NATIONAL WEATHER SERVICE INSTRUCTION 10-1710
APRIL 20, 2022
Operations and Services
Dissemination, NWSPD 10-17
NOAA WEATHER RADIO ALL HAZARDS (NWR) DISSEMINATION

NOTICE: This publication is available at: http://www.nws.noaa.gov/directives/.

OPR: W/DSB (C. Hodan) **Certified by:** W/DIS (Susanne Keveney)
Type of Issuance: Routine

SUMMARY OF REVISIONS: This directive supersedes NWSI 10-1710, *"NOAA Weather Radio All Hazards (NWR) Dissemination,"* dated February 1, 2018. Changes were made to:

- Update information on use of NWR Voice
- Document specifics on Automated versus Manual 'Live' broadcasts
- Improve wording on Non-Weather Emergency Messages (NWEM) throughout the document
- Update information on needed equipment for NWR alert broadcasting
- Clarify that the use of "WFO" within this document also includes "WSO"
- Standardize the term S.A.M.E to read SAME
- Add broadened terminology to include other sources of message input
- Some details included in the main text have been kept in the appendices in the assumption those appendices are to be used as resource documents by themselves
- Update the programming guidance table and added new watches/warnings
- Update information on agreements with the USCG
- Change the definition of "outage" to refer to the broadcast, not the facility
- Replace "fire and bomb threats" with "evacuation of the WFO"
- Add detail for quality assurance of the NWR broadcast
- Change the Blizzard Warning "AWIPS NNN" of BZW) which is currently covered under Winter Storm Warning (WSW)
- Remove prohibition of using the DMO event code
- Update the dissemination rules for national and regional Non-Weather Emergency Messages (NWEMs)
- Remove guidelines and agreement instructions for NWEMs deferring to those in NWSI 10-518, *Non-Weather Emergency Products Specification*

KEVENEY.SUSANNE.ELIZABETH.1515975027

Digitally signed by KEVENEY.SUSANNE.ELIZABETH.1515975027
Date: 2022.04.06 15:08:24 -04'00'

Susanne Keveney Date
Acting Director, Office of Dissemination

NOAA Weather Radio All Hazards (NWR) Dissemination

Table of Contents **Page**

1 Introduction

This National Weather Service (NWS) Instruction (NWSI) provides service guidelines and instructions for broadcasting weather information (watches, warnings, advisories, forecasts, etc.) and Non-Weather Emergency Messages (NWEMs), on the National Oceanic and Atmospheric Administration (NOAA) Weather Radio All Hazards (NWR). This instruction identifies policies and operational duties associated with NWR dissemination. Guidelines and instructions for overall system management, engineering, maintenance, logistics, and other support related to the NWR are addressed in NWSI 10-1711, *NOAA Weather Radio All Hazards (NWR) System Management*.

1.1 Mission Connection

NWR supports the NOAA mission to provide weather, water, and climate data, forecasts, and warnings for the protection of life and property and enhancement of the national economy. NWR programming broadcast to the public can be received using low cost, widely available radio receivers that have 162.400 megahertz (MHz) – 162.550 MHz frequency bands (or channels) commonly referred to as “Weatherband” or “WB” channels. The NWR transmitter network coverage has the potential to reach over 95% of the U.S. population. NWR is used by television and radio broadcasters as a primary NWS input to the Federal Communications Commission’s (FCC) Emergency Alert System (EAS).

1.2 Fundamental Broadcast Concepts

NWR is a broadcast service operated by local NWS Weather Forecast Office (WFOs) designed to warn the public of weather and non-weather hazards that threaten life and property within approximately 40 miles of the NWR broadcast tower. There are seven (7) discrete frequencies that are designated for use as NWR channels (a-g below). WFOs may use some or all frequencies depending on equipment configuration(s) and tower location.

a. 162.400 MHz
b. 162.425 MHz
c. 162.450 MHz
d. 162.475 MHz
e. 162.500 MHz
f. 162.525 MHz
g. 162.550 MHz

1.2.1 NWR Voice

WFOs can provide NWR voice broadcasts two (2) ways: automatically generated from a text product or manually input "live" by using on-site equipment. "Live" input may also be recorded for subsequent playback on NWR. There are a small number of Weather Service Offices (WSOs) without the Advanced Weather Interactive Processing System (AWIPS) that only have "live" broadcast and recorded playback capability.

1.2.1.1 Automated Voice Audio

NWS uses automated voice technology described in section 2 to broadcast critical information as quickly as possible. Text products to be broadcast should meet specifications stated in NWSI 10-1701, *Text product Formats and Codes*, and the NWSI product specification relevant to the respective product. For clear communication to the public, any text to be converted automatically to speech should have full sentences, correct spelling, and proper punctuation.

1.2.1.2 Manual "Live" Voice Broadcasts

Live or recorded audio broadcasts for extreme weather emergencies or critical non-weather hazards can be input directly at the Broadcast Message Handler (BMH) and broadcast to the designated NWR station(s).

1.2.2 NWR "All Hazards" Concept

NWR is an "All Hazards" broadcast service, in support of Federal, state, tribal, and local governments, as well as private sector efforts to provide timely forecasts and warnings of events that threaten life and property. All Hazards include natural disasters (e.g., weather, floods, dust storms, extreme heat, sea/lake ice, earthquakes, volcanic activity, forest fires, solar activity, etc.) and NWEMs, whether accidental or intentional (e.g., chemical or biological releases, quarantines, oil spills, space debris, or nuclear incidents, etc.), and other emergency support activities. These "other emergency support activities" may include local emergency management incidents (e.g., train derailments, airplane crashes, marine collisions, industrial fires and accidents, etc.), law enforcement emergencies (e.g., sniper alerts, prisoner escapes, abductions, hostage situations, etc.), search and rescue missions, and in significant or unusual

circumstances "all clear" notifications. NWEM types are listed and defined in Appendix B of NWSI 10-518, Non-Weather Emergency Products Specification.

1.2.3 Official "Voice of the National Weather Service"

NWR is the sole federal government-operated radio system providing direct forecasts and warnings to the public. NWR has long been considered by many as the "Voice of the National Weather Service". It is therefore critical NWR broadcasts adhere to the highest standards of timeliness, completeness, accuracy, and clarity.

2 Technical Description

The NWR system provides continuous automated real-time, or recorded, text-to-voice FM-radio broadcasts of weather information, alerts and warnings to the public.

FUNCTION	DESCRIPTION	EQUIPMENT
Message generation	A computer-based broadcast management system generates a text message, schedules message for transmission.	AWIPS and NWR With All Hazards Valid Time Event Code (VTEC) Enhanced Software (NWRWAVES)
Text to voice conversion	Provides audio message generation and a broadcast audio stream.	BMH
Communications link from WFO to tower	A communication link (dedicated telephone line, ultra-high frequency radio, or microwave radio) between the transmitter audio output of the audio switching assembly and the broadcast transmitter. Each transmitter has its own dedicated communication link.	Telecommunication line, the Internet, cellular, or microwave
Radio broadcast	A narrow-band Very High Frequency (VHF) frequency modulation (FM) transmitter operating on one of the following government-assigned frequencies: 162.400, 162.425, 162.450, 162.475, 162.500, 162.525, and 162.550 MHz.	NWR specific transmitter
Transmitter site monitoring	Monitoring of equipment, shelter environment, emergency power systems, telephone and other utilities, and services required for continuous operation.	Remote Off-Air Monitoring System (ROAMS)
NWR specific receiver	Should contain all seven (7) discrete NWR frequencies; 162.400, 162.425, 162.450, 162.475, 162.500, 162.525, and 162.550 MHz; Auto "ON"/ "OFF"	*Commercially available to the public.*

FUNCTION	DESCRIPTION	EQUIPMENT
	capability; use of Specific Area Message Encoding (SAME).	
Tone alert for warnings and critical alerts.	A 1050 Hertz (Hz) signal and SAME using Audio Frequency Shift Keying.	Warning Alarm Tone (WAT) and NWR SAME transmission. Both either sound an alarm or switch specially equipped NWR receivers from standby to full "ON" mode for user-specified weather or non-weather emergency messages (see section 6). Additional information on SAME is available in NWSI 10-1712, *NOAA Weather Radio All Hazards (NWR) Specific Area Message Encoding (*SAME*)*.

3 Procedural Responsibilities

3.1 Weather Service Headquarters (WSH)

The Office of Dissemination (DIS), in coordination with the Analyze, Forecast and Support Office (AFSO), and the six (6) NWS regional headquarters, with input from the respective WFOs, provide service requirements and instructions for NWR broadcasts contained in this document.

The Dissemination Systems Branch (DSB) within DIS provides the technical program management support, including operational procedures for expanding the NWR network, maintaining a national NWR database, engineering, communications, equipment maintenance, logistics support, and procedures for resolving interference issues (see NWSI 10-1711, *NOAA Weather Radio All Hazards (NWR) System Management*).

3.2 Regional Headquarters

Each NWS regional headquarters within manages the NWR program within its area of responsibility (AOR) and has a designated regional focal point to oversee day-to-day broadcast operations. Each regional headquarters oversees an NWR Operator Proficiency Program (see section 8 and Appendix A) to review and evaluate NWR broadcasts within the respective region. The regional headquarters as necessary coordinates, defines, and documents in regional supplement directives, the broadcast services and procedural requirement variances for all NWR stations within its AOR (see section 4.1).

3.3 Weather Forecast Offices (WFOs)

The term "WFO" in this document refers to any NWS office including WSOs that provides audio feed to one or more NWR transmitter sites.

WFO management adopts NWS directive guidelines and regional supplements consistent with local service requirements and staffing. Each WFO should have an NWR program leader (see section 8.3). All operational employees must be proficient at disseminating warnings, watches, and advisories on the NWR system and any backup broadcast system (see Appendix A, NWR Operator Proficiency Program).

Referenced policy, instructions, or guidelines do not apply to an NWS office if software or hardware limitations at that office prevent implementation.

3.3.1 Record Keeping

The NWR system at each WFO will automatically maintain a log to help monitor the currency of all broadcast material and the operational status of the equipment. In the event of an NWR system failure, the WFO should maintain a manual log, status board, or other equivalent mechanism for this purpose. Message, system and error logs are retained for at least 60 days to support review of broadcast management and system activity at any time and in particular after a weather or non-weather hazard event. Logs covering the period of a hazardous or severe weather event or non-weather hazard emergency that initiated a NOAA or NWS service assessment of any type or known legal action against the NWS are retained for a period of five (5) years. An office must keep either a hard copy or electronic version of the logs. Electronic logs may include those maintained by AWIPS or NWR operational software if logs are captured and retained before being overwritten.

3.3.2 NWR Outreach

The WFO Warning Coordination Meteorologist (WCM) or designee works in concert with regional headquarters and DIS/DSB to communicate with local and state government emergency officials/agencies concerning NWR coverage, emergency messaging, efforts to improve alert and warning dissemination, and exchange of any issues, problems, public concerns, and solutions.

4 Broadcast Programming Goal

4.1 Broadcast Service Area (BSA)

The broadcast service area (BSA) for each transmitter site is defined by counties, parts of counties, or other defined areas and adjacent coastal or offshore waters where there is a reliable free space signal. Under ideal conditions (i.e., no obstructions to the signal within a uniform landscape), this would be a uniform ground-level signal of 8 microvolts per meter within a 40-mile radius of the NWR transmitter/broadcast tower. The signal level will vary as a result of terrain, urban density, obstructions, and antenna mounting arrangements. The broadcast service area also is the region for which the NWR WAT and SAME use is authorized. Any changes must be approved by the regional headquarters and maintained by DIS/DSB for configuration management.

Because a BSA depends on signal reception, it may extend beyond the programming office's warning and forecast AOR. For areas with overlapping coverage by multiple transmitters, WFOs may broadcast program content for the overlapped area solely on the transmitter

providing the best coverage. Periodic announcements over NWR should mention or define the broadcast service area. WFOs should distribute maps showing the broadcast service area as part of any NWR publicity, and post the maps on their website.

Do not extend an NWR broadcast service area beyond its normal boundaries to accommodate listeners that may be employing sophisticated high gain receiving equipment.

4.2 Broadcast Quality

Automated broadcasts will use the following broadcast practices to ensure broadcast quality. WFOs should adopt similar practices when manually inserting products or producing a "live" audio feed.

Broadcasts should include complete sentences for both the lead-in and main text. Use the word "you" when referring to listeners as this projects a personal relationship to the weather alert or warning; particularly if action is required. Also, the following should be considered:

a. Summarizing: Summarize tabular data, except in cases where precise listings are necessary or preferred by listeners;

b. Wording: All messages should use the past or future tense;

c. Time on Messages: Broadcasts should include time on messages containing highly perishable material; these include observations, radar or other position reports, and river stages. Issue times should not be broadcast for forecasts, watches, warnings, or related statements. Generally, use times only for occurrences and expiration of an event; and

d. Understandable terms, words, place names and phrases: Give careful attention to correct pronunciations; including indigenous proper, place names, inflections, and homographs (words that are spelled the same but pronounced differently) through staff training and use of NWR software designed to improve enunciation.

5 Broadcast Message Priority

The four major elements of broadcast priority for the broadcast service area in descending order are:

a. Messages for Critical Events. These include warnings, short duration watches, and other weather and non-weather-related hazard information (see section 6);

b. Basic Core Messages. These should always be included unless de-emphasized or pre-empted by messages for critical events. These include the station identification, the hourly weather roundup, the service area forecast and synopsis, a marine forecast if that information meets the predominant needs of the community, and optionally a regional forecast. The basic core messages may vary according to local customer needs. See Appendix C for program guidelines;

c. Special Customer Messages. These include marine forecasts (if not already part of the basic core messages), lake and river stage reports, recreation forecasts, climatic data, fire weather forecasts, air quality information, weather-related road information, Ultraviolet Index (UVI) forecasts, and non-weather-related

announcements. See Appendix C for program guidelines. Although there is special customer programming for groups with similar interests, NWR broadcasts will not be tailored to the needs of any individual person or individual business entity; and

d. Administrative Messages. These include safety messages, test messages, notices, and non-weather announcements.

5.1 Broadcast Management Guidelines

The NWR broadcast management system can provide a more customer-oriented broadcast than a simple sequencing of standard products. Offices should find innovative uses of the enhanced scheduling functionality to best meet the preferences of the listeners. The dynamic use of time-insertion for certain products and frequent cycling of others is a good option. One example of this time-based information includes broadcasts of specific information at a prescribed time during the hour, day, week, month, or year.

AWIPS and other software provide text formatters to produce NWR messages in a conversational style. Follow basic format requirements in manual mode as well. When manually recording products, use a professional, but conversational, news-style delivery.

During critical events, place emphasis on watch/warning repetition, updates, and call to action statements. Product content with low (or even no) priority should be reserved for routine core and special customer broadcasts. For basic terms, approaches, and definitions related to the NWR system broadcast scheduling see Appendix D, and the appropriate NWR software operations manual or other local instructions. See sections 5.2 and 6 for detailed guidelines on broadcasting operations for critical events.

5.2 Broadcast Content

Focus messages on what has recently happened and what is forecast to happen. Messages should be mission related, concise, avoiding use of acronyms, and offensive language. Normally, messages should not be broadcast longer than six (6) hours after issuance (zone forecasts are an exception, usually updated every 12 hours). Offices with broadcast service areas crossing state lines will provide balanced information and not favor one state over the other.

If state or area weather summaries providing past weather information are broadcast, only air them for a limited time. Do not broadcast messages of national coverage except to highlight an event of long-term interest, such as a hurricane threatening the United States, a major winter storm, or a NWEM of national significance.

5.3 Unauthorized Material

Ensure no unauthorized or improper material (or improper language) is broadcast, either directly or indirectly (i.e., inadvertently through background noise when in manual broadcast mode). If the NWR system is in the WFO operational area, remember to limit or restrict background noise when recording manually.

Specific material restricted from NWR broadcasts include:

a. aviation weather in any form (i.e., ceilings, altimeter, terminal forecasts, etc.);

b. music or loud background noise in any form or style, except as authorized by regional headquarters;

c. encoded data, except NWR SAME;

d. excessive technical terms;

e. foreign languages (except when authorized by regional headquarters);

f. bulletin board type announcements, such as meetings and activities for civic, business, and hobby clubs, lodges, professional and fraternal organizations, unions, business clubs, charities, fund raising, advertisements, etc.;

g. personal messages, requests, political announcements;

h. use of profanity in any form or language; and

i. proprietary data provided by private weather companies, unless permitted by authorized, written agreements.

If doubt exists whether a message meets one of the criteria, the WFO will coordinate with their regional headquarters. If further doubt exists within the regional headquarters, coordinate with the DIS/DSB.

5.4 Non-Weather-Related Announcements

Only announcements fitting one of the following criteria should be permitted. Non-NWS sources of information should be identified in the message.

a. Activities helping the NWS to fulfill its primary mission; such as requests for NWR listener feedback, major public preparedness activities, open houses, dedications, safety information, SKYWARN® training meetings, and educational and promotional information about NWS products and services.

(1) Some of these announcements are appropriate for random or occasional broadcast. These messages should be shorter than 60 seconds, preferably between 15 and 20 seconds. Use no more than two such messages at any one time. Prerecorded messages may be used.

(2) Announcements for the recall of NWR receivers may be broadcast following the guidelines in Appendix E, "*NWS Action Plan for NWR Receiver Recall."* This appendix, approved by General Counsel, should be used to address each receiver recall in the same manner.

b. NWEMs authorized in section 6.4.

c. Other messages requested through official channels by the Department of Commerce (DOC)/NOAA and determined to be time critical and related to the NOAA mission.

d. Safety, security messages, and limited public service information messages requested by the United States Coast Guard (USCG) will be broadcast when relevant to the NWR broadcast service area (including tidal basins, lakes, bays,

inlets, inter-coastal waterways, and coastal marine areas). Procedures in section 6.3.5, Warnings for Marine and Other Marine Events, relating to the USCG should be followed.

If doubt exists whether a message meets one of the criteria, the WFO will coordinate with their regional headquarters. If further doubt exists within the regional headquarters, coordinate with the DIS/DSB.

6 Operations for Critical Events

The following information must broadcast as soon as possible:

a. All watches, advisories and warnings issued by the NWS for the broadcast service area.

b. All statements related to severe weather, floods, flash floods, dust storms, tsunamis, blizzards, and short-duration winter hazards, and marine weather.

c. Any NWEM (as per agreements with federal, state and local authorities) affecting the broadcast service area (see section 6.4).

The automated text-to-speech feature of the NWR system is the most effective way to broadcast warnings as quickly as possible. Offices should strive to automate as much of their warning programming as possible.

Offices should rarely modify these broadcast messages and any changes will be completed expeditiously and generally limited to:

a. Form complete sentences (if necessary);

b. Include appropriate punctuation for optimal pronunciation by the NWR automated voice of names of people, places, phone numbers, Internet addresses and technical information in the message;

c. Eliminate:
   (1) generic calls to action if calls to action are included elsewhere in the broadcast program;
   (2) inappropriate language, derogatory / political terms or phrasing; and
   (3) acronyms.

d. Summarize tables and lists.

6.1 Role of NWR in the National Warning System (NAWAS)

The National Warning System (NAWAS) is a 24-hour continuous private line telephone system operated by the Federal Emergency Management Agency (FEMA) and is used to convey warnings to federal, state, local, tribal, and territorial government and public safety officials. The role of NWR in support of national defense and homeland security and as part of an “all hazards” emergency alert network is covered in detail in Appendix F, which deals with national and regional NWEMs and the subsequent request to NWS offices by state and local authorities for NWR broadcast.

6.2 Initial Issuance of Short Duration Watches, Warnings and Related Statements

Broadcast the initial issuance of a short duration watch, warning, and related statements valid for the NWR broadcast service area immediately using automated means unless it is absolutely necessary to broadcast manually. Start these initial broadcasts with the NWR SAME and the 1050 Hz WAT. These codes and alarms may also precede, at regional headquarters' option, other watches, warnings, and certain related follow-up statements (see Appendix G). The rules for initial broadcasts of these messages are described below. Do not broadcast numbers and plotting points for convective watches.

Initial Watch/Warning Broadcast Rules

a. Transmission of the NWR SAME followed by the 1050 Hz WAT.

b. Broadcast the watch/warning information. This information may be abbreviated to suit emergency management or media needs, but more detailed information should then follow without the codes and alarms. To minimize any lag time between issuance and broadcast of a short duration warning when in manual mode, you should broadcast the initial warning live.

c. Repeat highlights (i.e., what, where, and when).

d. NWR SAME end-of-message code.

To assist monitoring requirements of the EAS, certain short duration warnings with NWR SAME, for county equivalents just outside the NWR broadcast service area, may be broadcast without the 1050 Hz WAT as per local agreement.

6.3 Programming after Initial Watch/Warning Issuances

Highlight or summarize most public watches and warnings in the service area forecasts or optional regional forecasts, as outlined in Exhibit 1, but, use separate messages for details of hurricane, tropical storm, storm surge warnings and short duration warnings for tornadoes, severe thunderstorms, and flash floods.

As threatening weather gets closer, to the broadcast service area, or when ongoing conditions become more hazardous, eliminate the less essential parts of the broadcast program to allow additional time for watch, warning, or special/severe weather statement information. Announce safety and preparedness information in advance of hazardous weather when possible as a supplement to hazardous weather outlooks. Include safety rules and/or call to action statements appropriate to the hazard when watches or warnings are in effect if time permits.

Note: The remaining subsections in section 6.3 provide guidance on how to conduct programming during specific hazardous events. Within these subsections, the term "regional area" means beyond the broadcast service area to around 300 miles or so from the NWR station. "Nearby" means only locations in the regional area adjoining the official NWR broadcast service area. Exhibit 1 provides a tabular summary of the guidelines in the following subsections for handling critical NWR information.

EVENT	AREA AFFECTED (1)	SUMMARIZE IN REGIONAL FORECAST (Optional)	HIGHLIGHT IN SERVICE AREA FORECAST	DETAIL IN SEPARATE MESSAGE	PROGRAM STATUS: normal or as marked (2)
SHORT DURATION					
Thunderstorm/Tornado/ Flash Flood Watches	svc area region		X	X N(3)	
Thunderstorm/Tornado/Extreme Wind/Flash Flood Warnings	svc area region			X N(3)	limited
Snow Squall/Dust Storm Warnings	svc area			X	
Special Marine Warning (SMW)	svc area			X	
LONG DURATION					
Winter Storm/High Wind Watches	svc area region	X X	X	X(3)	
Winter Storm/High Wind Warnings	svc area region	X(4) X	X	X	(4)
Non-Precipitation/Dust Storm/Fire Weather Watches	svc area region	X X	X	X(3)	
Non-Precipitation/Dust Storm/Red Flag Warnings	svc area region	X X	X	X	
Hurricane/Tropical Storm/Storm Surge Watches	svc area region	X X(5)	X	X N	
Hurricane/Tropical Storm/Storm Surge Warnings	svc area region	X(5)	X	X N	limited
Coastal/Lakeshore Flood Watches	svc area region	X X	X	X(3) N(3)	
Coastal/Lakeshore Flood/High Surf Warnings	svc area region	X X	X	X N(3)	
Flood Watches/Warnings	svc area region	X X	X(3)	X N(3)	
MISCELLANEOUS					
Marine Watches/Warnings-not SMW	area (6)			X	
Tsunami Watches and Warnings	svc area			X	(2) for warnings
Non-Weather Emergency Messages	svc area			X	(3)
Attack and Nuclear Detonation	anywhere			X	limited

(1) Definition of areas:
svc area = broadcast service area as defined in section 4.
region = outside of broadcast service area to a radius of about 300 miles.
N = only those "nearby" areas in the region adjoining the broadcast service area.
(2) Limited program status means to confine information to the hazard, eliminating some basic or special customer programming.
(3) Optional.
(4) Should limit programming when conditions actually affect area.
(5) May include areas an appropriate distance beyond region.
(6) Marine – see Appendix C.

Exhibit 1: Guidelines for Handling Critical Information on NWR

6.3.1 Watches for Tornadoes, Severe Thunderstorms and Flash Floods

After the initial watch message has aired, highlight the information on short duration watches for the NWR broadcast service area in the service area forecast and/or include in a separate message.

6.3.2 Warnings for Tornadoes, Severe Thunderstorms and Flash Floods

Replace the short duration warning message with any updated severe weather/flash flood statements issued after initial broadcast of these warnings. These replacement statements should briefly restate the essential basics of the warning (what, where, when) followed by the new information concerning the event. The replacement statement will mention if a warning had been cancelled, or allowed to expire. A summary message containing up-to-date information on all existing watches, warnings, and advisories in the area may be used, but the summary must include up-to-the-minute current information. When multiple warnings are in effect, include only brief call to action statements that relate to saving lives and property.

6.3.3 Watches and Warnings for Winter Storms, High Winds, and Dust Storms

Highlight information for these watches and warnings in the service area forecast and/or summarize in the optional regional forecast and/or include in a separate message. If it is necessary to broadcast a separate watch or warning message, ensure the message does not contain conflicting information and, to the extent possible, does not contain redundant information not useful for listeners in the broadcast service area.

6.3.4 Watches and Warnings for Hurricanes and Tropical Storms

Broadcast relevant content from the latest Hurricane Local Statement (HLS), the Tropical Cyclone VTEC (TCV) product (where available), and the National Hurricane Center (NHC) or Central Pacific Hurricane Center (CPHC) public advisory, editing for brevity. Do not broadcast the entire NHC or CPHC public advisory due to its lengthy and detailed nature. Indicate, as deemed locally appropriate, cumulative probabilities through 72 up to 120 hours for locations within the broadcast service area as appropriate and as authorized in *NWSI 10-601,* WFO Tropical Cyclone Products. The broadcast should highlight any watches and warnings for hurricanes or tropical cyclones for those service areas affected.

During hurricane, tropical storm, and storm surge warnings, limit the programming to separate warning message with the advisory, service area forecast, short term forecast, hourly weather roundup, safety rules, or any relevant HLS or TCV.

6.3.5 Warnings for Marine and Other Marine Events

a. Special Marine Warnings and Follow-up Statements. Broadcast information for each event in the broadcast service area as a separate message. See section 6.3.2 for suggested updating procedures.

b. Other Marine Weather Warnings. Broadcast all other marine warnings, weather-related statements, and advisories that apply to a WFO's marine forecast area (see Appendix C).

c. Special/Urgent Marine Information. In the interest of marine safety and at the request of the USCG or other appropriate authority as designated by regional headquarters, NWS WFOs should broadcast information dealing with an emergency marine situation where: (1) life and/or property is imminently threatened, and (2) such information could help prevent further losses. The USCG selects messages that are within the appropriate NWR listening range and

deliver the information ready for broadcast (without editing by the NWS). Any WFO that has effective NWR coverage in the area of USCG concern should broadcast the USCG message as requested.

Try to limit these USCG or other appropriate marine authority messages to no more than 30 to 40 seconds (about 70 words). Keep the broadcast in the programming until the message is updated (normally two (2) to three (3) hours) or until the USCG cancels it. Consider using the periodicity feature in the broadcast cycle for messages that are not updated frequently. Do not broadcast these messages for longer than 12 hours or replace any routine weather products broadcast over NWR with them. A sample message follows:

"*The following emergency marine information is transmitted at the request of the U.S. Coast Guard. …An oil tanker and freighter have collided at the entrance to the Puget Sound between Ft. Warden and Ft. Casey. The channel is blocked and oil covers much of the water surface in the area. All mariners are requested to stay clear of the area*."

In the event NWS priorities require temporary suspension of the USCG broadcast, or a station emergency prevents the NWS from broadcasting the message, the NWS should notify the requesting USCG office of the situation as soon as possible.

The WFO and USCG should periodically review the procedures for delivery and broadcast of these messages. NWR broadcast of USCG safety, security and limited public service information via NWR is addressed in a Memorandum of Agreement between the USCG and NOAA/NWS regarding the management of marine weather administered by the NWS AFSO Marine, Tropical, and Tsunami Services Branch.

6.3.6 Watches, Warnings, and Related Statements for Floods

Broadcast flood products (including river, coastal and lakeshore flood) for the broadcast service area in a separate message. WFOs may also summarize flood statements in the service area forecast or optional regional forecast. Also, determine if broadcasting this information for nearby areas to the service area will be of value to listeners in those areas.

6.3.7 Watches and Warnings for Tsunamis

When tsunami bulletins apply to the broadcast service area, broadcast each as a separate message using only the predictions for the broadcast service area. Because of rapidly changing water levels associated with a tsunami, do not broadcast local water level observations.

Broadcasting information, on tsunami-related evacuation over NWR, is only permitted if prior arrangements were made with local emergency management authorities to receive the timely information; such as requests to relay NWEMs (see Appendix F and NWSI 10-518). Provide the source of the evacuation information in the message. If there are no such arrangements, the following statement should be added at the end of a tsunami warning issued by the responsible Tsunami Warning Center:

"*Due to rapidly changing conditions associated with tsunami wave activity, listeners are urged to tune to local Emergency Alert System media for the latest information issued by local disaster*

preparedness authorities. They will provide details on evacuation of low-lying areas, if that is necessary, and when it is safe to return after the tsunami threat has passed."

6.4 Non-Weather Emergency Messages (NWEMs)

FEMA authorizes NWS to relay on NWR potential life-saving messages originated and authenticated by state, tribal, local, and other federal government agencies. These messages, known as NWEMs, should meet the issuance guidelines outlined in NWSI 10-518, Non-Weather Emergency Products Specification, section 3. Most NWEMs prepared for an NWR broadcast will first be generated in a text product format as specified in NWSI 10-518. WFOs will honor requests by an emergency manager or public safety official to broadcast an NWEM on NWR, but without accompanying text product dissemination if the NWEM meets issuance guidelines applicable to NWR broadcast in NWSI 10-518, section 3. Appendix F of this directive provides procedures for how these guidelines may be implemented which may be expanded in the future after additional coordination with FEMA and other authorities.

6.5 Required Weekly Test (RWT)

WFOs should activate the 1050 Hz WAT and NWR SAME test code features of NWR for test purposes each Wednesday between 10 a.m. and 1 p.m. local time, except when severe weather is ongoing or threatening. At the regional headquarters' discretion, WFOs may broadcast the RWT additionally at certain other times (e.g., evening prime time) to suit stated customer needs and within office capabilities. WFOs should not broadcast the RWT using automated scheduling unless there is a specific procedure to ensure the test does not inadvertently air while severe weather is ongoing or threatening.

Immediately after transmitting the appropriate NWR SAME and 1050 Hz WAT, broadcast the following message (which may be shortened at the WFO's option, except include counties/parishes/areas).

"*This is the National Weather Service Office in **city**. The preceding signal was a test of the Weather Radio Station **LLL-NN's** public warning system. During potentially dangerous weather situations, specially built receivers can be automatically activated by this signal to warn of the impending hazard. Tests of this signal and receivers' performance are normally conducted by the National Weather Service at **time** each **day of the week**. If there is a threat of severe weather, the test will be postponed to the next available good-weather day. Reception of this broadcast, and especially the warning alarm tone, will vary at any given location. This variability, normally more noticeable at greater distances from the transmitter, can occur even though you are using a good quality receiver in good working order. The warning alarm tone will be activated for hazardous watches and warnings for the following **counties list of counties/parishes/boroughs/independent cities, or other designated areas.** This concludes the weekly test of Weather Radio Station **LLL-NN**.*"

Where more than one state is involved, include the state name before the names of the counties in that state.

If, for any reason, the test was missed during the scheduled timeframe, then the next test should not take place until about 24 hours later on the next available good-weather day.

As part of the weekly test, verify that the 1050 Hz WAT and NWR SAME test code was transmitted properly to verify proper operation of the NWR transmitters. This procedure is described in Appendix B.

7 Broadcast Outage and Suspension Rules

7.1 Notice of Planned or Unplanned NWR Broadcast Outage

In the event of an NWR broadcast outage planned at least 24 hours in advance, broadcast a brief message periodically during the 24-hour period before the outage. Immediately broadcast and frequently repeat planned outages scheduled to occur in less than 24 hours. For example:

"*NOAA Weather Radio station KEC-75, Des Moines, Iowa, will be off the air for maintenance from 10 a.m., Wednesday, until about 9 a.m., Thursday*."

Include the estimated time of return if known. Avoid such general terms as "Thursday morning" or "Monday night."

When frequency interference with other agencies requires temporary suspension of NWR broadcasts, a brief message should broadcast over the NWR just before the suspension. A sample message follows:

"*NOAA Weather Radio station KHB-36, Washington, DC, will be off the air from 7 a.m. until 3 p.m., Thursday, because of technical difficulties. If weather warnings are required during the period, NOAA Weather Radio will resume broadcasts as soon as possible*."

When NWR equipment is taken off-the-air or an unplanned outage occurs, send a Public Information Statement (PNS) to prominently announce the outage on the WFO's web page, and/or announce it using the local NWS telephone recording system, if feasible. The following is an example of a suggested message used to advise subscribers of an NWR outage.

Example:

NOUS41 KLWX 161230
PNSLWX

Public Information Statement
National Weather Service Baltimore/Washington
830 AM EDT Tue Apr 16 2017

NOAA Weather Radio KHB-36 Washington DC will be off the air due to technical difficulties from 10 AM today, Tuesday, until about 9 AM Wednesday. If weather warnings are required during the period, NOAA Weather Radio will resume broadcast at once.
$$

All outages (planned or unplanned) will be reported to the regional headquarters and NWR Program Office (DIS/DSB), as quickly as time will allow. All unplanned outages will be documented using the Unscheduled Outage System (USOS), reporting critical outages as described in NWSI 30-2112, Reporting Systems Equipment and Communications Outages.

7.2 Broadcast Suspension Rules

Federal, state, tribal, and local government agencies often use frequencies near the NWR designated frequency band. On occasion, these agencies (e.g., Department of Treasury, U.S. Forest Service) will temporarily move into an NWR broadcast service area with a mobile radio system to cope with a highly critical situation. When NWR is the suspected cause of interference to another emergency radio system, the NWS will eliminate the radio interference by following procedures in NWSI 10-1711, NOAA Weather Radio All Hazards (NWR) System Management. For further help, the regional headquarters may contact the NWR Program Office (DIS/DSB). In addition, the following provides guidance for when to suspend NWR operations.

7.2.1 Routine Request

Following are guidelines to suspend NWR operations when interference is expected.

a. Designated staff of an agency involved in a critical operation should first prove, by "on-off" short duration tests with the local NWR involved, the interference is actually a result of NWR.

b. If shown that the interference can be eliminated by the temporary suspension of an NWR station operation, the designated contact for that agency should request from the WFO a temporary shutdown for that station. The WFO should strive to solve the problem, with immediate notification to the regional headquarters for relay to the NWR Program Office (DIS/DSB). If the problem cannot be resolved, the WFO should coordinate with the regional headquarters to notify or coordinate with the NWR Program Office (DIS/DSB), if necessary.

c. Any WFO that has been requested to temporarily shut down or suspend NWR operations, in accordance with the above guidance, should continue operations—or immediately resume the broadcast operations—during actual or imminent severe weather, flood, or other disasters.

d. If a WFO has temporarily suspended NWR operations, follow notification procedures of the NWR facility outage as outlined in section 7.1.

e. Any WFO that has been requested to temporarily suspend NWR operations, in accordance with the above guidance, should continue operations, or immediately resume the broadcast operations, during actual or imminent severe weather, flood, or other disasters. WFOs should inform the regional headquarters when this situation arises and the regional headquarters should relay that information to the NWR Program Office (DIS/DSB), who will relay it to the designated contact for the other agency involved.

7.2.2 Emergency Request

Section 7.2.1 provides guidance for expected interference conditions, but not all situations can be

anticipated. When NWR unexpectedly causes interference to another emergency radio system (i.e., fire trucks, ambulance, etc.) and no severe weather is occurring or imminent, the NWR office should suspend the NWR broadcasts if requested by the other agency. If a WFO has temporarily suspended NWR operations, follow notification procedures of the NWR facility outage as outlined in section 7.1. The WFO should notify the regional headquarters as soon as possible, who will relay it to the NWR Program Office (DIS/DSB). The WFO, in coordination with the regional headquarters and the NWR Program Office (DIS/DSB), if feasible, should work with the involved parties toward resolution and resume NWR broadcasts as soon as possible.

7.3 Evacuation of the WFO

When a WFO must evacuate due to a bomb threat, fire, hazardous material incident, or other hazard, add a short message to the broadcast program if time permits. For example, "Some updated information may not be available until further notice." **For security reasons and to avoid anxiety by listeners, do NOT mention that the office has been evacuated**.

8 Quality Assurance

The WFO and regional headquarters have the primary responsibility for maintaining the quality of content and signal of NWR broadcasts. The broadcast quality should be checked by the WFO regularly. The regional headquarters should verify that appropriate training is available and given to WFO staff on how to maintain that quality. See Appendix A for information on training and practice requirements to assure proficiency.

8.1 Quality Assurance on Shift

The WFO should assure quality by on-shift monitoring and active participation of an NWR program leader. Monitoring of the broadcast programming should be done at least once during the shift to ensure the information is timely, complete, consistent, accurate, and of clear audio quality. For those transmitters whose broadcast does not reach the WFO, check the audio quality using either ROAMS or other NWR system monitoring features. Check the actual broadcast audio from the transmitter once a week as part of the RWT. Each person placing a message in the broadcast program should see that the product is reviewed and proofread, and evaluate the new product's impact on the total program before broadcasting it.

See Appendix B for identification of NWR system problems by ROAMS and the appropriate responses by WFO personnel.

8.2 Recovery after an Inadvertent Alert is Broadcast

If the SAME and/or 1050 Hz WAT is inadvertently transmitted with or without an associated audio message, the issuing WFO will take the following steps:

a. Take the steps described in NWSI 10-1701, section 7.3, *Recovery After an Inadvertent Test or Practice Message*, if a text product was transmitted in addition to the NWR audio broadcast.

b. Remove the errant message immediately from NWR broadcast and issue a retraction message broadcast as soon as possible.

c. State in the follow-up retraction message that the errant alert tone(s) was issued in error and, as appropriate, no significant weather or hazardous event is expected.

8.3 Drills of Broadcast Rules for Critical Events

Each WFO will conduct and document periodic drills using procedures outlined in Appendix A.

8.4 NWR Program Leaders

Each WFO should have an NWR program leader(s) who will:

a. Ensure manuals, handbooks, and logs are kept up-to-date and all NWR operators are familiar with current operating instructions and techniques for preventive maintenance, as locally determined.

b. Carry out any NWR-related duties assigned by the WFO management.

c. Assist the NWR system focal point (if not the same person) in the programming and maintenance of the NWR system.

d. Ensure educational and promotional materials and the NWR webpage on the WFO website, if appropriate, are adequate and up-to-date (see section 12).

e. Assist WFO management in the NWR Operator Proficiency Program, as described in Appendix A.

9 NWR as a Substitute for Other Means of Dissemination

NWR broadcasts are one method WFO management should use to lighten the total dissemination workload of the office. Recordings created by the NWR broadcast management system should be used to reduce the number and variety of manual telephone recordings, as well as reduce the number of incoming telephone calls to the office.

10 Use of NWR by the Broadcast Industry

The FCC permits all broadcast stations to re-broadcast NWR transmissions. Appendix H is a copy of the FCC rebroadcast rules applicable to all broadcast stations found in Title 47: Telecommunications Part 73, Section 1207. It lists the conditions placed on the blanket re-broadcast authority. The same conditions apply to re-broadcasts of NWR on amateur radio. See also NWSI 10-1711, NOAA Weather Radio All Hazards (NWR) System Management, for proper process and references to agreement forms for direct access to NWR audio output.

Regional headquarters and WFOs should encourage cable TV systems and radio and TV broadcast stations to: (1) Re-broadcast NWR programming where areal coverage coincides with the NWR broadcast service area and (2) refrain from the rebroadcast of NWR programming, including warnings, in areas well beyond the NWR listening range.

The NWR serves as the NWS's primary input to the EAS through the use of NWR SAME technology, which has the identical communications protocols as the EAS. The “EAS Participant” definition does not include NWS or NWR stations. NWS at the national, regional and WFO levels should continue to work closely with their respective broadcast industry and emergency management partners to assure the success of the EAS. WFOs, along with their EAS

partners, should be involved in creating state and local EAS plans. See Appendix G for NWS policy regarding the use of the 1050 Hz WAT and authorized NWR SAME codes on NWR broadcast messages.

11 Restrictions under Operating License

The NWS is licensed to operate individual NWRs through the Interdepartmental Radio Advisory Committee (IRAC). The National Telecommunications and Information Administration (NTIA) of the DOC chairs this federal committee. IRAC controls NWS operations of the NWR, and other government-operated radio stations, in the same way the FCC does for commercial and other non-federal groups and organizations. Each NWR license is granted for a particular power setting and frequency at a specific site. The power, frequency, or location of an NWR station cannot be changed without prior coordination with regional headquarters, WSH (DIS) and approval from the IRAC.

12 Public Education and Promotion

To be fully effective, NWR must employ a continuing program of public education and promotion that involves the efforts of WSH, and regional headquarters and WFOs (see also section 3.3.2). Information on NWR for the public and NWS staff is available on the Internet at: http://www.nws.noaa.gov/nwr.

The NWS cannot make any recommendations to individuals or organizations on purchasing specific brands or models of NWR receivers. NWS staff can help answer general questions on receiver functionalities, such as NWR SAME and recommended features. NWS staff can also help explain the meaning of the Public Alert ™ logo assigned to some receivers.

12.1 General Promotion Activities

WFOs should promote NWR, highlighting the 1050 Hz WAT and NWR SAME features (that limit areas to alert significant zones) and the value of NWR to schools, civic areas, sports complexes, hospitals, industrial centers, business complexes, malls, and homes. WFOs should also promote NWR awareness through outreach activities at conventions, county fairs, home and boat shows, and other gatherings and conferences at the local, regional, and national levels. WFOs should engage and encourage feedback regarding NWR programming from special customer groups and from business groups promoting the sale of NWR receivers (see section 3.3.2).

The DIS/DSB has developed and periodically updates available NWR brochures (https://www.weather.gov/owlie/publication_brochures#radio) and NWR website (http://www.nws.noaa.gov/nwr/).

NWR exhibits are available from the NWR Program Office. Regional headquarters have briefcase-sized NWR exhibits for use by regional and WFO staff to promote NWR. These exhibits are self-contained and unfold to display a variety of NWR receivers with a brief text message on NWR. NWR videotapes and NWR Public Service Announcement video and audio tapes are also available from the NWR Program Office. These videos, exhibit, and brochures can be used in combination to provide an effective presentation.

WFOs should distribute, and post to the WFO webpage, site broadcast maps showing the NWR coverage area incorporating maps maintained by the NWR Program Office when possible. WFOs should also include any unique information about the NWR service. Other public awareness activities may include various newspaper advertisements, featured articles, office telephone recordings, NWS website news headlines and stories, and social media.

A sample advertisement in the newspaper for the weather section or radio station listing section might be as follows:

WEATHER RADIO

For 24-hour NOAA Weather Radio All Hazard broadcasts, tune to 162.### megahertz.

Brief NWR promotion messages can be placed on the office phone or WFO webpage. An example follows:

"*Because of high public interest in weather, you may be unable to reach this number (or Web page) during active weather situations. You may wish to tune in to our NOAA Weather Radio station on 162.### megahertz to receive the latest weather information broadcast continuously from this office. Consult your radio sales outlet to select a suitable receiver*."

Use the NWR broadcast as "audio" whenever the office telephones are placed on-hold and/or as an audio link off the WFO webpage.

12.2 Promotion with the Broadcast Industry

WFOs should cultivate positive relationships with the local broadcast industry, including television and radio station operators, to facilitate EAS Participants directly re-broadcasting timely NWR SAME-coded emergency messages to the public. WFOs should encourage broadcast stations to rebroadcast more of the NWR broadcasts outside of the EAS arena, including follow-up statements and other supporting forecasts. As examples, some television stations do this through the Secondary Audio Programming (SAP) technology, where people can tune televisions sets to the SAP to hear the information. Some cable television facilities use NWR re-broadcasts as a "voice-over", along with radar or other graphics. These efforts should be expanded where possible.

13 Customer Feedback

WFOs should document and take action on any feedback received from the public. If feedback is not actionable at the local level, but possibly actionable regionally or nationally, WFOs should send it on to the regional focal point and DIS. Noteworthy feedback should be sent to the NWR Program Office (DIS/DSB).

14 Cooperators

NWS partners such as local community organizations, state, city, or county government(s), and private companies are encouraged to become NWR cooperators by sponsoring and funding the

installation, operation and/or maintenance of NWR stations to expand service to their communities. NWSI 10-1711, *NOAA Weather Radio All Hazards (NWR) System Management*, provides information on collaborative efforts, including processes and forms to assist these Cooperators.

APPENDIX A - NOAA Weather Radio (NWR) Operator Proficiency Program

Purpose: All NWS operational staff at the WFO must be skilled at disseminating warnings, watches, and advisories on the NWR system, including use of NWR SAME and 1050 Hz WAT, automated word pronunciation techniques, and any backup broadcast systems. Operational staff should be defined by regional and local office staff, but in general should include any individual who in the course of their duties, routine or emergency, would be called upon to perform any AWIPS operation and especially operations that process messages for NWR broadcast.

Background: The NWS's critical mission is to issue warnings, watches, and advisories for the protection of life and property and the enhancement of the national economy. The prompt and efficient issuance of these products on NWR and the EAS provides a far-reaching and effective warning/alert system to the U.S. population(s) affected. Hence, all NWS operational staff at NWR sites must be skilled at providing this warning dissemination service.

Regional Headquarters: Regional headquarters oversee an NWR operator proficiency program in the respective NWS region. This program will assure that each operational employee performed practice or real-time NWR/EAS warning issuances at enough intervals to show that WFO personnel can disseminate, in an operationally effective time, watches, warnings, advisories, and other appropriate messages over the NWR broadcast system(s) at that office.

WFOs: All operational employees will perform practice NWR/EAS warning issuance on the NWR system and any backup NWR broadcast systems annually, and at other random times determined by the WFO management. These practice sessions will utilize the BMH practice mode functionality which eliminates the possibility of messages being broadcast over the air. For the NWR system, this will include correct and timely use of its Emergency Override function and Weather Message Creation function to disseminate an NWS warning.

One of these practice sessions per year will be for the official record and be monitored by a WFO trainer (Science and Operations Officer (SOO), WCM, NWR Program Leader or other trainer selected by the WFO management) for proper rules and timeliness. The WFO management will describe other actions taken throughout the year to ensure the skill of the office staff to effectively operate NWR in critical event situations, such as watches, warnings, and advisories. Each WFO will maintain any documentation about training on file for a period of five (5) years.

APPENDIX B - NWR Remote Off-Air Monitoring System (ROAMS)

Purpose: This appendix describes the monitoring capabilities of the ROAMS and the actions that WFO staff should take in response to ROAMS messages to help timely NWR transmitter network maintenance.

ROAMS Operation: ROAMS is designed to monitor and report on the failure status of several transmitter parameters/applications. Among the parameters/applications monitored by ROAMS are: (1) primary transmitter AC power; (2) secondary transmitter AC power; (3) primary transmitter low broadcast power; (4) secondary transmitter low broadcast power; (5) program audio feed (signal at input to transmitter); (6) transmitter radio frequency (RF) carrier output; and (7) lack of broadcast audio output. Additional parameters/applications (e.g., shelter temperature) may be added to this list at regional headquarters' discretion.

Response to ROAMS Calls: If ROAMS calls the WFO on an administrative telephone line, the operator should log the date and time of the call, the ROAMS ID, and the fault number(s) reported. The operator should send a command to acknowledge the report. Each WFO that is programmed to receive ROAMS calls has instructions on ROAMS remote operation.

Many WFOs have incorporated the STATMAN system to help with monitoring calls from ROAMS units. When a ROAMS unit is programmed to call the STATMAN system that system will generate email messages to one or more addresses as defined by the WFO. The system also will separate emails between critical reports and all reports. Multiple email addresses can be programmed into the STATMAN system.

Response to ROAMS Fault Report on the NWR System: If ROAMS calls the NWR system, ROAMS will alert the operator through the Alert Message window. Each ROAMS telephone call will be reported with the transmitter ID in the Alert Message window without detailed alarm status. The operator should use the ROAMS Data window under the Transmitters menu to check the detailed alarm status. Response to ROAMS status should be as listed in Table 1.

ROAMS Fault ID*	Fault Description	Follow-up Action	Whom to Notify
Alarm #0	AC power failure to #1 transmitter and system power.	If not equipped for automatic switch-over, switch to backup transmitter if available.	Transmitter site power contact (POC).
Alarm #1	Transmitter #1 is turned off.	none	none
Alarm #2	Transmitter #2 is turned off.	none	none
Alarm #3	AC power failure to #2 transmitter.	Same as for Alarm #0	Transmitter site power POC.
Alarm #4	Active transmitter power folded back to at least 50%.	Use BMH to change active transmitter (Secondary/Primary).	Transmitter Technician.

ROAMS Fault ID*	Fault Description	Follow-up Action	Whom to Notify
Alarm #9	No RF carrier from transmitter.	(a) Use ROAMS to check transmitter input audio. (b) Use ROAMS to check broadcast audio.	If audio level acceptable then (b); else contact AWIPS Technician to verify AWIPS output; if output is acceptable contact Telecommunications POC. If audio level is acceptable, then problem has cleared; else Transmitter Technician. If console level is acceptable, then Telecommunications POC; else BMH Technician.
Alarm #10	No Broadcast audio.	See Alarm #9 response.	See Alarm #9 response.
Input Audio Alarm	Audio telephone feed has dropped below level to keep transmitter keyed.	See Alarm #9 response.	See Alarm #9 response.

Table B.1

* Note: Coordinate additional faults selected for monitoring at both regional and NWR Program Office levels.

Points of Contact: Table 1 will be included in the station duty manual with telephone numbers for the five points of contact identified in the table.

Action Report: If maintenance action is required for any equipment as the result of a ROAMS report, start an Engineering Management Reporting System (EMRS) report.

APPENDIX C - Guidelines for Basic Core and Special Customer Messages

1. Basic Core Messages. Basic core messages are those to be repeated, often as a set, on a frequent basis. Except for the brief station identification (I.D.), delete or shorten these messages, as appropriate, when warnings are in effect within the broadcast service area. Normally, program this set of core messages in the following order.

a. Station I.D. A brief station identification should appear with each repetition of the core broadcast. It should include the call sign, general broadcast service area, programming office and, if necessary, attribution information. This may be necessary at sites where free tower rent is provided, but the tower owner requires frequent attribution. At least one version of the I.D. should refer to NWR as the voice of the NWS. Two examples follow:

"*This is NOAA Weather Radio station KEC-74, serving central Indiana and originating from the National Weather Service Office in Indianapolis. You may also obtain National Weather Service warnings and forecasts on the Internet at weather.gov*."

"*You are listening to NOAA Weather Radio, the voice of the National Weather Service, serving western Washington and the adjacent coastal waters. KHB-60 Seattle and KIH-36 Neah Bay originate from the National Weather Service Office in Seattle."*

A more detailed I.D. should be broadcast on a less frequent basis (e.g., once an hour) with appropriate attribution, frequency, and transmitter location and description of the service. The detailed I.D. should not be broadcast during critical event operations; only the brief I.D. should be broadcast. Include requests for feedback concerning NWR programming and scheduling in the detailed I.D.

b. Synopsis and Optional Regional Forecast. These messages should be updated frequently enough to avoid reference to times that may be surpassed before the issuance of a replacement message. For example, do not say "snow is expected over the Great Lakes by late morning..." if the product will air past noon.

(1) Synopsis. The general synopsis should contain a discussion of weather systems that will affect the broadcast service area during the valid forecast period. The synopsis should be very brief, in layman's terms, and limited to highlighting only the most significant features. It should emphasize the first 48 hours of the forecast period and indicate pertinent information through the extended forecast periods. If marine messages are part of the core broadcast programming (see section 2.a below), the marine synopsis may be used instead, provided it describes features affecting both marine and land areas in the broadcast service area.

(2) Regional Forecast (optional). This is an optional overview, created for NWR, of the weather beyond the broadcast service area for a multitude of uses, such as marine, travel, outdoor activities, construction, media re-broadcasts, etc. It

normally should not exceed 1 minute in length. The region covered should include the area out to a radius of about 300 miles from the transmitter.

For brevity, include in the forecast portion information for no longer than the next 36 hours. Place emphasis on problem areas associated with rain or snow, severely restricted visibility, and significant variations in temperature. A small number of larger city forecasts may be highlighted where significant listener need or interest exists. Alaska, Hawaii, or Puerto Rico may include weather to common destinations beyond the normal regional range (including mainland United States) or restrict the region to areas reachable by land. The latter would apply to U.S. coastal stations as well.

Information in the regional forecast for winter storm and high wind watches and warnings should be summarized, avoiding specific details. Include specific information in other portions of the broadcasts.

Avoid details on specific severe thunderstorm, tornado, flood, or flash flood watches in the regional forecast. Instead, use language or terms similar to the convective outlook about the potential for severe convective weather and flash floods. Include specific watch and warning information for severe convective weather and flash flooding for the broadcast service area in other portions of the broadcast.

Use information from the latest advisory on hurricane/tropical storm watches and warnings. At a minimum, include the storm location and strength as well as the 24-hour forecast movement and strength. Local offices or regional headquarters should set policies or guidelines to broadcast such information for appropriate distances beyond the regional area.

Temperature forecasts should be general and need not be closer than ranges of 10 degrees. Do not mention discussions of current or past weather unless relevant to the forecast conditions or if they will impact customers, such as those traveling into flooding or deep snow.

c. Service Area Forecasts. This forecast should cover, at a minimum, the main population base of the broadcast service area, as covered in the zone forecast product. Also include the extended forecast modified for the broadcast service area but with more general information than the 1- to 3-day forecast. Do not include short duration warnings (e.g., for tornadoes, severe thunderstorms, and flash floods) since they are carried on a separate broadcast segment. Highlight most other watches, warnings, and advisories.

d. Weather Roundups. Broadcast the latest observations within the broadcast service area around-the-clock and update them at least hourly. You may also include in the roundup observations or a summary of weather conditions adjacent to the broadcast service area out to a range of 100 to 300 miles. Offices in Alaska, Hawaii or Puerto Rico, because of their large areas of coverage, may include weather observations of interest to listeners beyond 300 miles. State the time of the observations. Update or remove observed weather from the core set of messages no later than 1 hour and 20 minutes after the valid

time of last observation. If for any reason it becomes impossible to update this hourly, either automatically or manually, remove the weather roundup from the broadcast until it can be updated.

Some observations taken at 2- to 3-hour intervals, such as marine, still may be of some value for a longer time. If you include them in later updates, state the specific time of these observations. Use an available formatter to produce the roundup.

e. Short-Term Forecast. Broadcast any Short-Term Forecast in effect for the broadcast service area. Refer to NWSI 10-517, Multi-Purpose Weather Products Specification.

2. Special Customer Messages. These messages are of interest to well-defined customer groups that make up a large part of the listening audience. To avoid redundancy, limit the parameters to those not included in other broadcast material. With the exception of marine forecasts and forecasts for rivers near or at flood levels, schedule special customer messages in selected and limited time periods. Special customer messages may vary during the day, week, or season as audience needs change. For example, commercial fishermen are closely tuned to marine forecasts early in the morning before leaving port. Messages for special customers include:

a. Marine Forecast. Program the coastal waters forecast or Great Lakes near-shore and open-lake forecast for all NWR stations listed on Marine Weather Service charts. Also broadcast offshore marine forecasts depending on listener interest. Where marine interests are dominant, the marine forecasts may make up a large portion of the broadcast cycle, or even become the core broadcast. For instance, the concept of a "marine hour" may be addressed through scheduling of a marine suite. Some marine programming should be scheduled for landlocked NWRs with significant public interest in marine areas outside the NWR broadcast service area. Include weather information for inland lakes in the NWR service area forecast or recreational/resort area forecast if it is not part of the marine forecast programming. You may also include tidal information and water temperature in marine programming.

b. Climate Data. For a period of 1 to 3 hours every morning and evening, each station should broadcast a brief summary of the day's climate data. This information should take up less than 1 minute and should include high and low temperatures and precipitation. You may broadcast data, such as degree days and normals, solar information, and record reports. You also may program statements summarizing the monthly climatic data, dry spells, or other timely features. Recommended local broadcast times are from around 7 a.m. to 9 a.m. and 7 p.m. to 9 p.m., depending on listener feedback, AWIPS issuance times, and local staffing considerations.

c. Hydrologic Observations and Forecasts, Tide Data, and Water Temperature. Include this information, according to customer needs, when reasonably large streams, rivers, lakes, or coasts are in or near the broadcast service area according to customer needs. Broadcast this message continuously when a hazard exists. Otherwise, broadcast this message in a limited time interval.

d. Fire Weather Forecasts. Include this information only during the fire season and where major forest, brush, or grass fires are possible or occurring. If the forest is out of the broadcast service area, you could include the information in the regional forecast.

e. Air Quality Information. Broadcast this information when pollution is above a critical safety level and the information is available from a local government agency. Include the time and the source of the report.

f. Recreational Forecasts. Limit these to areas where a significant percentage of the listeners are expected to go. These forecasts should describe weather events that will enhance or restrict activity. Incorporate these forecasts, as desired, in the regional forecast.

g. Weather-Related Road Information. Include road condition reports when there are hazards (typically in winter) and when the reports are easily available with frequent updates from an official source. The data should be summarized and require little or no writing or editing by NWS staff. To aid motorists, if approved by the officials involved, broadcast telephone numbers and web sites of the official sources. Also include the time and source of the report.

Example:

"AT 11:00 AM THE IOWA STATE POLICE REPORT INTERSTATE HIGHWAYS AND MAJOR US ROUTES WEST OF...ARE..."

h. Ultraviolet Index (UVI) Forecasts. WFOs that have UVI forecast sites within their NWR broadcast service area(s) should broadcast those UVI values on the appropriate NWR transmitters.

APPENDIX D - NWR System Basic Terms and Definitions Related to Broadcast Scheduling

(Weather) Messages: The most important unit of information that the NWR system handles. A message consists of two parts: the message header (i.e., the message attributes including the message identifier) and the message content (i.e., information intended for broadcast). Messages may be live voice, digitized voice, or ASCII text. They may be input directly at the NWR system (by microphone) or from AWIPS.

Message Type: Name of message. The NWR system uses message types analogous to legacy Automation of Field Operations and Services PILs, i.e., contains information in eight or nine characters (cccnnnxxx or cccnnnxx) about the "ccc" node origination site (source of the message), the "nnn" product category (e.g., severe weather statement), and the "xxx" or "xx" specific product designator.

Broadcast Suite: A list of message types that are eligible to be broadcast when that suite is active. Categorized by "General," "High," and "Exclusive," these are ascending orders of program urgency relating to restricted message types in the suite.

Broadcast Program: Each suite is assigned to a program, and there will be multiple suites assigned to a single program. These programs are then assigned to a specific transmitter and result in the broadcast itself.

Emergency Override: Operation used when the NWR system is working, but an emergency situation exists that requires immediate human access to the transmitter. Cuts off current broadcast for the operator to "go live" with emergency information. These "live" messages can be recorded for subsequent insertion into the ongoing broadcast program.

Listening Area Codes (LACs): These are essentially Universal Geographic Codes (UGCs) renamed to identify their specific use by the NWR system. It is a code that identifies geopolitical areas (e.g., NWS defined zones, counties/boroughs/census areas, parts of counties, and even independent cities) to which a message applies.

Message Reference Descriptor (MRD): One of the attributes required to uniquely identify messages in the NWR system. Used ultimately to determine whether a message should be replaced or not.

Periodicity: Messages may be scheduled so they are inserted at specific time intervals. This time interval is the periodicity (i.e., a message set to broadcast every 10 minutes has a periodicity of 10 minutes).

Broadcast Cycle: The broadcast cycle can be considered as the core set of messages currently playing, including those playing sequentially and those playing periodically. On the NWR system, the broadcast cycle is depicted as inclusive of those message types listed on the broadcast cycle screen. Broadcast cycle length is the length of time it takes to broadcast all of those messages.

Manual Operations: Use of the NWR system for manually recording and scheduling messages rather than using automated text-to-voice capability.

Practice Mode: The mode of operation that allows operators to perform any BMH function without risk of creating messages that will be broadcast over the air.

APPENDIX E - NWS Action Plan for NWR Receiver Recall

At times, the NWS will be made aware of NWR receivers that have been recalled, either voluntarily by the manufacturer, or announced through the U.S. Consumer Product Safety Commission (CPSC) press releases. Based on decisions made by the NWR Program Office (DIS/DSB), action may be required by WFOs. WFOs should not disseminate information or respond to questions about recalled NWR receivers until an official statement has been coordinated and released by the NWR Program Office (DIS/DSB). See NWSI 10-1710, *NOAA Weather Radio All Hazards (NWR) Dissemination*, section 12, for education information and cautionary statement about making NWR receiver recommendations.

1. The NWR Program Office (DIS/DSB) will research available information and determine if the NWR receiver recall circumstances meet criteria for broadcasting a non-weather-related announcement as listed in NWSI 10-1710, *NOAA Weather Radio All Hazards (NWR) Dissemination*, section 5.4.

2. If the recall circumstances do not meet the criteria, the action officer will inform NWS Headquarters and regional offices of the pertinent facts.

3. If recall circumstances meet the listed criteria, the action officer will:

    a. Coordinate with General Counsel and Public Affairs on a draft Special Announcement, using the Special Announcement template in Attachment 1 as guidance.

    b. Inform the weather radio manufacturer's point of contact of the planned NWS action, provide a copy of the draft Special Announcement if possible, and allow reasonable time (five business days) for comment.

    c. Distribute via email instructions and Special Announcement script to WFO WCMs and regional headquarters Meteorological Service Divisions (MSDs). The MSDs may redistribute at their discretion.

    d. Transmit a version of the scripted Special Announcement via a national Public Information Statement (PNS) with the following Communications Identifier:

        NOUS41 KWBC DDHHMM (issuance date/time in UTC)
        PNSWSH

    e. Maintain a weather radio receiver recall link to the U.S. Consumer Product Safety Commission (CPSC) on the NWS NWR receiver information webpage at: https://www.weather.gov/nwr/nwr_receivers.

4. Upon receipt of the instructions and Special Announcement script, WFOs will take the following actions as soon as practicable:

a. Record and broadcast on every NWR transmitter the Special Announcement script provided verbatim without deviation. Broadcast the scripted message once each hour for a seven-day period, then re-record and broadcast twice each day at 9 a.m. and 9 p.m. local time for three (3) additional weeks.

b. WFOs that maintain a local NWR webpage on their WFO webpage will have a weather radio receiver recall link to the Consumer Product Safety Commission (CPSC) website. As a template, use the format seen at: https://www.weather.gov/nwr/nwr_receivers#recalls, or use the template below (Attachment 1).

c. NWS offices will post a news headline (or teaser) with link to the CPSC news release and/or link to the CPSC website on their office webpage with decreasing frequency for up to one year.

d. Provide the following information to telephone and personal inquiries regarding the scripted Special Announcement for the recalled weather radio:

(1) The recalled radio is only (manufacturer and model number).

(2) If they own a (model number) radio, they should call (manufacturer) at (phone number, including hours number is attended if not covering daytime business hours for entire U.S.) or visit the company's website at (company webpage).

(3) The CPSC 24-hour hotline is 1-800-638-2772, and the CPSC website is: http://www.cpsc.gov.

Attachment 1

Weather Radio Receiver Recall Script

THIS IS A SPECIAL ANNOUNCEMENT.

(***Manufacturer***), in cooperation with the U.S. Consumer Product Safety Commission, is (*voluntarily*) recalling one of its Weather Radios, Model (***number***). (Sentence describing appearance of radio and where to find model number, if appropriate). The radios are being recalled because (***reason, taken from CPSC information***). (Advisory information taken from CPSC press release or received from the manufacturer such as "consumers should not rely on the recalled weather radio to receive emergency information.").

Owners of (***model number***) should call (***manufacturer***) at (***phone number***, include hours number is attended if not covering daytime business hours for entire U.S.) (...or visit the company's website at (URL) (if Web option available)). This recall is ONLY for (***manufacturer***) Weather Radio (***model number***). This message will be repeated (hourly, daily at 9 a.m. and 9 p.m.).

APPENDIX F - Dissemination Rules for National and Regional Non-Weather Emergency Messages (NWEMs)

1. Introduction. These procedures will be used to disseminate NWEMs from authorized government agencies (federal, state, tribal and local) for hazards affecting the Nation or large regions of the country (i.e., several or single states or territories). The phrase 'non-weather emergency messages' are those hazards for which NOAA's NWS does NOT have mission authority to originate emergency messages. NWS can disseminate NWEMs as authorized by the Robert T. Stafford Disaster Relief and Emergency Assistance Act, and as implemented by the Department of Homeland Security (DHS) National Response Framework (NRF). DOC's/NOAA's responsibilities include using NWR as input to the EAS and providing the public with critical, All Hazards information using multiple information dissemination systems. These resilient "one-to-many" means of communications are also useful during and after a catastrophic disaster, whether natural or manmade, or failure of infrastructure. NWEMs include, but are not limited to, enemy attack, terrorist-related emergency, avalanche, earthquake and volcano activity, etc. Tsunamis and volcanic ashfall, while normally resulting from earthquake and volcanic activity, respectively, are considered weather-related as the emergency messages are prepared by NWS. Authorization for NWS offices to distribute non-weather emergency messages or All Hazards emergency messages via NWS dissemination systems is addressed in NWSI 10-518, *Non-Weather Emergency Products Specification*. Section 6.4 of this document and NWSI 10-1708, *Enhanced Non-Weather Emergency (NWEM) Dissemination*, provides additional guidance to establish local WFO procedures.

2. National/Regional NWEMs will be distributed by FEMA via NAWAS or other means to state and territorial authorities who make further distribution that may involve requests to WFOs for NWR broadcast and/or text dissemination.

3. At the request of state, territorial, tribal and local authorities, WFOs will disseminate NWEMs in accordance with local NWEM procedures.

4. Training Exercises. NWS WFOs will be notified of training exercises in advance by the official government source. WFO management will periodically review these instructions with all staff that might have to broadcast a National or Regional NWEM alert or warning.

APPENDIX G - Use of NWR SAME and 1050 Hz Warning Alarm Tone

Table of Contents:

1. Introduction. An important NWR function is to serve as the NOAA/NWS's primary input to the EAS through the use of NWR SAME technology. EAS uses the identical communications protocols as NWR SAME.

1.1 EAS Background. In 1951, President Truman established CONELRAD (CONtrol of ELectromagnetic RADiation). Under CONELRAD, during a national emergency only designated radio stations remained on the air and alternated their transmitting frequencies. It was designed to prevent enemy airborne direction-finding equipment from using transmissions from broadcast stations as homing beacons.

In the 1960's and 1970's, the "Emergency Broadcast System" (EBS) evolved from CONELRAD. EBS was designed to provide the President with a means to address the American people in the event of a national emergency. Through EBS, the President had access to thousands of broadcast stations to send an emergency message to the public.

In 1994, to overcome some of the limitations of EBS, the FCC decided to replace EBS with EAS. The major difference between EBS and EAS is the method used to alert broadcast stations about an incoming message. On January 1, 1997, EAS officially replaced the EBS on radio and television. The transition for cable systems to EAS began on January 1, 1998. EAS is governed by FCC Part 11 Rules https://www.ecfr.gov/Part 11.

EAS provides not only the President, but also national, tribal, state and local authorities, with the ability to give emergency information to the general public via broadcast stations, cable and wireless cable systems. While participation in national level EAS alerts is mandatory for these providers, state and local area EAS participation is voluntary. It is important to note the "EAS Participant" definition does not include NWS or NWR stations. However, NWS works closely with the FCC, the broadcast industry and emergency management partners to assure the success of the EAS.

Current and archival EAS resource information is found on the FCC's EAS webpage at https://www.fcc.gov/emergency-alert-system.

1.2 Updated FCC Part 11 EAS Rules. Periodically, FCC Part 11 EAS rule changes affect NWR operations directly or the manner in which EAS participants relay NWR SAME alerts.

In February 2002, the FCC adopted numerous new All Hazards, weather, and natural disaster event codes and NWS marine area location codes. In July 2016, the FCC adopted three new Event codes for weather messages, Extreme Wind Warning (EWW), Storm Surge Warning (SSW) and Storm Surge Watch (SSA), and in December 2017, adopted one new Event code for a non-weather or All Hazards message, BLU Alert (BLU). NWS implemented the new codes in NWR SAME within a year of adoption by the FCC.

1.3 State Emergency Communications Committee (SECC) and Local Emergency Communications Committee (LECC). NWS field offices, in conjunction with the NWS State Liaison Office (SLO), should work closely with their SECC/LECC along with other appropriate EAS planning groups to create, maintain, and test state and local EAS plans. The state and local EAS plans written by these groups are used by broadcast and cable facilities to ensure their respective EAS plans are in accord with FCC rules. EAS planning group membership and activities vary by locale, but other members should include representatives from state, local and tribal governments including emergency managers, state broadcaster organization(s), and local chapter(s) of the Society of Broadcast Engineers (SBE) and Society of Cable Telecommunications Engineers (SCTE). The SBE National EAS Committee and the SCTE national EAS Subcommittee are resources also committed to EAS improvement at the state and local levels.

These planning efforts help ensure that weather and NWEMs are appropriately validated, coordinated and disseminated. Planning should include the establishment of alternate methods of message entry and validation for use when the NWS primary method of EAS message entry (NWR) is not available. NWS field offices and regional offices will work diligently to ensure that state and local EAS plans are valid and, to the extent possible, permit NWS field offices to implement the principles and guidelines established in this appendix.

2. NWR SAME. The SAME protocol consists of discrete bursts of digital code embedded in the NWR broadcast, specifying certain information including the event (hazard) type, the geographic area affected by the message, the valid time of the message, and the message originator. See NWSI 10-1712, *NOAA Weather Radio All Hazards (NWR) Specific Area*

Message Encoding (SAME), for the technical specifications, message code format, and protocol for NWR SAME.

2.1 SAME and EAS Compatibility. Compatibility of SAME and EAS protocol and codes allows NWR broadcast of SAME to be decoded by the EAS equipment at broadcast stations and cable systems. Broadcasters and cable operators can then relay weather emergency messages and all-hazard emergency messages almost immediately to their audiences.

The action taken by each broadcaster is normally guided by plans established by an agreement with the SECC and the LECC if one exists.

Although Common Alerting Protocol (CAP) is a significant new method being phased into the EAS communications infrastructure, the SAME protocol continues to be used as the distribution via NWR and EAS.

2.2 SAME/EAS Event Codes. SAME/EAS event codes indicate the nature of the alert activation.

a. Current event code naming convention. The 2002 FCC EAS Report and Order (R&O) adopted the NWS naming conventions for EAS event codes. The third letter of most[1] new hazardous state and local event codes is limited to one of four letters:

"W" for warnings - defined as an event that alone poses a significant threat to public safety and/or property, probability of occurrence and certainty of location is high, and the onset time is relatively short.
"A" for watches - defined as an event that meets the classification of a warning, but either the onset time, probability of occurrence, or location is uncertain.
"E" for emergencies - defined as an event that, by itself, would not kill or injure or do property damage, but indirectly may cause other conditions to develop which could result in a hazard. (This is very similar to the FCC's definition: events that do not meet the definition of warning or watch but are of such a nature that the information is important and may require public response.) For example, a major power or telephone loss in a large city alone is not a direct hazard, but disruption to other critical services could create a variety of conditions that could directly threaten public safety.
"S" for statements - defined as a message containing follow up information to a warning, watch, or emergency.

This naming convention makes possible a wider range of consumer products without lessening the current capabilities of the EAS or NWR SAME As future NWS or NWEM event codes are developed, consumer receiver devices that meet certain technical standards outlined by Consumer Technology Association (CTA) Standard 2009-B (or current revision), *Performance Specification for Public Alert™ Receivers*, and incorporate the NWS and FCC naming conventions for SAME event codes, can appropriately identify and display the message as a warning, watch, emergency or statement. For example, if the third letter in an event code is "W", the consumer device

1 The code 'BLU' has since been created by an outside office and does not follow this scheme. Others may exist.

would recognize the event as a warning message, even if the device does not recognize the first two letters of the event code.

NWS weather advisory messages and associated follow-up statements do not have corresponding SAME/EAS event codes and will not be broadcast with any existing SAME/EAS event code or the 1050 Hz WAT.

b. Carryover Event Codes. Some event codes implemented in 1996 prior to the adoption of the naming convention do not follow the guidelines listed in section a. above. Due to the desire for backwards compatibility of existing NWR receivers and EAS equipment, those few codes will continue in use (e.g., Tornado Warning [TOR], Severe Thunderstorm Warning [SVR], Evacuation Immediate [EVI], and Civil Emergency Message [CEM]).

c. Forward Compatibility. Most existing NWR SAME receivers should be forward compatible and properly decode new SAME/EAS event codes appropriately as an "Unknown Watch", "Unknown Warning" or Unknown Emergency", based on the third character of the SAME event code (A, W, E, respectively), since that specification has existed since the rollout of SAME.

d. Lack of one-to-one correspondence between NWS event types and EAS codes. Not all NWS watch and warning event types are directly represented by an equivalent SAME/EAS event code. Table G-1 lists the NWS product categories (and AWIPS codes) and the associated SAME/EAS event name (and NWR SAME/EAS code), if any.

e. NWEMs. NWEMs are prepared by local or state civil authorities and may be relayed over NWR and EAS. Recommended definitions and content of NWEMs is available in NWSI 10-518, Appendix B.

3. NWR Broadcast of SAME and 1050 Hz Warning Alarm Tone (WAT). Use of SAME protocol and the NWR 1050 Hz WAT provides listeners the capability of an immediate alert and notification of information about life threatening hazards. Figure G-1 provides guiding principles for the use of the SAME and 1050 Hz WAT and when to interrupt programming with watches or warnings. Table G-2 gives specific details for use of NWR SAME, 1050 Hz WAT and Program Interrupt for each weather and non-weather related SAME/EAS event.

Local discretion is permissible in response to customer requirements especially those of emergency managers and broadcasters as agreed to in state and local EAS plans. NWS staff will consider the specific situation and the need for immediate notification.

Pre-written or "canned" emergency messages will not be placed in AWIPS for immediate broadcast over NWR for specific sites (nuclear power plants, major dams, etc.). The danger of accidental broadcast of such messages is too great when files of such messages permanently reside on these systems. Blank templates or pre-formats are permitted in AWIPS. Pre-written messages are permitted on separate, external storage media for manual loading into AWIPS at the time a message is required for use. Additionally, pre-written, operational messages will not be stored on the same piece of external storage media as "test" or event "exercise" messages, but

rather on a different piece.

3.1 Broadcast and Alerting of Messages. NWS offices should use the information in this section, in Figure G-1, and Table G-2 to determine the use SAME and 1050Hz WAT in the broadcast of messages and in the following manner:

a. For counties/boroughs/census areas (or portions thereof) within an NWR station's broadcast service area (BSA), regardless of county warning area (CWA) boundaries, all applicable SAME "event" messages will be broadcast.

b. For counties/boroughs/census areas (or portions thereof) outside an NWR station's BSA, regardless of CWA boundaries, broadcast only those SAME "event" messages that are within range of a local primary station (LP) or state primary station (SP) which cannot be received from another NWR station and as agreed to with the appropriate SECC/LECC. These alerts should be broadcast once (without the 1050 Hz WAT), for entry into the EAS, but should not be included in the NWR cycle.

3.2 Use of 1050 Hz WAT and SAME in the Overnight Hours. Listeners have expressed concern about alerts issued during the overnight hours for events that do not pose an immediate life-threatening hazard. Many listeners do not appreciate being awakened during nighttime hours for events they cannot do anything to assist (e.g., for an AMBER or Child Abduction Alert (CAE), they will not be seeing the abductor's car from their bed) or for which no preparations need to be made until after they awake (e.g., a Flood Watch issued in advance of heavy rain beginning after 4:00 PM in the afternoon). When possible, broadcast the message upon issuance, but delay any SAME and/or 1050 Hz WAT until after daybreak for messages that do not immediately threaten the listening public. Figure G-1 provides background information for the overnight use of SAME/EAS and WAT, and Table G-2 provides a tabular breakdown for each SAME/EAS event code.

3.3 NWR and EAS SAME Live (Real) Event Code Tests. FCC rules are detailed in 47 CFR Part 11; therein, guidance is provided on Tests of EAS procedures (section 11.61) and a Prohibition of false or deceptive EAS transmissions (section 11.45). The rules are designed to prevent public misunderstanding or, far worse, adverse public reaction in connection with EAS activations that do not signal the onset of an actual emergency.

State and local emergency authorities in many areas have concluded they require use of live or real event codes for certain tests usually conducted in conjunction with a hazard(s) or emergency preparedness awareness campaign. Among the many preparations for conducting an EAS test utilizing live event codes, EAS Participants must first obtain a rule waiver from the FCC's Public Safety and Homeland Security (PSHS) Bureau. WFOs are encouraged to collaborate with state and local authorities and the respective State/Local Emergency Communications Committees (SECCs/ LECCs) and state broadcasters associations to adequately prepare for and conduct these tests. NWS regional offices and WFOs should consult the latest guidance for NWR and EAS live or real event code tests prepared and distributed by the NWS AFSO Digital and Graphical Information Support Branch.

3.4 NWEM "Emergency" and "Administrative" Event Codes. Non-weather "emergency" event and "administrative" event messages, by definition, contain either information that is not of immediate life-threatening hazard or is not the first issuance of immediate life-threatening hazard information. As such, the initial broadcast of these messages will be preceded only by the appropriate SAME event code (Child Abduction Alert [CAE][2], Local Weather Emergency [LAE], 911 Telephone Outage Emergency [TOE], Administrative Massage [ADR]), without the 1050 Hz WAT. This policy allows NWR listeners to toggle off-on the alert feature of those NWR SAME receivers with this capability and not be intrusive to those who do not wish to be alerted for non-life-threatening event messages. Stated another way, do not use the WAT, day or night, for "emergency" event code messages (including AMBER Alerts) or "administrative" event messages including, if and when implemented or permitted, Network Message Notification (NMN), National Information Center (NIC), and Practice/Demo Event (DMO) codes.

This policy allows the NWR listener to select the non-life-threatening hazards for which to be alerted. Improper use and/or overuse of the 1050 Hz WAT risks "over warning" listeners, precipitating some listeners to turn off NWR receivers.

3.5 Practice/Demo Event Code (DMO). The Practice/Demo SAME/EAS event code is intended to provide NWS offices and EAS message originators a means of conducting exercises to practice issuing authentic warnings and other critical messages without disrupting the EAS network or turning on receivers used by industry and the general public. However, due to the way the original FCC Part 11 rules were implemented with respect to design and function of the EAS encoder/decoders in place at all broadcast facilities, any transmission of the DMO event code forced unintended actions at broadcast facilities. As a result, the NWS stopped using the DMO event code in 1997. The 2002 FCC EAS R&O adopted changes allowing EAS encoder/decoders to be programmed to disregard the receipt of DMO event codes.

3.6 EAS codes currently not implemented on NWR. The Emergency Action Notification (EAN), Emergency Action Termination (EAT), NIC, and Network Message Notification (NMN) codes are not currently implemented on NWR. For the EAN and EAT, NWS offices do not have the technical capability to relay a Presidential or national message of undetermined length on a live or delayed basis. The purpose, source or use cases of the NIC, or NMN EAS event codes has not been adequately defined by a recognized authority.

4. Pass through of NWEMs to the BMH. **Until further notice**, all NWEMs (Watch, Warning, and Emergency) will be sent to the Pending window of the AWIPS NWR browser for review prior to broadcast. Review and possible edit should ensure that any best practices provided by DIS for NWEMs originating via FEMA's Integrated Public Alert and Warning System (IPAWS) and the NWS Enhanced NWEM Service (NWSI 10-1708, *Enhanced Non-Weather Emergency Message (NWEM) Dissemination System*) are followed including identification of the public safety or emergency management organization and the correct pronunciation by the NWR automated voice of names of people, places, phone numbers, Internet addresses and technical information in the message. All message review will be completed expeditiously and will be for grammatical, technical and pronunciation corrections and adjustments only.

2 No 1050 Hz WAT for CAE unless requested by state or local agreement.

Principles for the Use of NWR WAT, SAME, and Program Interrupt

NWR SAME
The NWR SAME data burst will be used for:
(a) all short-term warnings where any delay in broadcast could result in death or injury to the listener,
(b) the initial broadcast for any jurisdiction of all other watches or warnings,
(c) test or other event messages for which guidance is provided in Table G-2, or
(d) other instances as defined by state and/or local EAS plan(s) or other local needs.

Overnight Use of the NWR SAME
The NWR SAME data burst will only be used between the hours of *10 PM and 6 AM* Local Time (*or other locally defined period*) for:
(a) all short-term watches and warnings where any delay in broadcast could result in death or injury to the listener,
(b) the initial broadcast for any jurisdiction of all other watches or warnings which either could produce life-threatening conditions before morning or for which there would not be sufficient time to take preventative action if the SAME was delayed until *6 AM* Local Time (*or other locally defined time*), or
(c) other instances as defined by state and/or local EAS plan(s) or other local needs.

1050 Hz WAT
The 1050 Hz Warning Alarm Tone (WAT) will be used for:
(a) all short-term watches and warnings where any delay in broadcast could result in death or injury to the listener,
(b) the initial broadcast for that jurisdiction of other watches or warnings which could produce life-threatening conditions,
(c) test or other event messages for which guidance is provided in Table G-2, or
(d) other instances as defined by other local needs.

Overnight Use of the 1050 Hz WAT
The 1050 Hz WAT will only be used between the hours of *10 PM and 6 AM* Local Time (*or other locally defined period*) for:
(a) short-term watches and warnings where any delay in broadcast could result in death or injury to the listener.
(b) other watches or warnings which either could produce life-threatening conditions before morning or for which there would not be sufficient time to take preventative action if the 1050 Hz WAT was delayed until *6 AM* Local Time (*or other locally defined time*).
(c) other instances as defined by other local needs.

In cases where the 1050 Hz WAT and/or NWR SAME is not used overnight, the watch or warning will still be broadcast when issued, and the message re-sent after *6 AM* Local Time (*or other locally defined time*) with the 1050 Hz WAT and/or NWR SAME included.

Interrupt of NWR Programming
The Interrupt feature should only be used for short term warnings where any delay in broadcast could result in death or injury to the listener.

Figure G-1. Use of NWR WAT, SAME Codes, and Program Interrupt

Table G-1. NWS Watch, Warning, and Statement Weather-related Product Categories and the Corresponding SAME/EAS event codes (NWS weather advisory messages and associated follow-up statements do not have corresponding SAME/EAS event codes. See section 2.2.a.)

NWS Product Categories	AWIPS NNN	Associated SAME/EAS Event	NWR SAME Code
Blizzard Warning	WSW	Blizzard Warning	BZW
Blizzard Watch	WSW	Winter Storm Watch	WSA
Coastal Flood Warning	CFW	Coastal Flood Warning	CFW
Coastal Flood Watch	CFW	Coastal Flood Watch	CFA
Dust Storm Warning	NPW	Dust Storm Warning	DSW
Excessive Heat Warning	NPW	none	
Extreme Cold Warning (Alaska only)	NPW	none	
Extreme Cold Watch (Alaska only)	NPW	none	
Extreme Wind Warning	EWW	Extreme Wind Warning	EWW
Fire Weather Watch	RFW	none	
Flash Flood Statement	FFS	Flash Flood Statement	FFS
Flash Flood Warning	FFW	Flash Flood Warning	FFW
Flash Flood Watch	FFA	Flash Flood Watch	FFA
Flood Statement (as follow-up to a Flood Warning)	FLS	Flood Statement	FLS
Flood Statement (issued as a Flood Advisory)	FLS	none	
Flood Warning	FLW	Flood Warning	FLW
Flood Watch	FFA	Flood Watch	FLA
Flood Watch for Flash Flooding	FFA	Flash Flood Watch	FFA
Freeze Warning	NPW	none	
Gale Warning	MWW	none	
Heavy Freezing Spray Warning	MWW	none	
High Surf Warning	CFW	Coastal Flood Warning	CFW
High Wind Warning	NPW	High Wind Warning	HWW
High Wind Watch	NPW	High Wind Watch	HWA
Hurricane Force Wind Warning (marine)	MWW	none	
Hurricane Force Wind Watch (marine)	MWW	none	
Hurricane Local Statement	HLS	Hurricane Statement	HLS
Hurricane Warning	HLS/TCV[1]/MWW	Hurricane Warning	HUW
Hurricane Watch	HLS/TCV[1]/MWW	Hurricane Watch	HUA
Ice Storm Warning	WSW	Winter Storm Warning	WSW
Lake Effect Snow Warning	WSW	Winter Storm Warning	WSW
Lake Effect Snow Watch	WSW	Winter Storm Watch	WSA

[1] WCM issued TCV is replacing HLS over multiple years as the NNN for HUW, HUA, TRW, TRA, SSA and SSW. See later Service Change Notices for current status in respective tropical

cyclone region.

Active NNN list can be found at:
https://w2.weather.gov/source/datamgmt/xr04_X_ref_by_NNN.html.

Table G-1. (continued)

NWS Product Categories	AWIPS NNN	Associated SAME/EAS Event	NWR SAME Code
Lakeshore Flood Warning	CFW	Coastal Flood Warning	CFW
Lakeshore Flood Watch	CFW	Coastal Flood Watch	CFA
Marine Weather Statement	MWS	none	
Public Information Statement	PNS	none	
Red Flag Warning (fire weather)	RFW	none	
Severe Thunderstorm Warning	SVR	Severe Thunderstorm Warning	SVR
Severe Thunderstorm Watch	WCN	Severe Thunderstorm Watch	SVA
Severe Weather Statement	SVS	Severe Weather Statement	SVS
Snow Squall Warning	SQW	Snow Squall Warning	SQW
Special Marine Warning	SMW	Special Marine Warning	SMW
Special Weather Statement	SPS	Special Weather Statement	SPS
Storm Surge Warning[2]	TCV	Storm Surge Warning	SSW[2]
Storm Surge Watch[2]	TCV	Storm Surge Watch	SSA[2]
Storm Warning (marine)	MWW	none	
Tornado Warning	TOR	Tornado Warning	TOR
Tornado Watch	WCN	Tornado Watch	TOA
Tropical Storm Warning	HLS/TCV[1]/MWW	Tropical Storm Warning	TRW
Tropical Storm Watch	HLS/TCV[1]/MWW	Tropical Storm Watch	TRA
Tsunami Warning	TSU	Tsunami Warning	TSW
Tsunami Watch	TSU	Tsunami Watch	TSA
Typhoon Local Statement	HLS	Hurricane Local Statement	HLS
Typhoon Warning	HLS	Hurricane Warning	HUW
Typhoon Watch	HLS	Hurricane Watch	HUA
Wind Chill Warning	WSW	Winter Storm Warning	WSW
Wind Chill Watch	WSW	Winter Storm Watch	WSA
Winter Storm Warning	WSW	Winter Storm Warning	WSW
Winter Storm Watch	WSW	Winter Storm Watch	WSA

[2]SSW and SSA will not be issued for the Pacific hurricane basin or WFO San Juan's AOR at this time. See later Service Change Notices for current status in respective tropical cyclone region.

Table G-2. Use of NWR SAME, 1050 Hz WAT and Program Interrupt for Weather Related and Non-Weather Related SAME/EAS events. **Note**: Read rows from left to right. For example, for Hurricane Warning there is a Y (Always) for NWR SAME overnight, but that is only if it is the initial warning issuance for a given location.

SAME/EAS Event	NWR SAME code	AWIPS NNN	NWR SAME		1050 Hz WAT		Intrp
			Y/N	Ovngt	Y/N	Ovngt	
EVENT: Weather Related							
Blizzard Warning	BZW	WSW	I	LTO	I	LTO	N
Coastal Flood Warning	CFW	CFW	LTO	LTO	LTO	LTO	N
Coastal Flood Watch	CFA	CFW	LTO	N	LTO		N
Dust Storm Warning	DSW	NPW	I	LTO	I	LTO	N
Extreme Wind Warning	EWW	EWW	Y	Y	Y	Y	Y
Flash Flood Statement	FFS	FFS	Y or RR	Y or RR	N		N or RR
Flash Flood Warning	FFW	FFW	Y	Y	Y	Y	Y
Flash Flood Watch	FFA	FFA	I	LTO	I	LTO	N
Flood Statement	FLS	FLS	Y or RR	Y or RR	N		N or RR
Flood Warning	FLW	FLW	Y	LTO	Y	LTO	Y
Flood Watch	FLA	FFA	I	LTO	I	LTO	N
High Wind Warning	HWW	NPW/HLS	LTO	LTO	LTO	LTO	LTO
High Wind Watch	HWA	NPW/HLS	I or RR	N or RR	N		N
Hurricane[1] Statement	HLS	HLS	RR	LTO	N		N
Hurricane[1] Warning	HUW	HLS/TCV[2]/ MWW	I	Y	I	Y	Y
Hurricane[2] Watch	HUA	HLS/TCV[2]/ MWW	N	N	N	N	N
Severe Thunderstorm Warning	SVR	SVR	Y	Y	Y	Y	Y
Severe Thunderstorm Watch	SVA	WOU/ WCN	Y	Y	Y	Y	N
Severe Weather Statement	SVS	SVS	Y or RR	Y or RR	N or RR	N or RR	N or RR
Snow Squall Warning	SQW	SQW	Y	N	Y	N	Y
Special Marine Warning	SMW	SMW	Y	Y	Y	Y	Y
Special Weather Statement	SPS	SPS	N or RR	N	N		N
Storm Surge Warning[3]	SSW	TCV	Y	Y	Y	Y	Y
Storm Surge Watch[3]	SSA	TCV	N	N	N		N
Tornado Warning	TOR	TOR	Y	Y	Y	Y	Y
Tornado Watch	TOA	WOU/ WCN	Y	Y	Y	Y	N
Tropical Storm Warning	TRW	HLS/TCV[2]/ MWW	I	Y	I	Y	N
Tropical Storm Watch	TRA	HLS/TCV[2]/ MWW	N	N	N	N	N
Tsunami Warning	TSW	TSU	Y	Y	Y	Y	Y

Table G-2. Use of NWR SAME, 1050 Hz WAT and Program Interrupt for Weather Related and Non-Weather Related SAME/EAS events. **Note**: Read rows from left to right. For example, for Hurricane Warning there is a Y (Always) for NWR SAME overnight, but that is only if it is the initial warning issuance for a given location.

SAME/EAS Event	NWR SAME code	AWIPS NNN	NWR SAME		1050 Hz WAT		Intrp
			Y/N	Ovngt	Y/N	Ovngt	
Tsunami Watch	TSA	TSU	Y	Y	Y	Y	N
Winter Storm Warning	WSW	WSW	I or RR	LTO	I or RR	LTO	N
Winter Storm Watch	WSA	WSW	I or RR	LTO	N		N
EVENT: Administrative							
Network Message Notification	NMN		Not currently implemented on NWR				
Practice/Demo Warning	DMO	DMO	Y	Y	N		N
EVENT: Non-Weather Related							
National Codes (Required for FCC regulated broadcast stations)							
Emergency Action Notification	EAN		Not currently implemented on NWR				
Emergency Action Termination	EAT		Not currently implemented on NWR				
National Information Center*	NIC		Not currently implemented on NWR				
National Periodic Test*	NPT	NPT	Y	Y	Y	Y	Y
Required Monthly Test*	RMT	RMT	Y	N	Y	N	N
Required Weekly Test	RWT	RWT	Y	N	Y	N	N
State and Local Codes (Optional for FCC regulated broadcast stations)							
Administrative Message	ADR	ADR	Y	N or RR	N		N
Avalanche Warning	AVA	AVA	Y	Y	Y	Y	Y
Avalanche Watch	AVA	AVA	Y	LTO[4]	Y or RR	LTO[4]	N
Blue Alert	BLU	BLU	Y	N or RR	N or RR	N or RR	N
Child Abduction Emergency	CAE	CAE	Y	N or RR	N or RR	N or RR	N
Civil Danger Warning	CDW	CDW	Y	Y	Y	Y	Y
Civil Emergency Message	CEM	CEM	Y	LTO[4]	Y	LTO[4]	Y
Earthquake Warning	EQW	EQW	Y	Y	Y	Y	Y
Evacuation Immediate	EVI	EVI	Y	Y	Y	Y	Y
Fire Warning	FRW	FRW	Y	Y	Y	Y	Y
Hazardous Materials Warning	HMW	HMW	Y	Y	Y	Y	Y
Law Enforcement Warning	LEW	LEW	Y	Y	Y	Y	Y
Local Area Emergency	LAE	LAE	Y	N	N		N
911 Telephone Outage Emergency	TOE	TOE	Y	N	N		N
Nuclear Power Plant Warning	NUW	NUW	Y	Y	Y	Y	Y
Radiological Hazard Warning	RHW	RHW	Y	Y	Y	Y	Y
Shelter in Place Warning	SPW	SPW	Y	Y	Y	Y	Y
Volcano Warning	VOW	VOW	Y	Y	Y	Y	Y

Table G-2. Use of NWR SAME, 1050 Hz WAT and Program Interrupt for Weather Related and Non-Weather Related SAME/EAS events. **Note**: Read rows from left to right. For example, for Hurricane Warning there is a Y (Always) for NWR SAME overnight, but that is only if it is the initial warning issuance for a given location.

SAME/EAS Event	NWR SAME code	AWIPS NNN	NWR SAME		1050 Hz WAT		Intrp
			Y/N	Ovngt	Y/N	Ovngt	

Column Headings:
NWR SAME code - The three character event code that is transmitted to NWR receivers
NWR SAME - Use of the NWR SAME data burst
1050 Hz WAT - Use of the NWR 1050 Hz Warning Alarm Tone
Intrp - Use of Program Interrupt to break into NWR broadcast cycle
Y/N - Conditional use of 1050 Hz WAT or SAME data burst
Ovngt - Overnight use of 1050 Hz WAT or SAME data burst, generally 10 pm – 6 am or locally determined. This is accomplished by enabling in BMH a tone blackout period.

Table Entries:
Y - always
N - never
I - yes for initial issuance for a county/city only
LTO - Immediate or near-term Life-Threatening situations Only
RR - Regional or Local Requirements as addressed in Directives Supplement(s)

Definition of Life Threatening: Action must be taken to prevent injury or death to those who will be affected by the event.

Notes:
[1] This SAME/EAS Event also used for Typhoons in western Pacific Ocean.
[2] TCV is replacing HLS over multiple years as the NNN for HUW, HUA, TRW, TRA, SSA and SSW. See later Service Change Notices for current status in respective tropical cyclone region.
[3] SSW and SSA will not be issued for the Pacific hurricane basin or WFO San Juan's AOR at this time. See later Service Change Notices for current status in respective tropical cyclone region.
[4] LTO capability accomplished by NWRWAVES send to pending and adjusting tone attribute in NWR browser.
* Implementation anticipated.

APPENDIX H - Federal Communications Commission Authorization for NWR Rebroadcast

Current as of June 29, 2021

Title 47, Telecommunication; Part 73, Radio Broadcast Services; Subpart H Rules, Applicable to all Broadcast Systems
Chapter 14.2 § 73.1207 Rebroadcasts

(a) The term *rebroadcast* means reception by radio of the programs or other transmissions of a broadcast or any other type of radio station, and the simultaneous or subsequent retransmission of such programs or transmissions by a broadcast station.
(1) As used in this section, "program" includes any complete programs or part thereof.
(2) The transmission of a program from its point of origin to a broadcast station entirely by common carrier facilities, whether by wire line or radio, is not considered a rebroadcast.
(3) The broadcasting of a program relayed by a remote pickup broadcast station is not considered a rebroadcast.

(b) No broadcast station may retransmit the program, or any part thereof, of another U.S. broadcast station without the express authority of the originating station. A copy of the written consent of the licensee originating the program must be kept by the licensee of the station retransmitting such program and made available to the FCC upon request.
(1) Stations originating emergency communications under a State EAS plan are considered to have conferred rebroadcast authority to other participating stations.
(2) Permission must be obtained from the originating station to rebroadcast any subsidiary communications transmitted by means of a multiplex subcarrier or telecommunications service on the vertical blanking interval or in the visual signal of a television signal.
(3) Programs originated by the Voice of America (VOA) and the Armed Forces Radio and Television Services (AFRTS) cannot, in general, be cleared for domestic rebroadcast, and may therefore be retransmitted only by special arrangements among the parties concerned.
(4) Except as otherwise provided by international agreement, programs originated by foreign broadcast stations may be retransmitted without the consent of the originating station.

(c) The transmissions of non-broadcast stations may be rebroadcast under the following conditions:
(1) Messages originated by privately-owned non-broadcast stations other than those in the Amateur and CB Radio Services may be broadcast only upon receipt of prior permission from the non-broadcast licensee. Additionally, messages transmitted by common carrier stations may be rebroadcast only upon prior permission of the originator of the message as well as the station licensee.
(2) Except as provided in paragraph (d) of this section, messages originated entirely by non-broadcast stations owned and operated by the Federal Government may be rebroadcast only upon receipt of prior permission from the government agency originating the messages.
(3) Messages originated by stations in the Amateur and CB Radio Services may be rebroadcast at the discretion of broadcast station licensees.
(4) Emergency communications originated under a State EAS plan.

(d) The rebroadcasting of time signals originated by the Naval Observatory and the National Bureau of Standards and messages from the National Weather Service stations is permitted without specific authorization under the following procedures:
(1) *Naval Observatory Time Signals.* (i) The time signals rebroadcast must be obtained by direct radio reception from a naval radio station, or by land line circuits.
(ii) Announcement of the time signal must be made without reference to any commercial activity.
(iii) Identification of the Naval Observatory as the source of the time signal must be made by an announcement, substantially as follows: "With the signal, the time will be . . . courtesy of the U.S. Naval Observatory."
(iv) Schedules of time signal broadcasts may be obtained upon request from the Superintendent, U.S. Naval Observatory, Washington, DC 20390.
(2) *National Bureau of Standards Time Signals.* (i) Time signals for rebroadcast must be obtained by direct radio reception from a National Bureau of Standards (NBS) station.
(ii) Use of receiving and rebroadcasting equipment must not delay the signals by more than 0.05 second.
(iii) Signals must be rebroadcast live, not from tape or other recording.
(iv) Voice or code announcements of the call signs of NBS stations are not to be rebroadcast.
(v) Identification of the origin of the service and the source of the signals must be made by an announcement substantially as follows: "At the tone, 11 hours 25 minutes *Coordinated Universal Time.* This is a rebroadcast of a continuous service furnished by the National Bureau of Standards, Ft. Collins, Colo." No commercial sponsorship of this announcement is permitted and none may be implied.
(vi) Schedules of time signal broadcasts may be obtained from, and notice of use of NBS time signals for rebroadcast must be forwarded semiannually to:
National Bureau of Standards, Radio Stations WWV/WWVB, 2000 East County Road 58, Ft. Collins, Colorado 80524.
(vii) In the rebroadcasting of NBS time signals, announcements will not state that they are standard frequency transmissions. Voice announcements of *Coordinated Universal Time* are given in voice every minute. Each minute, except the first of the hour, begins with an 0.8 second long tone of 1000 hertz at WWV and 1200 hertz tone at WWVH. The first minute of every hour begins with an 0.8 second long tone of 1500 hertz at both stations. This tone is followed by a 3-second pause, then the announcement, "National Bureau of Standards Time." This is followed by another 3-second pause before station identification. This arrangement allows broadcast stations sufficient time to retransmit the hour time tone and the words "National Bureau of Standards Time" either by manual or automatic switching.
(viii) Time signals or scales made up from integration of standard frequency signals broadcast from NBS stations may not be designated as national standard scales of time or attributed to the NBS as originator. For example, if a broadcasting station transmits time signals obtained from a studio clock which is periodically calibrated against the NBS time signals from WWV or WWVH, such signals may not be announced as NBS standard time or as having been originated by the NBS.
(3) *National Weather Service Messages.* (i) Messages of the National Weather Service must be rebroadcast within 1 hour of receipt.

(ii) If advertisements are given in connection with weather rebroadcast, these advertisements must not directly or indirectly convey an endorsement by the U.S. Government of the products or services so advertised.
(iii) Credit must be given to indicate that the rebroadcast message originates with the National Weather Service.
[44 FR 36040, June 20, 1979, as amended at 45 FR 26065, Apr. 17, 1980; 48 FR 28456, June 22, 1983; 50 FR 25246, June 18, 1985; 59 FR 67102, Dec. 28, 1994; 61 FR 36305, July 10, 1996; 82 FR 41103, Aug. 29, 2017]

APPENDIX I - Sample Implementation of Section 6.4: Non-Weather Emergency Message (NWEM) Broadcast Guidelines

During energy supply crises, such as those experienced in California in 2001, WFOs may be requested to broadcast special energy supply messages on NWR. Actions 1, 2, and 3 below meet the listed criteria for broadcast of NWEMs.

The following meet Section 6.4.b. criteria for broadcasting NWEMs:

1. Broadcast of power blackout likelihood on a specific day (e.g., Stage III conditions in California).
   - Limited to one message per day
   - Include 1050 Hz WAT and SAME, if requested, but only on first day of multiple day event
   - Message written by issuing government authority should contain:
     * Name of government authority
     * Rolling blackout notification and expected times (if known)
     * Brief lifesaving precautions/preparatory information
     * Instructions to monitor local radio television, or other information source such as an Internet website.

2. Periodic broadcast (e.g., every 15 minutes) of abbreviated announcement of Stage III or equivalent conditions as long as conditions exist.

3. Broadcast (without 1050 Hz WAT or SAME) of rolling blackout end if no end time was previously mentioned.
   - Actions 1, 2, and 3:
     * Limit impact on weather broadcasts and WFO operations
     * Increase awareness of NWR and NWS warning programs
     * Encourage state/local agencies to use broadcast media contacts for disseminating rolling blackout information.

The following does NOT meet section 6.4.b. criteria for broadcasting NWEMs:

4. Broadcast of "rolling" blackout information for each new location resulting in frequent, multiple daily messages.
   - Action 4 would:
     * Compromise remaining NWR broadcast content, especially in significant weather
     * Increase NWS workload significantly
     * Desensitize listeners through multiple alarms not affecting them.