

**NATIONAL WEATHER SERVICE INSTRUCTION 10-1716**

**April 22, 2005**

**Operations and Services**

**Dissemination Policy, NWSPD 10-17**

**NOAA WEATHER WIRE SERVICE (NWS) SYSTEM MANAGEMENT**

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

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Mark S. Paese for

April 8, 2005

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John McNulty, Jr.

Date

Director, Office of Operational  
Systems

**NOAA Weather Wire Service (NWWS) System Management**

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1. Document Purpose. This instruction describes how the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) manages the over-all operation and maintenance for the NOAA Weather Wire Service (NWWS).

2. Description. The NWWS employs a two-way C-band satellite network for collecting and disseminating information from all NWS Weather Forecast Offices and Weather Service Offices (WFO/WSOs) and National Centers to a variety of subscribers throughout the United States. NWWS

receives products from the above mentioned sites at a rate of 9.6 kilo-bits-per-second (kbps). Collection of products and satellite uplink is performed at twenty sites equipped with 2-way transmit/receive capability. (The 2-way sites are located at the thirteen WSOs, six National Centers, and one WFO as listed in APPENDIX A.) Products are transferred through the satellite network and received at Master Ground Station #1 in Alexandria, Virginia and delivered to the contractor's Message Processing Center (MPC) in Chantilly, Virginia. Most products are sent twice through two satellite very small aperture terminal (VSAT) uplink sites which ensures receipt of the product if one uplink site goes down. Additionally, NWWS receives backup support for 'priority one' weather warnings from the Advanced Weather Interactive Processing System (AWIPS) Network Control Facility (NCF) located in Silver Spring, Maryland by up-linking these NCF products on the NWWS. Any product duplicates are removed from the NWWS data stream at MPC.

2.1 Public Dissemination. The NWWS is the primary means by which this vital information is delivered to mass news disseminators and public safety agencies. The NWWS broadcast is sent from the contractor's MPC to subscribers via satellite from Master Ground Station #2 at Fort Meade, Maryland. The broadcast rate is 64 kbps.

2.2 Warnings and Forecasts. Weather warnings, forecasts, and other meteorological information are transmitted in a plain language format.

3. Organizational Responsibilities. This section describes the responsibilities of the NWS Headquarters, Regional Headquarters, and field offices for NWWS.

3.1 Weather Service Headquarters (WSH). The Assistant Administrator (AA) for Weather Services has overall responsibility for the NWWS program.

3.1.1 Office of Operational Systems (OPS). OPS provides staff assistance to the AA for Weather Services concerning NWWS program management and configuration control. The Dissemination Systems Branch (W/OPS17) has overall responsibility for the following:

- a. Program management of the overall NWWS telecommunications system.
- b. Management of the contract with the NWWS system contractor, and NOAA procurement liaison as Contracting Officer's Representative (COR).
- c. Processing of change requests and configuration control management at each NWS field site and Systems Operation Center.
- d. Design, development, maintenance, and validation of databases for all sites.
- e. Maintain the NWWS internet site at [www.nws.noaa.gov/nwws](http://www.nws.noaa.gov/nwws).
- f. Outreach to government and private organizations and to the public regarding NWWS.

3.1.2 Office of Climate, Water and Weather Services (OS). W/OS is responsible for establishing service requirements, including the nature and scope of products to be transmitted. OS is responsible for definition of data message format and content, generic code format and usage, and operational backup procedures.

OS is responsible for the Change Management Process (see directive 10-103), including administration of data review group (DRG) requests for change (RCs). RCs are collected and forwarded from regional headquarters and National Centers for Environmental Prediction (NCEP) to OS for product addition, deletions, and content changes. OS forwards approved NWS RC to OPS and the Office of the Chief Information Officer (W/CIO) for implementation (see directive 10-1715 for additional information).

3.1.3 Office of the Chief Information Officer (CIO). The W/CIO manages the Telecommunication Operations Center (TOC) with responsibilities that include the overall management of telecommunication interfaces. A major component of the TOC is the NWS Telecommunications Gateway (NWSTG). NWSTG is the principal data communications switching and monitoring facility. The NWSTG manages processes that control the routing of data, both domestically and internationally. The NWSTG remotely monitors the NWWS network and reports failures or anomalies to the NWWS contractor and to OPS17 for appropriate action.

3.2 Regional Headquarters (RHs). It is the responsibility of RHs to coordinate, with the field sites for installation problems or operational changes and to forward to the OPS17 any maintenance or end-user problems that cannot be resolved at the local or regional level.

RHs validate field requirements for new or updated data to be placed on NWWS and forward requests to WSH by initiating RCs. RHs assist WSH and the field in troubleshooting data issues.

3.3 Field Offices. The NWS field offices are responsible, in accordance with predetermined schedules and procedures, for preparation and issuance of the products available on the NWWS. Field offices are an important interface with the external end-user/subscriber community. The NWWS has fourteen WFO/WSO uplinks (see APPENDIX A). These sites are responsible for monitoring their product streams and reporting system outages to OPS17 and the system contractor.

3.4 National Centers. National Centers require prior approval from WSH on any new products for NWWS. The six National Center uplink sites (see APPENDIX A) are responsible for monitoring their product streams and reporting system outages to OPS17 and the system contractor.

4. Products. Most products for weather warnings, forecasts, and other meteorological information are transmitted in a plain language format. Products are disseminated to subscribers via Internet protocol (IP) broadcast at an output rate of 64 kbps. Subscribers receive these products by means of a VSAT C-band satellite receiver that utilizes a 1.8 meter dish antenna.

4.1 Product Policy. This section documents the broad policies pertaining to NWWS products. OS, in coordination with the RHs, establishes the policies regarding all products transmitted on the NWWS (see directive 10-1715, *NOAA Weather Wire Service Dissemination*). These policies pertain to product type, content, and format. Any requests to add, delete, or change the official set of

products transmitted on the NWWS shall be governed by the NWS Configuration Management DRG using the established policies and procedures.

4.2 Product Format. Products transmitted on the NWWS shall be, in general, alphanumeric and in plain language format so the information within the product can be easily understood by the general public. NWWS products include, but may not be limited to, weather and flood warnings, watches, statements, and forecasts.

4.3 Product Origination. Products transmitted on the NWWS originate from NWS offices, WFO/WSOs, National Centers, Tsunami Warning Center, and also from state agencies when appropriate agreements (see APPENDIX B) have been established between the NWS and the state. NWWS also receives products from the U.S. Geological Survey's Earthquake Center. OS will establish the format of all specific NWWS products and ensure the consistent use of established formats (see directive 10-1701, *Text Product Formats and Codes*).

5. NWWS Network Costs and Accessibility. This section outlines the NWS policy on cost and access to the NWWS.

5.1 National Weather Service (NWS). NWS bears all costs for the operation and maintenance of NWWS via private sector contractor. Access to the NWWS for the purposes of disseminating all-hazard warnings will require a memorandum of agreement (MOA) between NWS and the issuing party or agency. Access is accomplished indirectly through either a manual or automated interface at NWS WFO/WSOs or National Centers, or directly through an NWWS uplink. Warning message formats are stipulated by NWS.

5.2 State Agencies. A state agency (non-NWS) will be designated as the official NWWS data exchange agency. In a large number of states, the designated agency will be the State Police. In other states, it may be the Highway Department, Office of Emergency Services, or some other agency with weather-related interests. A formal written agreement with the specific state agency must be in place regarding this data exchange arrangement. The agreement form to be used between the NWS and designated state agency is shown in APPENDIX B.

The designated state agency will receive NWWS information by means of a dedicated receive-only NWWS satellite receiver and distribute this information to other appropriate agencies within its jurisdiction, and will, where appropriate, provide data to the NWS via a dedicated or dial-up telecommunications connection. This connection will be used by the state to provide the NWS with important local weather information (e.g., road condition reports, severe weather reports, weather observations, etc.).

NWS funds the entire cost of equipment including installation and operation for the NWWS receive-only satellite earth station to be located on the state agency premises. The states are required to pay only for their monthly telecommunications (i.e., TELCO) charges to send data to the NWS, and

for any special equipment (e.g., modems, printers, etc.) they may need to send their data or to internally display the data they receive.

5.3 Subscribers. Under the terms of the NWWS contract, subscribers to NWWS, such as mass news disseminators, private companies, private forecasters, other Federal agencies, local governments, etc., can coordinate or contract directly with the NWWS system contractor.

6. NWWS Maintenance. Maintenance is provided by the NWWS system contractor in accordance with the current NWS NWWS system maintenance contract.

APPENDIX A

**NOAA Weather Wire Service (NWS) Product  
Collection and Paired Uplink Sites**

Thirteen WFO/RFC Paired AWIPS Hubs uplinking products to NWS

<b>Primary Up-link</b>	<b>Secondary Up-link</b>	<b>Tertiary Up-link</b>
KCTP/KRHA (State Colleg, PA)	KBOX/KTAR (Tauton, MA)	AWIPS NCF (priority one products)
KFWD/KFWR (Dallas, TX)	KSLC/KSTR (Salt Lake City, UT)	AWIPS NCF (priority one products)
KFFC/KALR (Peachtree City, GA)	KLIX/KORN (Slidell, LA)	AWIPS NCF (priority one products)
KMPX/KMSR (Minneapolis, MN)	KILN/KTIR (Wilmington, OH)	AWIPS NCF (priority one products)
KEAX/KKRF (Kansas City, MO)	KTSA/KTUA (Tulsa, OK)	AWIPS NCF (priority one products)
KSTO/KRSA (Sacramento, CA)	KPQR/KPTR (Portland, OR)	PAFC/PACR (Anchorage, AK) and AWIPS NCF (priority one products)

One WFO TJSJ (San Juan, Puerto Rico) Up-linking Products to NWS for a total of fourteen;

**Six National Centers Up-linking products to NWS**

KWNS (National Storm Prediction Center, Norman, OK)
KNHC (National Tropical Prediction Center, Miami, FL)
PHEB (National Pacific Tsunami Warning Center, Honolulu, HI)
PAAQ (National West Coast/Alaska Tsunami Warning Center, Anchorage, AK)
KNEC (National Earthquake Information Center, Golden, CO)
KNCF (AWIPS/NOAAPORT NCF, Silver Spring, MD)

The 20 uplink sites (14 WFO's and 6 National Centers) are typical 2-way sites. These sites collect, send and receive products. The terrestrial dial-in circuit backs up the satellite connection for inbound collection of products. The circuit is activated automatically when satellite connectivity cannot be established. CSC (DynCorp) broadcasts the entire NOAA Weather Wire product stream on the

Internet through the “Open Interface.” This “Open Interface” architecture allows NWS products to be accessed from anywhere with Internet access.

APPENDIX B

**U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
National Weather Service  
Telecommunications and Dissemination Branch  
Silver Spring, MD 20910**

Agreement: NOAA Weather Wire Service (NWWS) Data Exchange Between the National Weather Service and Designated State Agencies

Whereas the National Weather Service (NWS) of the Department of Commerce distributes weather reports, warnings, forecasts, etc., over the NWWS for the public interest, convenience, and safety, and whereas the state/commonwealth of \_\_\_\_\_ has an interest and need to receive NWWS information for the use of public safety agencies within the state, whereas the \_\_\_\_\_ may have access to weather information of importance and interest to the NWS, the NWS and the \_\_\_\_\_ hereby agree to the following terms and conditions:

1. The NWS shall:
  - (a) Pay all acquisition, installation, and maintenance costs for the necessary satellite data receive-only equipment for the designated state/commonwealth agency.
  - (b) Transmit NWWS data to the designated agency via the NWS provided satellite data receiving equipment.
  - (c) Provide required assistance to the agency in understanding and interpreting the information provided.
2. The Designated State/Commonwealth agency shall:
  - (a) Transmit special weather information (e.g., road conditions, severe weather reports, flooding reports, weather observations, etc.) to the NWS via a state-provided telecommunications connection to a designated NWS site. All such information transmitted shall utilize formats and protocols specified by the NWS.
  - (b) Receive NWWS data via the Government-provided receive only satellite equipment.
  - (c) Assume full responsibility for the necessary internal data distribution and any intrastate agency agreements for data distribution, and hold the Government and its officers harmless from any damage which may arise from the use thereof.

- (d) Provide any terminals, interfaces, cabling, etc., needed to output, print, or further distribute information received from the satellite equipment.
- (e) Not establish a routine public service using the information from the NWS.
- 3. The NWS's obligations under this agreement are subject to the availability of funds.
- 4. This agreement is for an indefinite period and may be canceled by either party upon thirty (30) days written notice.
- 5. The designated NWS offices (primary and back-up) to which the \_\_\_\_\_ shall transmit weather information are:  
       \_\_\_\_\_ (Primary NWS Office)  
       \_\_\_\_\_ (Back-up NWS Office)
- 6. EFFECTIVE DATE: This Agreement shall become effective on the last date shown below when executed by the parties hereto.

STATE AGENCY

UNITED STATES OF AMERICA  
Department of Commerce  
National Oceanic and Atmospheric Administration  
National Weather Service

By \_\_\_\_\_  
(Signature)

By \_\_\_\_\_  
(Signature)

TITLE: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TITLE: Chief, Dissemination Systems Branch  
Office of Operational Systems  
National Weather Service

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

AGREEMENT NO. \_\_\_\_\_