoy Spayd November 14, 2005
Dennis H. McCarthy Date
Director, Office of Climate,
Water, and Weather Services

Flood Warning Systems

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1. **Introduction.** This chapter provides instructions for cooperation between the National Oceanic and Atmospheric Administration's National Weather Service (NWS) and owner-operators of automated flood warning systems (AFWS). AFWS support NWS field office operations by providing near real-time hydrometeorological data that would otherwise be unavailable. Owner-operated AFWS types include (1) Automated Local Evaluation in Real-Time (ALERT) systems; (2) Integrated Flood Observing and Warning System (IFLOWS); and (3) networks using non-ALERT, non-IFLOWS technology.

2. **NWS Flood Warning System Interface.** Interfaces between the AFWS and the NWS Advanced Weather Interactive Processing System (AWIPS) must be in accordance with NWS computer security and change management policies. The hydrometeorological data products from the operator's AFWS must:

- a. Support the NWS's hydrologic and meteorological forecast operations for the cooperator's area; and
- b. Arrive at NWS frequently enough to support routine forecast and warning operations, monitor critical hydrometeorological events, and support radar-based precipitation processing.

Data products from the AFWS must be compatible with an NWS-supported data ingest interface if an AFWS owner-operator wants to use Federal government radio frequencies.

3. **Radio Frequency Authorizations.** NWS policy is to hold radio transmitter licenses only for units that it owns, operates, and maintains. NWS no longer will apply for new licenses on behalf of AFWS owners. In addition, NWS will work closely with AFWS cooperators to assist them in transitioning from existing NWS licenses to new Federal Communications Commission

(FCC) licenses. As cooperators obtain FCC licenses, the corresponding NWS licenses for those locations will be deleted. WFO and RFC staff should guide AFWS cooperators to the licensing procedures described in the NWS Manual 10-942, "Flood Warning Systems Manual."

4. Memorandum of Agreement (MOA). An MOA will be established by the local forecast office, with concurrence from the regional headquarters, to set forth the responsibilities of the NWS and the FWS cooperator. Sample MOA may be found in NWS Manual 10-942. The MOA should:

- a. Clearly define the responsibilities of the NWS and cooperators for design, installation, implementation, operation, data archive and maintenance of the FWS.
- b. Provide for appropriate levels of coordination during floods.

An annual review should be conducted by the local WFO with the FWS operator to ensure all parties clearly understand their responsibilities as outlined in the MOA.

5. Technical Assistance. In working with AFWS cooperators, NWS WFO personnel may:

- a. Designate a primary NWS contact point (focal point), and at least one back-up contact point at the local NWS forecast office, for routine coordination; concerning AFWS training, maintenance, operations, and related issues. If the primary/backup focal points are unavailable during flooding, the Meteorologist-In-Charge or his/her designee will act as the AFWS owner/operator point of contact.
- b. Provide general knowledge about AFWS systems, including information contained in NWS Manual 10-942.
- c. Provide information on hydrologic regime/flood climatology for the service area.
- d. Advise on site specific gage locations.
- e. Provide specific information about NWS communications interfaces that will allow the AFWS user to successfully provide data to AWIPS.
- f. Provide contact names, addresses, and procedures for AFWS owner-operators to obtain Federal hydrological radio frequency approval.
- g. Provide information on flood forecasts and warnings
- h. Assist the AFWS cooperator in determining ways to obtain or access NWS products
- i. Develop local forecasting procedures in conjunction with the appropriate NOAA/NWS River Forecast Center
- j. Distribute warning information.

- k. Provide training for the AFWS cooperator's flash flood coordinators and local authorities, including network observers. The scope of training includes:
- The NOAA/NWS flood/flash flood warning program
 - Local flood warning programs
 - Need for emergency response planning
 - How to establish and maintain observer networks

6. Issuance of Local Observations. The NWS is the sole government agency mandated by Congress to provide flood forecasts and warnings to the public. However, in time critical situation, an AFWS operator may advise a community about an impending flood before coordinating with a WFO. In such situations, the AFWS operator should then provide local observations to the NWS as soon as possible. When necessary, the NWS WFO will then issue an official product.

7. Federal Insurance and Mitigation Administration Community Rating System. The Community Rating System (CRS) was established under the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP). Under the CRS, communities may obtain flood insurance premium discounts by documenting certain flood mitigation activities. Establishment of an AFWS is one of the creditable activities under the CRS. A community receiving CRS credit for an AFWS may also receive an additional 25 points for establishing certain procedures to reduce the consequences of weather-related disasters as part of the Storm Ready program. FEMA requires a community to obtain StormReady recognition documentation from the NWS for the community to receive the additional 25 points credit. Additional information may be found in NWS Instruction 10-1802.