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Central Region Warning Coordination and Hazard Awareness

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SUMMARY OF REVISIONS This supplement update replaces National Weather Service (NWS) Central Region Supplement 07-2004 to NWSI 10-1801 dated July 16, 2004.

Appendix A, Table 1 has been updated. The Drill Recommended Column has been changed to Drill Required.

In the Operational Equipment and Technology Support section, the YES responses have been amended with asterisks, allowing them to be combined in a drill with similar elements..

(Signed by) September 19, 2005
Gary S. Foltz Date
Acting Director, Central Region

Central Region Warning Coordination and Hazardous Awareness

Table of Contents: Page

1. Introduction. This supplement will cover information in former Regional Operations Manual Letters and Policy Memoranda related to warning coordination and hazardous awareness.

2. State Agency Contact. NWSI 10-1801, Section 2 defines one of the partners in the hazards community as state agencies. With 38 Weather Forecast Offices (WFOs) in 14 states, it would be advantageous for the National Weather Service (NWS) Central Region to have one WFO to act as the main contact between the state offices and the NWS. In Central Region, this main contact will be the WFO whose forecast area includes the state capital.

The best approach is a team approach with most statewide warning coordination and hazardous awareness issues. The team leader should be the Warning Coordination Meteorologist (WCM) or another designated person from the WFO whose forecast area includes the state capital. Team members would include other WCMs, or another designated person from the WFOs, who have at least part of their CWA in that state. WFOs should have a member on all teams in each state for which they have counties in their forecast area of responsibility.

3. Working Together. Warning operations are no longer just a one-office or one-person operation. WFO staff, including forecasters and hydrometeorological technicians (HMTs), must work together as an efficient and effective team to carry out the NWS primary mission, an effective warning program. HMTs can play valuable roles in communication and dissemination as well as writing products, such as a short term forecast, during hazardous weather. This team may occasionally include other personnel, such as the service hydrologist, information technology officer, or electronics technicians in qualified roles.

For an effective warning program, it is also necessary for adjacent WFOs to work together and support one another. One example of this would be collaboration on where to put the boundary between a winter storm warning and a winter weather advisory. Another example would be when a WFO sees a strong thunderstorm rapidly developing either near or just outside their forecast area boundary. Given that this thunderstorm is moving into an adjacent WFOs CWA, the first WFO could call the adjacent WFO to ensure that office is aware of this thunderstorm's history.

4. Drills. Emergency exercises in this supplement will be referred to as drills. Offices with effective warning programs use drills. All personnel that participate in warning operations should participate in drills. Table 1 in Appendix A contains a list of WFO services. Not all services apply to all WFOs in Central Region.

Mandated drills must be completed annually. These drills should be conducted before the season (e.g., severe weather) associated with that drill begins. Drills may be conducted more often at the MIC's discretion. The management team is accountable to ensure their WFO's state of preparedness for emergency elements in Table 1 and to increase the effectiveness on these elements in their CWA.

4.1 Drill Records. WFOs must retain records of drills performed. These records should include the type of drill, the names of personnel that completed the drill, the date the drill was completed, and any modifications to operations resulting from the drill. WFOs may discard these records after retaining this information for one year. WFOs may use these records to provide information to Central Region Headquarters (CRH) in such reports as the Annual Service Outreach Report and Station Evaluation Reports.

4.2 Purpose of Drills. Drills help evaluate the staff's response to emergencies and their ability to prepare effective warnings. Another purpose is to test the effectiveness of the warning procedures. Third, executing drills may challenge the staff to discover better ways of providing excellent warnings and improved services.

4.3 Types of Drills. Some drills, such as service backup, procedural exercises, and operation exercises are performed in combination with other offices.

4.3.1 Procedural Exercises. Procedural exercises may be conducted through a variety of methods, including oral or written questions, review of procedures and forecast operations via seminars or staff meetings, and repetitive issuances of test warnings and statements following regionally approved formats.

4.3.2 Operational Exercises. These exercises simulate real weather and may utilize archived data, such as storm reports, meteorological observations, numerical weather models, WSR-88D data, and satellite imagery. Exercises may last several hours.

4.3.2.1 Planning an Operational Exercise. To plan an operational exercise, the WFO's management team should determine the objective of the operational exercise, and then develop a methodology to reach this objective. This methodology may involve operational staff members analyzing data, preparing products, and providing other services such as communications with customers. The management team may want to utilize such tools as the Weather Evaluating System (WES), Local Integrated Network Exercise (LINEX), WSR-88D data, and satellite data.

Due to operational staff working rotating shifts, the WFO management team will need to design the operational exercise, so it can be repeated at different times and different days in order that all operational staff may participate. The operational exercise should also be designed so that it does not interfere with normal operational duties.

4.3.2.2 Developing Simulation Material. WFO management will ensure products from the exercise are not disseminated to customers. A sequence of events should be developed to help the exercise evaluators. The list should contain all the products, times, locations, and descriptions of the events expected during the exercise.

4.3.2.3 Conducting the Operation Exercise. WFO management should inform the staff on details about the exercise including the time it will commence and its duration. WFO management may find it beneficial to have more than one evaluator for a complicated exercise. One evaluator may act as the person that receives sources of information as in a real event. These sources could be spotter reports or learning about power outages. Another evaluator could analyze the

participants' ability to accomplish the exercise's objective. A third evaluator may review written products, logs, and procedures.

4.3.2.4 Evaluating the Exercise. Debriefings are important after the completion of the exercise. The task is an exchange of ideas among the participants, WFO management, and evaluators. Participants can provide feedback on what went well, how they feel they performed, and how individuals could improve. Evaluators could provide an overall assessment for the staff about products, data and services.

4.3.3 Community Drills. A community drill is external and may involve agencies such as emergency management, spotter groups, schools, hospitals, industries, state agencies, and other institutions. Community drills test communication and the flow of critical information between the WFO and participating agencies.

4.3.3.1 Planning a Community Drill. A community drill should be planned with representatives from participating communities and agencies. WFO staff, and these representatives, should establish objectives and methods to meet these objectives. The WFO staff should be sensitive to the needs of participating communities and agencies. The scenario chosen may involve the WFO issuing warnings, while communities and agencies conduct proper response drills with these warnings. Spotter groups could communicate with the WFO. The forecast office should keep the number of drill participants to a manageable number. Public information statements should be sent to users in advance of the drill to inform them about the products they will receive. All test products for the drill will clearly indicate the products are for the exercise only.

4.3.3.2 Developing Drill Materials. Drill materials may include test watches, warnings and statements. A list of severe weather spotter reports or events which will be communicated to the WFO office during the drill and the communication channels which will be utilized need to be in place prior to the exercise.

A master sequence of events should be developed, and copies distributed to all participating communities and agencies as well as the NWS office. This list should contain all the products to be issued as well as the times, locations, and descriptions of all the events or reports to be used in the exercise. Participating communities and agencies should be encouraged to contribute as much as possible to the development of materials. For example, communities could provide spotter or damage reports for the drill.

4.3.3.3 Conducting the Community Drill. More than one WFO person will likely be involved in conducting the exercise. WFOs may enlist the help of the amateur radio community to communicate information with the WFO office. WFO staff will issue exercise watches, warnings, and statements at times specified in the master sequence of events. WFO staff members may assist amateur radio community members to keep track of incoming reports and to prepare these reports for dissemination along communication channels designated in the drill exercise plan. Possible communication problems may be identified by comparing the times of the outgoing products and the incoming reports with their scheduled times from the master sequence of events.

4.3.3.4 Evaluating the Exercise. A very important step after the community drill exercise is a meeting with the representatives from the participating communities and agencies. Such a meeting provides all participants an opportunity to provide feedback to each other. WFO staff may include information on what went right and what procedures or operations may need improvements. Community and agency representatives may provide information on how their community or agency responded to the exercise products and reports. All participants may discuss how the WFO services and communications can be improved and action items needed to carry out these improvement. This meeting would also be an ideal opportunity to discuss what can be done differently to make future drill exercises more effective.

Appendix A

Table 1

DRILLS REQUIRED

Element of Warning Coordination and Hazard Awareness Program	**Drill Required by CRH (Where Applicable)**
Convective Weather Warnings/Advisories	
Tornado	YES*
Severe Thunderstorm	YES*
Flash Flood	YES*
Flood	YES*
Special Marine	MIC Discretion
Red Flag	MIC Discretion
Non-Convective Warnings/Advisories	
Winter Storm	YES*
Blizzard	YES*
High Wind	MIC Discretion
Dust Storm	MIC Discretion
Dense Fog	MIC Discretion
Freeze/Frost	MIC Discretion
Special Events	
Aircraft Accidents	YES*
Fire Weather	MIC Discretion

Element of Warning Coordination and Hazard Awareness Program	**Drill Required by CRH (Where Applicable)**
Support to Hazardous Material Spill	YES*
Air Pollution Episode	MIC Discretion
Support to Civil Emergency Message	YES*
Service Backup	YES*
Facilities Support	
Emergency Power	YES*
Radar Data Acquisition (RDA) Power	YES*
Emergency Building Evacuation	YES
Operational Equipment and Technology Support	
Automated Weather Integration Processing System (AWIPS) Operations	YES*
Automated Surface Observing System (ASOS) Operations	MIC Discretion
Weather Service Radar (WSR-88D) Operations	YES*
NWR Operations	YES*
Communications Failure	
Local Area Network (LAN) Failure	YES*
AWIPS Failure	YES*
ASOS Failure	MIC Discretion
Telephone Failure	YES*

* This element can be combined in a drill with other similar elements.