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NATIONAL WEATHER SERVICE (NWS) MODERNIZATION AND ASSOCIATED RESTRUCTURING

NWS-Sponsored Doppler Weather Surveillance Radar (WSR-88D)

Site Component Commissioning Plan

July 1993

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Office of Systems Operations

Executive Summary

As one of the major systems associated with the National Weather Service (NWS) Modernization and Associated Restructuring (MAR), the Doppler weather surveillance radar (WSR-88D) is subject to the NWS MAR System Commissioning Policy of Weather Service Operations Manual (WSOM) Chapter A-73. This policy establishes a site component commissioning process to ensure that system equipment, i.e., site component, installed at an NWS site can be used in an official capacity in the conduct of appropriate NWS service operations.

This plan details the manner in which the site component commissioning requirements of WSOM Chapter A-73 will be met by the NWS in commissioning its 115 operational WSR-88D units in the currently authorized joint Department of Commerce, Department of Defense (DOD), and the Department of Transportation (DOT), Federal Aviation Administration (FAA), Next Generation Weather Radar (NEXRAD) program of approximately 150 operational WSR-88D units. In addition the plan details the manner in which the site component commissioning will be performed for the 16 NWS PUPs associated with DOD WSR-88D units and the 18 operational Non-Associated PUPs. A yet-to-be determined number of NWS-owned PUPs will be associated with the FAA-owned WSR-88Ds in Alaska, Hawaii, and the Caribbean. These PUPs will be commissioned in the same manner as NWS PUPs associated with DOD WSR-88Ds.

The NWS is also responsible, in coordination with the FAA, for providing input to the commissioning process of the 13 FAA-owned WSR-88D units and the 22 FAA-owned PUPs at the Center Weather Service Units and the Central Flow Control Facility.

The process of the commissioning of a WSR-88D site component begins at or shortly after the acceptance of the component by the Government, i.e., the National Oceanic and Atmospheric Administration NEXRAD System Program Office. During this process (a) an NWS Evaluation Official (EO) evaluates the performance of the site component and the operational and maintenance personnel's readiness to utilize and support the site component in routine operations; and (b) the evaluation results are reviewed at regional, and national organizational levels to determine whether the commissioning of the component should occur.

Evaluations are based upon detailed evaluation criteria specific to the WSR-88D, which address both (a) assessments established by WSOM Chapter A-73 and (b) assessments peculiar to the WSR-88D. These assessments are of:

- Completion and documentation of the Government's acceptance of the WSR-88D site component

- Adequate on site operational and maintenance documentation
- Adequate maintenance capability including spare parts and trained maintenance personnel
- Adequate availability of properly trained operations personnel
- Satisfactory performance of site interfaces
- Satisfactory support of associated NWS forecasting and warning services
- Proper functioning of service backup capabilities

Any deficiencies encountered during the evaluation are addressed through action coordinated at the local, regional and NWS headquarters levels. After the evaluation is completed (any deficiencies having been resolved or addressed via approved work-arounds), a **WSR-88D Site Component Commissioning Checklist** is used to record the results of the evaluation.

The completed checklist is then incorporated, by the EO, into a **WSR-88D Site Component Commissioning Report** for the site and sent to the appropriate official to begin its review by appropriate local, regional and national managers. Their recommendations to commission the WSR-88D site component are sent to the Deputy Assistant Administrator for Modernization for approval. (This approval authority may be delegated, at the discretion of the Deputy, to the NWS Regional Directors).

Implementation of approved commissionings will be preceded by proper notifications of users of the dates of the commissionings. Such notifications are the responsibility of the NWS MAR Commissioning Manager. **Official** distribution of data from a WSR-88D will begin upon its commissioning.

The implementation of this plan is predicated on the determination by the Deputy Assistant Administrator for Modernization that, for NWS-owned WSR-88Ds, the WSR-88D technology and supporting systems are ready for operational use, the NWS is ready to utilize the WSR-88D in routine operations, and users of WSR-88D data and services have been educated with regard to WSR-88D observations and notified with regard to the intent of the NWS to commission WSR-88Ds. At any time that it is determined that these factors cannot continue to be satisfied, the commissioning of additional NWS-owned WSR-88D site components will cease.

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List of Exhibits

Acronyms

AFOS	Automation of Field Operations and Services
AM	Area Manager
CSTS	Commissioning Scheduling and Tracking System
CWA	County Warning Area
CWSU	Center Weather Service Unit
DAAM	Deputy Assistant Administrator for Modernization
DOD	Department of Defense
DOR	Determination of Operational Readiness
DOT	Department of Transportation
EO	Evaluation Official
FAA	Federal Aviation Administration
INCO	Installation and Checkout
MAR	Modernization and Associated Restructuring
MCM	MAR Commissioning Manager
MIC	Meteorologist-in-Charge
NEXRAD	Next Generation Weather Radar
NIDS	NEXRAD Information Dissemination Service
NMC	National Meteorological Center
NTD	National Transition Database
NWS	National Weather Service
NWSH	National Weather Service Headquarters
ORT	Operational Readiness Test
OSB	Observing Systems Branch
OSF	Operational Support Facility
OSO	Office of Systems Operations
PUP	Principal User Processor
RCM	Radar Coded Message
RD	Regional Director
RDA	Radar Data Acquisition
RPG	Radar Product Generator
SPO1	NEXRAD System Program Office
UCP	Unit Control Position
URC	Unit Radar Committee
WFO	Weather Forecast Office
WSR-88D	Doppler weather surveillance radar
WSOM	Weather Service Operations Manual

Definitions for terms related to commissioning are listed below. These terms are as utilized by the Weather Service Operations Manual (WSOM) Chapter A-73 and those established in this plan to describe the commissioning procedures.

System: the totality of equipment, personnel, facilities, and support functions required by the technology program to provide the desired operational capabilities.

Site component: a portion of the system which resides at a site and provides the required function for the given location. For an NWS-owned WSR-88D, each of the three following sets of equipment represents a site component:

1. Radar Data Acquisition (RDA)/Radar Product Generator (RPG)/Collocated Principal User Processor (PUP)
2. PUP associated with an NWS, Department of Defense (DOD), or Department of Transportation (DOT) RDA.
3. PUP not associated with any RDA/RPG.

Site Component Commissioning: the decision that the WSR-88D site component at an individual operational field site, **can be used in an official capacity** in the conduct of appropriate NWS service operations.

Site - A location where one or more WSR-88D site components are present.

Acceptance: the demonstration by the contractor, and confirmation by the Government, i.e., the National Oceanic and Atmospheric Administration Next Generation Weather Radar (NEXRAD) System Program Office (SPO1), that a WSR-88D site component fulfills the requirements and specifications of the procuring contract. At acceptance, the required documents are signed and the ownership of the WSR-88D site component is transferred officially from the contractor to the Government.

Determination of Operational Readiness (DOR): the period (after acceptance) during which a WSR-88D site component is in use for the purposes of training, familiarization, and evaluation against prescribed commissioning criteria.

Evaluation Official - The Meteorologist-in-Charge (MIC) at a NEXRAD Weather Service Forecast Office, NEXRAD Weather Service Office, or Weather Forecast Office (WFO); the MIC at a Center Weather Service Unit; the Hydrologist-in-Charge at a River Forecast Center; and the Center Director or Chief, Meteorological Operations Division, at a National Center.

Operational Readiness Test (ORT) - A field test of a WSR-88D unit that has completed its Installation and Checkout Test. The ORT procedures are similar to those of the Field System Test performed during the acceptance process. After completion of the ORT, the NWS will share access to the WSR-88D with the contractor until acceptance.

WSR-88D Unit - The following suite of equipment: RDA/RPG/PUP. The PUP may not be collocated with the RDA or RPG, but has dedicated communications to the RPG.

Unit - Same as "WSR-88D Unit."

1.0 INTRODUCTION

During the National Weather Service's (NWS) Modernization and Associated Restructuring (MAR), the NWS will field 115 operational Doppler weather surveillance radar (WSR-88D) units. The NWS will have Principal User Processors (PUP) associated with 16 DOD WSR-88Ds. The NWS will field 18 operational PUPs that are not associated with a WSR-88D (Non-Associated PUPs).

DOD will field approximately 22 operational WSR-88Ds. The Federal Aviation Administration (FAA) will deploy approximately 13 operational WSR-88Ds units for use in the Caribbean, Alaska, and Hawaii. These units will be maintained by the FAA but will be operated by NWS personnel. The acceptance of the WSR-88Ds began in June 1992 and is scheduled for completion in August 1996.

The NWS is responsible for commissioning the WSR-88Ds and PUPs that it owns. DOD has its own agency-specific commissioning procedures for its WSR-88D equipment. The FAA will commission its WSR-88D equipment. Because NWS personnel will be operating the FAA equipment, the NWS will provide input to the FAA's commissioning process. The NWS role in the FAA commissioning process is described in the Plan for NWS Support to FAA WSR-88D Commissioning.

The commissioning of NWS WSR-88D equipment will be accomplished in accordance with the site component commissioning requirements of Weather Service Operations Manual (WSOM) Chapter A-73, **Systems Commissioning Policy**. These requirements ensure that the WSR-88D equipment, i.e., WSR-88D site component, located at a field site, can be used in an official capacity in the conduct of appropriate NWS service operations.

This plan addresses the commissioning of NWS-sponsored WSR-88D site components. It will be updated on an as required basis. The NWS Director, Office of Systems Operations (OSO), is responsible for the development, maintenance, and implementation of the NWS-Sponsored WSR-88D Site Component Commissioning Plan, and is supported in this by the NWS MAR Commissioning Manager (MCM), OSO. Questions concerning this plan should be directed to the MCM.

1.1 Purpose and Scope

This plan details the manner in which the site component commissioning requirements of Weather Service Operations Manual (WSOM) Chapter A-73, **Systems Commissioning Policy**, are to be implemented for the commissioning of NWS-owned WSR-88D equipment. Included are (a) specifics on what is to be commissioned, (b) the process and procedures for the commissioning of individual WSR-88Ds, and (c) the responsibilities of NWS Headquarters (NWSH) and

Regional personnel for the conduct of the overall commissioning process for WSR-88Ds.

1.2 Assumptions

This plan assumes a reader knowledgeable in the operational use of the WSR-88D and of the requirements of the NWS System Commissioning Policy and procedures. Documents applicable to obtaining such knowledge are listed in Exhibit 1.

- WSOM Chapter A-73, NWS MAR System Commissioning Policy
- Internal and External Communication Plan for the Modernization and Associated Restructuring of the NWS
- WSR-88D System Acceptance Plan
- Memorandum of Agreement for Interagency Operation of the WSR-88D
- NEXRAD Integrated Logistics Support Plan
- WSR-88D Responsibility Transfer Plan
- Federal Meteorological Handbook No. 11

Exhibit 1. Documents Applicable to WSR-88D Commissioning.

Further governing assumptions are:

a. Planned upgrades, such as the conversion to linear horizontal polarization of commissioned WSR-88D site components will not require a re-commissioning of the components.

b. Upgrades and replacements to the WSR-88D hardware and software, in the course of fielding WSR-88Ds, will not require a re-commissioning of a retrofitted site.

c. Sites commissioned with "work-arounds" (i.e., specific operational procedures implemented, on a temporary basis,

to address identified commissioning concerns) will not require a re-commissioning when such "work-arounds" are replaced with operational procedures common to all WSR-88Ds.

d. The NWS has the responsibility for maintaining the site-specific configuration details for all triagency systems. These details will be maintained in the Configuration Management Data Bases and Technical Reference Library located within the NWS OSO Configuration Management Section. These site-specific data will be updated as information is provided by the Operational Support Facility (OSF) and the sites, as well as through periodic audits and inventories. The OSF will ensure the proper maintenance of the WSR-88D baseline for hardware, software, and engineering technical documentation. The OSF is also responsible for providing the necessary security and backup as required for each agency.

e. Implementation and commissioning of the WSR-88D equipment at a site will occur prior to the installation of the Advanced Weather Interactive Processing System.

1.3 Organization of Plan

A generic description of the WSR-88D equipment appears in Section 2.0. The site component commissioning process and procedures are described in Section 3.0. The various WSR-88D site component configurations and associated commissioning requirements and responsibilities also appear in Section 3.0. An overview of the commissioning status monitoring/reporting system is presented in Section 4.0. A summary of WSR-88D site component commissioning authorities and responsibilities is contained in Section 5.0.

2.0 WSR-88D SITE COMPONENT CONFIGURATIONS

This section provides a generic description of the WSR-88D equipment. The NWS WSR-88D configurations on a site-by-site basis are listed in Appendix A.

2.1 WSR-88D Site Components

The WSR-88D system consists of four functional areas, or equipment groups, which are connected to form an independent operating entity capable of fully implementing the WSR-88D requirements, as follows:

2.1.1 Radar Data Acquisition (RDA)

The RDA equipment group, consisting of a transmitter, antenna, receiver, and signal processor, is the Doppler radar subsystem

which transmits, then receives and processes reflected radio frequency signals to obtain weather radar base data.

2.1.2 Radar Product Generator (RPG)

The RPG generates various products used by the operator. It receives the base data from the RDA and generates base products (reflectivity, velocity, and spectrum width). These data are also processed using stored algorithms to develop a set of derived meteorological and hydrometeorological products.

The RPG is controlled by the Unit Control Position (UCP), a dual port computer terminal. The UCP also allows the operator to control the RDA *through* the RPG.

2.1.3 PUP

The PUP is the workstation and associated hardware/software which receives WSR-88D data products from the RPG and allows the operator to request, display, store, annotate and distribute the products.

PUPs are categorized as associated and non-associated. Associated PUPs have dedicated communications with one RPG and dial-in communications capabilities to other RPGs. Non-associated PUPs have only dial-in communication capabilities to RPGs.

2.1.4 Telecommunications Interfaces

This area of the WSR-88D unit includes all of the hardware and software required to exchange data and control among the functional areas of the WSR-88D unit and the external users and systems. The WSR-88D system wideband is defined as the interface between the RDA and RPG. The type of interface - wire, fiber optics, Microwave Line of Sight, or commercial T-1 - depends on the physical proximity of the two systems.

The system narrowband is defined as the interface between the RPG and the users. This interface is through telephone lines. Lines are either dedicated or dial-up. Associated PUPS, Principal User External Systems, e.g., Automation of Field Operations and Services (AFOS), and the NIDS are connected to the RPG by a dedicated narrowband line. Non-Associated PUPs and Rain Gage Data Acquisition Computers use dial-up communications for data exchange.

3.0 WSR-88D SITE COMPONENT COMMISSIONING PROCESS AND PROCEDURES

The NWS-owned WSR-88D site components are, for the purposes of their commissioning, categorized as one of the following three configurations:

1. RDA/RPG/Collocated PUP
2. Associated PUP
3. Non-Associated PUP

The commissioning of the site components of a given configuration(s) will begin upon the decision of the Deputy Assistant Administrator for Modernization (DAAM) that the configuration is ready for commissioning based upon evidence discussed in Appendix B, that (a) the WSR-88D technology and supporting systems associated with a given configuration are ready for operational use, (b) the NWS is ready to utilize the WSR-88Ds in routine operations, and (c) users of WSR-88D data and services have been (1) educated with regard to WSR-88D observations, and (2) notified sufficiently in advance of the intent of NWS to commission WSR-88Ds to make modifications to their systems. (The scope of this education and notification is covered in the Internal and External Communication and Coordination Plan for the Modernization and Associated Restructuring of the National Weather Service. The user notification process is discussed further in Section 4.2.) Any time these factors cannot continue to be satisfied for that configuration(s), the commissioning of additional WSR-88D site components in that configuration(s) will cease.

3.1 Scheduling of and Preparations for Initiation of Site Component Commissioning Evaluations

The general NWS organizational relationships for the WSR-88D Site Component Commissionings are shown in Exhibit 2.

The scheduling of individual WSR-88D commissioning activities is the responsibility of the MCM in coordination with the NWS Next Generation Weather Radar (NEXRAD) Program Leader and the Regional NEXRAD Meteorologists. These schedules are determined by the projected acceptance dates provided by the National Oceanic and Atmospheric Administration NEXRAD System Program Office (SPO1), the readiness of a given configuration for inclusion in the commissioning process, and the work load of the Regions.

Preparations for the initiation of these site-specific commissioning activities, are accomplished by:

a. The appointment and training of an Evaluation Official (EO) by the appropriate Regional NEXRAD Meteorologist.

b. The MCM forwarding a WSR-88D Site Component Commissioning Evaluation Package to the appropriate Regional NEXRAD Meteorologist, for each WSR-88D to be commissioned. This is to take place at least 90-120 days prior to the anticipated start of the Determination of Operational Readiness (DOR) phase of the site component commissioning process discussed in Section 3.2.3 below.

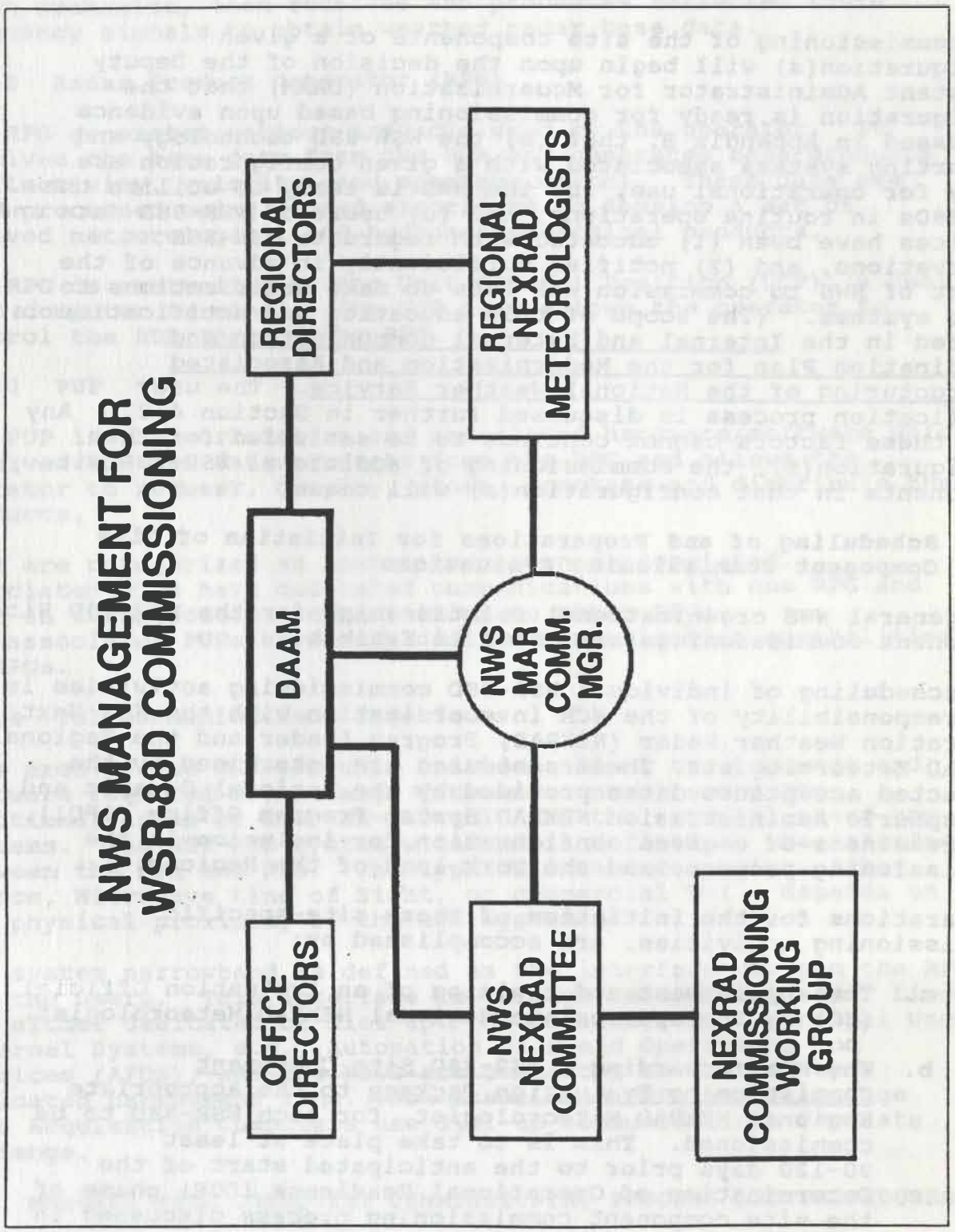

Exhibit 2. Organizational Relationships for NWS WSR-88D Site Component Commissioning.

c. The MCM notifying users of the initial target date for the WSR-88D's commissioning. This notification is to take place within 90-120 days of the target commissioning date.

d. Local dissemination of the intended date for commissioning, including notification of the Unit Radar Committee.

3.2 WSR-88D Site Component Commissioning Process

The WSR-88D Site Component Commissioning process, Exhibit 3, consists of the following phases:

a. Government Acceptance of WSR-88D Installation

b. NWS Activation of the WSR-88D

c. DOR

- Familiarization and Proficiency Training
- Operational Evaluation
- Preparation of the WSR-88D Site Component Commissioning Report

d. Review and Approval of the Commissioning Report by Senior NWS Management

e. Implementation of the Approved Commissioning.

3.2.1 Government Acceptance of WSR-88D Site Component

The SPO1 will accept, for the Government, all Department of Commerce, DOD, and DOT WSR-88Ds. This process, fully described in the WSR-88D System Acceptance Plan (dated June 1992), consists of four main phases:

1. Facilities Testing and Acceptance
2. Installation and Checkout (INCO)
3. Field System Test
4. 72-Hour System Stability Test.

When the facilities testing is successfully completed, a SPO1 representative signs the Facilities DD Form 250, Material Inspection Report, and an NWS representative signs the appropriate property transaction request supplied by the Administrative Support Center. This transfers ownership of the facilities from the contractor to the NWS.

After the WSR-88D unit is delivered, the INCO, Field System Test, and 72-Hour System Stability Tests are performed. These require a total of 2½ to 3 months.

Exhibit 3. WSR-88D Site Component Commissioning Process.

A site component's acceptance is the prerequisite to the initiation of its commissioning process. The "commissioning checklist" (see section 3.2.3.2 below) requires the existence of a signed DD Form 250 accepting the WSR-88D site component. For the purpose of initiating a component's commissioning process, its acceptance must be complete, i.e., all open items must have been satisfactorily resolved. The EO must determine through coordination with the Area Electronics Supervisor that any open items are not critical to the commissioning of the WSR-88D.

3.2.2 NWS Activation of the WSR-88D

Activation is normally coincident with the acceptance of a WSR-88D and is defined as the point in time at which the accepted WSR-88D installation begins to be operated by NWS personnel for purposes of familiarization and operational evaluation.

3.2.3 Determination of Operational Readiness (DOR)

The DOR occurs after acceptance, when a WSR-88D site component is in use by the Government for the purposes of familiarization and the evaluation of the component in accordance with prescribed WSR-88D commissioning assessments and associated criteria and procedures. Completion of this phase occurs when the EO submits to the appropriate Area Manager (AM) the WSR-88D Site Component Commissioning Report.

This phase consists of three parts:

a. Familiarization and Proficiency Training

b. Operational Evaluation

c. Preparation of the WSR-88D's Site Components Commissioning Report.

During the DOR, the WSR-88D will be operated in a **test mode** with no official dissemination/distribution of the WSR-88D's observations or data. As stipulated in the NEXRAD Information Dissemination Service (NIDS) Agreement, products issued by the NIDS vendors prior to commissioning must be labeled as being test, unofficial, or evaluation products.

3.2.3.1 Familiarization and Proficiency Training

The Familiarization and Proficiency Training period begins at Government Acceptance, or, in the case of Limited Production Phase units, at the Operational Readiness Test. During this period, operations and maintenance personnel acquire experience with the WSR-88D equipment. The OSF supports operations and the contractor provides support as specified in the Interim Contractor Support contract modification, if such a modification is in effect. The Familiarization and Proficiency Training period continues until the DOR is complete.

3.2.3.2 Operational Evaluation

Operational Evaluation is the documented evaluation of a WSR-88D site component's operational performance and NWS's readiness to use and support the component in routine operations. The AM initiates the evaluation period and coordinates it with the appropriate local NWS managers. The Operational Evaluation will normally start shortly after acceptance.

As discussed above, the EO for a given WSR-88D is responsible for the Operational Evaluation using the NWS-Sponsored WSR-88D Site Component Evaluation Package (attached to this plan) provided by the MCM for that WSR-88D component. Each package contains:

- **Site Component Commissioning Evaluation Responsibilities**: A description of the responsibilities of the individuals involved in a WSR-88D site component commissioning evaluation.

- **Definition of the WSR-88D Site Component**: A definition of the configuration of the WSR-88D to be commissioned at the site:

- **Commissioning Report Forms and Requirements**: Instructions and forms for the preparation and transmittal of the Commissioning Report discussed in Section 3.2.3.3 below.

- **WSR-88D Site Component Commissioning Evaluation Instructions**: The WSR-88D Site Component checklist for that WSR-88D's configuration and instructions for its completion.

  Instructions include (a) definitions of the evaluation criteria found in the Checklist and (b) directions for their evaluation including WSR-88D Test Mode Requirements and WSR-88D Site Component Documentation Requirements.

During its evaluation, the WSR-88D will be operated continuously in the test mode. Any data that are disseminated are unofficial.

The evaluation period is expected to last approximately 4 months for NWS WSR-88D units (RDA/RPG/PUP) and approximately 2 months for Non-Associated PUPs and for NWS PUPs associated with RPGs owned by DOD or FAA.

During this period, an NWS EO will have primary responsibility for the site component's evaluation. The EO will use the WSR-88D Site Component Commissioning Checklist, as modified for the appropriate category of WSR-88D site component, and its associated set of detailed criteria to determine compliance with site requirements for:

- Government acceptance of the WSR-88D.
- Adequate availability of trained operations and maintenance personnel.
- Satisfactory performance of system interfaces.
- Satisfactory support of associated NWS forecast and warning services.
- Proper functioning of service backup capabilities.
- Adequate documentation for operations and maintenance.
- Adequate on-site spares, repair parts, and test equipment.

Note that the first assessment, i.e., acceptance, will have been documented as a prerequisite for the initiation of the component's commissioning process. (See Section 3.2.1 above).

The EO will draw on the expertise, assistance, and input of other NWS staff, as required, while performing the evaluation.

3.2.3.3 Preparation of WSR-88D Site Component Commissioning Report

The WSR-88D Site Component Commissioning Report serves as the instrument by which commissioning of the site is recommended and approved. This report (see the attached NWS-Sponsored WSR-88D Site Component Evaluation Package for details) consists of:

- The WSR-88D Site Component Commissioning Report Form,
- The WSR-88D Site Component Commissioning Checklist, and

- Documentation for each evaluation which is either not-applicable to the site or requires a "work-around" (a specific operational procedure implemented, as ae temporary measure, to address an identifiede commissioning concern).e

The EO confirms the accuracy and completeness of the Report by signing it and transmitting it (via express mail if necessary) to the appropriate review official (indicated in Exhibit 1 of the NWS-Sponsored WSR-88D Site Component Commissioning Evaluation Package). Please note that the WSR-88D Site Component Commissioning Report Form to be used is the one that reflects the Commissioning Approval Authority in effect for the given site. The form to be used when the DAAM is the approving authority is contained in the attached Evaluation Package. The form to be used when the Regional Directors are the approving authority is provided in Appendix C.

3.2.4 Approval of the Commissioning Report by Senior NWS Management

The approval authority for the commissioning of a WSR-88D site component is the DAAM. As implied above, this authority may be delegated by the Deputy, at the Deputy's discretion, to the regional directors. Procedures for both are discussed below.

3.2.4.1 DAAM As Approving Authority

Upon receipt of the appropriately completed WSR-88D Site Component Commissioning Report the AM will initiate the NWS review/approval process described below.

Note: To expedite the review process, reviewers should ensure that a substitute (with approval authority) has been appointed in case of their absence.

1. The AM reviews the WSR-88D Commissioning Report and confirms its completeness and accuracy by signing the Report. The AM then retains a copy and sends the original Report (via express mail) to the Regional NEXRAD Meteorologist.

2. The Regional NEXRAD Meteorologist coordinates the regional review of the checklist. When the region is ready to recommend commissioning, the commissioning report/checklist is forwarded to the Regional Director (RD). The RD, in turn, recommends the commissioning of the WSR-88D by signing the Report and sending it (via express mail) to the NWS MCM.

3.e The MCM reviews the commissioning report and coordinatese any necessary action within NWSH. When ready toe recommend commissioning, the MCM signs the checklist.e

4.e The MCM issues notice within the NWS and to other userse of the commissioning date. (The MCM will have issued ane initial commissioning notice approximately 90-120 days previously.) The tentative time and date fore commissioning will be 1200 local time, approximatelye 2 weeks after the date the MCM signs the checklist. Thee responsibility for notifying the NIDS providers ofe commissioning-related activities rests with the Chief, Observing Systems Branch (OSB)/OSO.e

5.e When the MCM is ready to recommend commissioning, he/she signs the Report and forwards it to the DAAM fore approval.e

6.e The DAAM reviews the Report and, if in agreement withe the recommendation, signs and returns it to the MCM fore implementation.e

7.e After the site is commissioned the MCM issues finale commissioning notices within NWS and to other users.e

Note: For commissioning PUPs at National Centers, the duties of the Regional NEXRAD Meteorologist are assumed by the National Meteorological Center (NMC) NEXRAD Focal Point. The duties of the AM are assumed by the Center Director or Chief, Meteorological Operations Division.

3.2.4.2 Regional Director As Approving Authority

The approving authority for commissioning may be delegated by the Deputy, at the Deputy's discretion, to the regional directors (RD). The NWS review/approval process when the RD is the approving authority is described below.

1.e The AM reviews the WSR-88D Commissioning Report ande confirms its completeness and accuracy by signing thee Report. The AM then retains a copy and sends thee original Report (via express mail) to the Regional NEXRAD Meteorologist. (A copy of the Approval Form when the RD is the approval authority is shown in Appendix C.)

2.e The Regional NEXRAD Meteorologist coordinates thee regional review of the checklist. The Regional NEXRADe Meteorologist sends a copy of the checklist to the MCM.e

3. When the region is ready to approve commissioning, the RD signs the commissioning report/checklist.

4. The Regional NEXRAD Meteorologist informs the MCM that the commissioning has been approved.

5. The MCM issues notice within the NWS and to other users of the commissioning date. (The MCM will have issued an initial commissioning notice approximately 90-120 days previously.) The tentative time and date for commissioning will be 1200 local time approximately 2 weeks after the date the RD signs the checklist. The responsibility for notifying the NIDS providers of commissioning-related activities rests with the Chief, OSB/OSO.

3.2.5 Implementation of Approved WSR-88D Commissionings

As indicated above, commissionings can take place, based upon the DAAM's approval, or at the Deputy's discretion, by the approval of the appropriate Regional Directors. The commissioning of some sites may require temporary work-arounds. These work-arounds will be replaced with operational procedures common to all WSR-88Ds at the earliest possible date.

3.2.5.1 Commissioning Implementations

The MCM, in coordination with the region, will initiate the implementation of approved commissionings by establishing the official commissioning date/time (consistent with NWS requirements) and issuing required notices within the NWS and to users external to the NWS.

On the commissioning date the WSR-88D will commence **official** dissemination/distribution of WSR-88D products.

The AM will ensure that the following actions are taken at approximately 1200 local standard time on the official commissioning date:

1. Cancel the auto-archive of Level III data.

2. Insert a new optical disk in the Level III device.

3. Do a volume scan restart (RD,V at the UCP).

4. Resume the auto-archive of Level III data.

5. Issue the following Free Text Message: "NWS WSR-88D at <*site name*> commissioned at <*time, date*>."

6. Ensure that the WSR-88D assumes a higher maintenance priority than a WSR-57/74 that provides coverage for approximately the same area.

If weather conditions are such that performing steps 1-5 above would disrupt operations, the process should be postponed until a later time.

Transfer of CWA responsibility for the RDA/RPG/PUP can occur prior to commissioning but should occur no later than 2 months following the projected commissioning date. This includes using applications programs, e.g., SRWARN, that have been updated for the new CWA. Activities required for CWA transfer are defined in the Service Transition Plan--Public Warning and Forecast Programs prepared by the Office of Meteorology. Changes in CWA for a DOD APUP are at the discretion of the Regional Director based upon available trained staff, etc.

3.2.5.2 Implementation of Commissionings Containing Work-Arounds

The implementation of commissioning containing work-arounds will be initiated in the same manner as above. However, the MCM will continue to track the site as an open item until such time that all work-arounds are replaced by the operational procedures common to all WSR-88Ds.

3.3 WSR-88D Site Component Categories and Associated Commissioning Requirements and Responsibilities

This section identifies the commissioning requirements and responsibilities associated with the three categories of NWS-sponsored WSR-88D site components. The WSR-88D configurations on a site-by-site basis are listed in Appendix A.

3.3.1 NWS RDA/RPG/PUP

For the NWS RDA/RPG/PUP configuration, the EO completes the NWS-Sponsored WSR-88D Site Component Commissioning Evaluation Package, soliciting input from operations and maintenance personnel as appropriate. During the DOR, Associated Users should be queried regarding the adequacy of the support for their missions provided by the RDA/RPG. Any problems in this area should be dealt with through the Unit Radar Committee (URC).

3.3.2 NWS Associated PUP

For NWS PUPs associated with WSR-88Ds owned by other agencies, the EO completes the NWS-Sponsored WSR-88D Site Component Commissioning Evaluation Package, soliciting input from operations and maintenance personnel as appropriate. Any obstacles to commissioning the Associated PUP due to performance of the RDA/RPG should be dealt with through the URC.

3.3.3 NWS Non-Associated PUP

For NWS Non-Associated PUPs, the EO completes the NWS-Sponsored WSR-88D Site Component Commissioning Evaluation Package, soliciting input from operations and maintenance personnel as appropriate.

4.0 STATUS TRACKING AND NOTIFICATION OF WSR-88D SITE COMPONENT COMMISSIONINGS

The MCM is responsible for tracking and providing notification of WSR-88D site component commissionings. Section 4.1 describes the Commissioning Scheduling and Tracking System and Section 4.2 describes the notification process.

4.1 Commissioning Scheduling and Tracking System (CSTS)

The commissioning of WSR-88D site components is tracked by the MCM with the assistance of a CSTS. This system maintains information on each WSR-88D including location, system identifiers, configuration type, ownership, acceptance dates (planned and actual), and status of the WSR-88D within the site component commissioning process.

Access to the system is through the National Transition Database (NTD) accounts which are in place for national, regional and local managers. Such access allows users to view any and all records and to produce standard reports, locally. In addition, local and regional managers are responsible for entering data on the following:

a. Actual Acceptance Date of a given WSR-88D

b. Activation Date

c. Evaluation Begin and End Dates

d. Actual Commissioning Date.

The MCM is responsible, with the assistance of the NTD staff, to provide and maintain location, configuration, and ownership information, and to enter:

a. Target Dates for Commissioning

b. Approving Authority (DAAM or RD)

c. Distribution Dates of Evaluation Packages

d. Commissioning Approval Dates

e. Assigned Commissioning Dates

Instructions for use of and responsibilities for participation in the CSTS will be documented by theeMCM and distributed to the regional and local managers.

4.2 Notification

Reports generated from the CSTS will be used to notify users internal and external to the NWS of WSR-88D site component commissioning activities. The user notification process is illustrated in Exhibit 4. Examples of the types of commissioning reports that will be available are shown in Exhibits 5 and 6.

The MCM has the overall responsibility for ensuring that the various communities illustrated in Exhibit 4 are notified. The MCM will work with a number of organizations involved with telecommunications systems (e.g., Family of Services, AFOS, etc.) to communicate notification messages. Further details on notification responsibilities are contained in the Internal and External Communication Plan for the Modernization and Associated Restructuring of the NWS prepared by the Transition Program Office.

The initial notification to users of the planned commissioning of a NWS-sponsored WSR-88D unit is expected to occur within 90-120 days of the projected commissioning date. A second notice will be issued within 30-60 days of the projected commissioning date. A third notice will normally be issued within 1 week of the projected commissioning date. A follow-up notification will be issued periodically notifying external users of the official commissioning dates for those systems that have been commissioned since the last notification.

5.0 SUMMARY OF WSR-88D SITE COMPONENT COMMISSIONING AUTHORITIES AND RESPONSIBILITIES

The following provides a quick reference for participants in the WSR-88D site component commissioning process of their authorities and responsibilities by stage of the process.

5.1 Initiation of WSR-88D Site Component Commissionings

The authorities and responsibilities for the initiation of the site component commissioning process for a given category of WSR-88D are as follows:

- **DAAM**

  Approves decision to begin commissioning WSR-88D sitee components when precommissioning activities are complete. (Precommissioning activities are listed in Appendix B.)e

5.2 Scheduling and Preparation for Site Component Commissionings

The responsibilities for the scheduling of and preparation for the initiation of the commissioning process of individual WSR-88Ds are as follow:

- **MCM:**

  Schedules target commissioning dates for each NWS WSR-88D site component. Consults Regional NEXRAD Meteorologists in establishing commissioning dates.

- **WSR-88D Regional NEXRAD Meteorologists:**

  a. Provide input to the MCM in establishing target commissioning dates for NWS WSR-88D site components.

  b. Consult with AMs in establishing target commissioning dates for NWS WSR-88D site components.

- **Area Managers:**

  a. Provide input to the Regional NEXRAD Meteorologists in establishing target commissioning dates for NWS WSR-88D site components in their area of responsibility.

  b. Consult with Meteorologist-In-Charge (MIC) (including any Center Weather Service Unit [CWSU] MICs) and Hydrologist-In-Charge (HIC) in establishing target commissioning dates for NWS WSR-88D site components.

- **MIC/HIC:**

  Provide input to the AMs in establishing target commissioning dates for NWS WSR-88D site components.

5.3 Conduct of Site Component Commissioning Evaluations

The responsibilities for the conduct of site component evaluations are as follows:

- **MCM:** The MCM is responsible for the management of the WSR-88D commissioning process. Specifically, the MCM, with reference to the conduct of site component evaluations:

  a. Compiles and distributes to the appropriate Regional NEXRAD Meteorologist, the evaluation package for each WSR-88D site component.

Exhibit 4. User Notification Process for Commissioning.

COMMISSIONING SCHEDULING AND TRACKING SYSTEM

SITE COMMISSIONING REPORT
*** SITES COMMISSIONED ***

SYSTEM: NEXRAD
DATE OF REPORT: 11/15/93
LAST UPDATED: 10/13/93

STATION NAME	STATE ID	AGENCY	LAT	LONG	ACTUAL COMM. DATE
Twin Lakes	KTLX S	OK	351900N	0971600W	10/01/93
Melbourne	KMLB S	FL	280700N	0803900W	10/10/93
. . .					

Exhibit 5. Sample Notification Report for WSR-88D Sites That Have Been Commissioned (Dates Are For Illustrative Purposes Only).

COMMISSIONING SCHEDULING AND TRACKING SYSTEM

SITE COMMISSIONING REPORT
**** FUTURE SITES ****

SYSTEM: NEXRAD
DATE OF REPORT: 7 /15 / 93
LAST UPDATED: 6 /13 / 93

STATION NAME	ID	REGION	STATE	AGENCY	NOTIF. NUM.	PROJECTED COMM. DATE
OCTOBER						
Twin Lakes	KTLX	S	OK	NWS	1	10 / 01 / 93
Melbourne	KMLB	S	FL	NWS	1	10 / 10 / 93
NOVEMBER						
. . .						

Exhibit 6. Sample Notification Report for WSR-88D Sites To Be Commissioned in the Future (Dates Are For Illustrative Purposes Only).

b. Provides guidance and support, if necessary, in the resolution of deficiencies which can be addressed with regional resources; coordinates and approves solutions in need of NWSH involvement; serves as approval authority for regionally/locally-developed work-arounds.

c. Tracks the status of the WSR-88D evaluations and reports to NWS management as required.

- **Regional NEXRAD Meteorologist:** The Regional NEXRAD Meteorologist is responsible for the management of all WSR-88D commissioning activities within their region.

  Note: For commissioning PUPs at National Centers, the duties of the Regional NEXRAD Meteorologist are assumed by the National Meteorological Center (NMC) NEXRAD Focal Point.

Specifically, each Regional NEXRAD Meteorologist:

a. Distributes WSR-88D evaluation packages to the AM.

b. Coordinates the resolution of deficiencies which can be addressed by regional resources and obtains approval of the solutions from the MCM.

c. Coordinates the resolution of deficiencies requiring NWSH involvement with the MCM.

d. Reports status of WSR-88D commissioning activities in the Region to Regional Management and the MCM.

- **AM:** The AM is responsible for the management of the commissioning activities for WSR-88D's within the Manager's geographic area of responsibility.

  Note: For commissioning PUPs at National Centers, the duties of the AM are assumed by the Center Director or Chief, Meteorological Operations Division.

  Specifically, each AM:

  a. Serves as the EO (or designates an EO) at NEXRAD Weather Service Forecast Offices.

  b. Provides EOs with a copy of the NWS-Sponsored WSR-88D Site Component Commissioning Plan.

  c. Provides EOs with the evaluation package for their particular WSR-88D.

d. Provides the EOs with guidance and support, as required, in the resolution of deficiencies which would result in an unsatisfactory rating for the WSR-88D.

e. Reviews and confirms the completeness and accuracy of WSR-88D Site Component Commissioning Reports by signing the report and forwarding it to the Regional NEXRAD Meteorologist.

f. Reports on status of commissioning activities to the Regional NEXRAD Meteorologist.

- **EO:** The EO is responsible for the conduct of the commissioning evaluation of the assigned WSR-88D site component. In particular, the EO:

  a. Conducts the evaluation, with assistance from appropriate operations and maintenance personnel, and indicates evaluation elements satisfactorily met by appropriate entries in the site component commissioning checklist for the site.

  b. Initiates actions as required, in coordination with the AM, to correct deficiencies uncovered during the evaluation.

  c. Compiles the WSR-88D Site Component Commissioning Report for the site; confirms the completeness and accuracy of the evaluation by signing the WSR-88D Site Component Commissioning Report; retains copies of the report and supporting materials; and transmits the original Report to the appropriate review officials. (These officials are indicated in Exhibit 1 of the NWS-Sponsored WSR-88D Site Component Commissioning Evaluation Package.)

  d. Reports on status of commissioning activities to the review officials.

5.4 Evaluation Approvals

The authorities and responsibilities for the review and approval of WSR-88D Site Component Commissioning Reports are as follow:

- **DAAM:**

  Approves the final decision for commissioning and returns the commissioning report to the MCM for permanent retention. At some point in the deployment of the WSR-88D system, the DAAM can delegate the final commissioning approval authority to the RD.

- **RD:**

  Upon receipt of a completed commissioning report from a field site, reviews the report. When ready to recommend commissioning, signs the checklist and sends it to the MCM.

  At some point in the deployment of the WSR-88D system, the DAAM can delegate the final commissioning approval authority to the RD.

- **Director, NMC:**

  Upon receipt of a completed commissioning report from a National Center, reviews the report. When ready to recommend commissioning, signs the report and sends it to the MCM.

- **MCM:**

  a. Reviews the commissioning report and coordinates any necessary action within NWSH. When ready to recommend commissioning, the MCM signs the report.

  b. Forwards the checklist to the DAAM for final approval.

  c. Permanently retains the commissioning report after the DAAM approves the final decision for commissioning.

- **Regional NEXRAD Meteorologist:**

  Coordinates the regional review of the checklist. When the region is ready to recommend commissioning, the commissioning report/checklist is forwarded to the RD. The RD in turn recommends the commissioning of the WSR-88D by signing the Report and sending it to the MCM.

- **Area Manager:**

  Reviews the Commissioning Report and confirms its completeness and accuracy by signing the Report. Retains a copy and sends the original Report (via express mail) to the Regional NEXRAD Meteorologist.

5.5 Commissioning Implementation

The responsibilities for the implementation of site component commissionings are as follows:

- **MCM:**

  a. After reviewing and signing the commissioning report, issues notice within the NWS and to other users of the planned commissioning date.

  b. Upon receipt of the signed commissioning report from the DAAM, establishes, in coordination with the region, the official commissioning date/time (consistent with NWS requirements) and issues the required notices within the NWS and to users external to the NWS.

  c. After the site is commissioned the MCM issues final commissioning notices within NWS and to other users.

- **AM:**

  Ensures that the following actions are taken at 1200 local standard time on the official commissioning date:

  1. A new (unused) disk shall be inserted in the Archive III device and archiving resumed.

  2. The WSR-88D assumes a higher maintenance priority than a WSR-57/74 that provides coverage for approximately the same area.

  3. Within 2 months of the official commissioning date, the office assumes responsibility for its new CWA. This includes using applications programs, e.g., SRWARN, that have been updated for the new CWA.

NWS-Sponsored Doppler Weather Surveillance Radar (WSR-88D)

Site Component Commissioning Plan

Appendix A. NWS WSR-88D Site Configurations

June 7, 1993

Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.[1]	Host RDA	Acceptance Date	
ABERDEEN WFO	SD	WSR-88D		12/15/94	PROJECTED
ALBANY WFO	NY	WSR-88D		10/15/93	PROJECTED
ALBUQUERQUE CWSU[2]	NM	APUP	AMARILLO, TX	02/12/93	ACTUAL
ALBUQUERQUE WFO	NM	APUP	CANNON AFB, NM	06/15/94	PROJECTED
ALBUQUFRQUE WFO	NM	WSR-88D		08/01/94	PROJECTED
ALPENA WFO	MI	WSR-88D		07/15/95	PROJECTED
AMARILLO WFO	TX	WSR-88D		02/12/93	ACTUAL
ANCHORAGE CWSU[2]	AK	APUP	ANCHORAGE, AK	11/19/93	PROJECTED
ANCHORAGE RFC	AK	APUP	ANCHORAGE, AK	TBD	
ANCHORAGE WFO - ALASKA AVIATION WEATHER UNIT	AK	NAPUP		TBD	
ANCHORAGE WFO	AK	APUP	ANCHORAGE, AK	11/19/93	PROJECTED
ANCHORAGE WFO	AK	TBD	MIDDLETON ISL, AK	10/01/95	PROJECTED
ANCHORAGE WFO	AK	TBD	KING SALMON, AK	04/01/96	PROJECTED
ANCHORAGE WFO	AK	TBD	BETHEL, AK	04/01/96	PROJECTED
ATLANTA CWSU[2]	GA	APUP	EAST ALABAMA	02/18/93	ACTUAL
ATLANTA RFC	GA	NAPUP		01/28/93	ACTUAL
ATLANTA WFO	GA	WSR-88D		06/15/94	PROJECTED
ATLANTA WFO	GA	APUP	ROBINS AFB, GA	01/07/94	PROJECTED
AUSTIN/SAN ANTONIO WFO	TX	APUP	LAUGHLIN AFB, TX	02/11/94	PROJECTED
AUSTIN/SAN ANTONIO WFO	TX	WSR-88D		07/15/94	PROJECTED
BALTIMORE/WASH. DC WFO	MD	WSR-88D		06/12/92	ACTUAL
BALTIMORE/WASH. DC WFO	MD	TBD	DOVER AFB, DE	01/11/93	ACTUAL

[1] APUP is Associated PUP, NAPUP is Non-Associated PUP
[2] FAA-owned Associated PUP to be commissioned by the FAA

Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
BILLINGS WFO	MT	WSR-88D		02/01/96	PROJECTED
BINGHAMTON WFO	NY	WSR-88D		08/28/93	PROJECTED
BIRMINGHAM WFO	AL	APUP	EAST ALABAMA	02/18/93	ACTUAL
BIRMINGHAM WFO	AL	WSR-88D		06/15/94	PROJECTED
BISMARCK WFO	ND	APUP	MINOT AFB, ND	11/15/94	PROJECTED
BISMARCK WFO	ND	WSR-88D		11/15/94	PROJECTED
BOISE WFO	ID	WSR-88D		11/19/93	PROJECTED
BOSTON CWSU[2]	MA	APUP	BINGHAMTON, NY	08/28/93	PROJECTED
BOSTON RFC	MA	NAPUP		09/07/93	PROJECTED
BOSTON WFO	MA	WSR-88D		10/29/93	PROJECTED
BROWNSVILLE WFO	TX	WSR-88D		04/15/95	PROJECTED
BUFFALO WFO	NY	WSR-88D		04/01/95	PROJECTED
BURLINGTON WFO	VT	APUP	GRIFFIS AFB, NY	12/21/92	ACTUAL
BURLINGTON WFO	VT	WSR-88D		10/15/95	PROJECTED
CENTRAL FLOW CONTROL FACILITY[2]	DC	NAPUP		02/13/93	ACTUAL
CENTRAL ILLINOIS WFO	IL	WSR-88D		02/15/95	PROJECTED
CENTRAL PENNSYLVANIA RFC	PA	NAPUP		04/15/93	ACTUAL
CENTRAL PENNSYLVANIA WFO	PA	WSR-88D		08/13/93	PROJECTED
CHARLESTON, SC WFO	SC	WSR-88D		11/15/94	PROJECTED
CHARLESTON, WV WFO	WV	WSR-88D		09/15/94	PROJECTED
CHEYENNE WFO	WY	WSR-88D		10/15/94	PROJECTED

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Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
CHICAGO CWSU[2]	IL	APUP	CHICAGO, IL	06/25/93	PROJECTED
CHICAGO WFO	IL	WSR-88D		06/25/93	PROJECTED
CINCINNATI RFC	OH	NAPUP		06/25/93	PROJECTED
CINCINNATI WFO	OH	WSR-88D		06/15/94	PROJECTED
CLEVELAND CWSU[2]	OH	APUP	PITTSBURGH, PA	07/17/93	PROJECTED
CLEVELAND WFO	OH	WSR-88D		07/24/93	PROJECTED
COLUMBIA WFO	SC	WSR-88D		12/24/93	PROJECTED
CORPUS CHRISTI WFO	TX	WSR-88D		02/15/96	PROJECTED
DALLAS/FORT WORTH RFC	TX	NAPUP		03/11/93	ACTUAL
DALLAS/FORT WORTH WFO	TX	APUP	CENTRAL TEXAS	04/05/93	ACTUAL
DALLAS/FORT WORTH WFO	TX	APUP	DYESS AFB, TX	10/22/93	PROJECTED
DALLAS/FORT WORTH WFO	TX	WSR-88D		01/14/94	PROJECTED
DENVER CWSU[2]	CO	APUP	DENVER, CO	05/22/93	PROJECTED
DENVER WFO	CO	WSR-88D		05/25/93	ACTUAL
DES MOINES WFO	IA	WSR-88D		11/26/93	PROJECTED
DETROIT WFO	MI	WSR-88D		06/25/93	PROJECTED
DODGE CITY WFO	KS	WSR-88D		11/06/92	ACTUAL
DULUTH WFO	MN	WSR-88D		08/15/95	PROJECTED
EL PASO WFO	TX	WSR-88D		02/15/96	PROJECTED
ELKO WFO	NV	WSR-88D		10/01/95	PROJECTED
EUREKA WFO	CA	WSR-88D		02/01/95	PROJECTED
FAIRBANKS WFO	AK	APUP	FAIRBANKS, AK	09/24/93	PROJECTED
FAIRBANKS WFO	AK	TBD	NOME, AK	04/01/96	PROJECTED

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Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
FARGO/GRAND FORKS WFO	ND	WSR-88D		01/15/96	PROJECTED
FLAGSTAFF WFO	AZ	WSR-88D		11/01/95	PROJECTED
FORT WORTH CWSU[2]	TX	APUP	OKLAHOMA CITY, OK	12/18/92	ACTUAL
GLASGOW WFO	MT	WSR-88D		02/15/96	PROJECTED
GOODLAND WFO	KS	WSR-88D		11/19/92	ACTUAL
GRAND ISLAND WFO	NE	WSR-88D		07/02/93	PROJECTED
GRAND JUNCTION WFO	CO	WSR-88D		12/01/95	PROJECTED
GRAND RAPIDS/MUSKEGON WFO	MI	WSR-88D		07/15/95	PROJECTED
GREAT FALLS WFO	MT	WSR-88D		08/15/94	PROJECTED
GREEN BAY WFO	WI	WSR-88D		11/15/94	PROJECTED
GREENVILLE/SPARTANBURG WFO	SC	WSR-88D		TBD	
HONOLULU WFO	HI	TBD	KAMUELA, HI	06/01/95	PROJECTED
HONOLULU WFO	HI	APUP	MOLOKAI, HI	01/22/94	PROJECTED
HONOLULU WFO	HI	TBD	SOUTH KAUAI, HI	08/01/95	PROJECTED
HONOLULU WFO	HI	TBD	HAWAII ISLAND		
HOUSTON CWSU[2]	TX	APUP	HOUSTON	01/13/93	ACTUAL
HOUSTON/GALVESTON WFO	TX	WSR-88D		06/12/92	ACTUAL
INDIANAPOLIS CWSU[2]	IN	APUP	INDIANAPOLIS, IN	08/06/93	PROJECTED
INDIANAPOLIS WFO	IN	WSR-88D		08/06/93	PROJECTED
JACKSON WFO	MS	WSR-88D		03/29/93	ACTUAL
JACKSONVILLE CWSU[2]	FL	APUP	NW FLORIDA	04/30/93	ACTUAL
JACKSONVILLE WFO	FL	WSR-88D		02/15/95	PROJECTED
JOHNSON SPACE FLT CTR	TX	APUP	MELBOURNE, FL	07/20/92	ACTUAL

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Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
JUNEAU WFO	AK	APUP	SITKA, AK	11/01/95	PROJECTED
KANSAS CITY CWSU[2]	MO	APUP	ST. LOUIS, MO	05/13/93	ACTUAL
KANSAS CITY RFC	MO	NAPUP		12/08/92	ACTUAL
KANSAS CITY WFO	MO	WSR-88D		12/08/92	ACTUAL
KNOXVILLE/TRI CITIES WFO	TN	WSR-88D		09/15/94	PROJECTED
LA CROSSE WFO	WI	WSR-88D		12/15/95	PROJECTED
LAKE CHARLES WFO	LA	WSR-88D		04/01/94	PROJECTED
LAS VEGAS WFO	NV	WSR-88D		07/01/95	PROJECTED
LITTLE ROCK WFO	AR	WSR-88D		03/06/93	ACTUAL
LOS ANGELES CWSU[2]	CA	APUP	VANDENBERG AFB, CA	05/10/93	ACTUAL
LOS ANGELES WFO	CA	APUP	VANDENBERG AFB, CA	05/10/93	ACTUAL
LOS ANGELES WFO	CA	WSR-88D		01/28/94	PROJECTED
LOUISVILLE WFO	KY	WSR-88D		09/24/93	PROJECTED
LUBBOCK WFO	TX	WSR-88D		01/22/94	PROJECTED
MARQUETTE WFO	MI	WSR-88D		06/15/95	PROJECTED
MEDFORD WFO	OR	WSR-88D		11/01/95	PROJECTED
MELBOURNE WFO	FL	WSR-88D		07/10/92	ACTUAL
MEMPHIS CWSU[2]	TN	APUP	LITTLE ROCK, AR	03/06/93	ACTUAL
MEMPHIS WFO	TN	WSR-88D		10/08/93	PROJECTED
MEMPHIS WFO	TN	APUP	COLUMBUS AFB, MS	04/01/94	PROJECTED

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Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
MIAMI CWSU[2]	FL	APUP	MELBOURNE, FL	02/26/93	ACTUAL
MIAMI WFO	FL	WSR-88D		04/12/93	ACTUAL
MIAMI WFO[2]	FL	TBD	GEORGETOWN, BAH	06/01/95	PROJECTED
MIAMI WFO	FL	TBD	GRAND TURK, BWI	07/01/95	PROJECTED
MIAMI WFO	FL	WSR-88D	KEY WEST, FL	02/15/96	PROJECTED
MIDLAND/ODESSA WFO	TX	WSR-88D		03/15/95	PROJECTED
MILWAUKEE WFO	WI	WSR-88D		10/01/93	PROJECTED
MINNEAPOLIS CWSU[2]	MN	APUP	GRAND ISLAND, NE	07/02/93	PROJECTED
MINNEAPOLIS RFC	MN	NAPUP		04/14/93	ACTUAL
MINNEAPOLIS/ST. PAUL WFO	MN	WSR-88D		09/15/94	PROJECTED
MISSOULA WFO	MT	WSR-88D		11/01/94	PROJECTED
MOBILE WFO	AL	WSR-88D		02/15/95	PROJECTED
MOREHEAD CITY WFO	NC	WSR-88D		12/17/93	PROJECTED
NASHVILLE WFO	TN	WSR-88D		12/15/94	PROJECTED
NEW ORLEANS RFC	LA	NAPUP		04/22/93	ACTUAL
NEW ORLEANS/B. ROUGE WFO	LA	WSR-88D		03/18/94	PROJECTED
NEW YORK CITY CWSU[2]	NY	APUP	NEW YORK CITY, NY	09/17/93	PROJECTED
NEW YORK CITY WFO	NY	WSR-88D		09/17/93	PROJECTED
NHC (#1)	FL	NAPUP		07/13/92	ACTUAL
NHC (#2)	FL	NAPUP		07/13/92	ACTUAL
NMC (#1)	MD	NAPUP		06/17/92	ACTUAL
NMC (#2)	MD	NAPUP		06/18/92	ACTUAL

[1] APUP is Associated PUP, NAPUP is Non-Associated PUP
[2] FAA-owned Associated PUP to be commissioned by the FAA

Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
NORFOLK/RICHMOND WFO	VA	WSR-88D		08/15/94	PROJECTED
NORTH PLATTE WFO	NE	WSR-88D		09/01/95	PROJECTED
NSSFC (#1)	MO	NAPUP		07/27/92	ACTUAL
NSSFC (#2)	MO	NAPUP		08/06/92	ACTUAL
OAKLAND CWSU[2]	CA	APUP	SACRAMENTO, CA	02/04/94	PROJECTED
OKLAHOMA CITY WFO	OK	WSR-88D		08/06/92	ACTUAL
OMAHA WFO	NE	WSR-88D		07/15/94	PROJECTED
PADUCAH WFO	KY	WSR-88D		03/15/95	PROJECTED
PENDLETON WFO	OR	WSR-88D		12/15/95	PROJECTED
PHILADELPHIA WFO	PA	WSR-88D		09/11/93	PROJECTED
PHOENIX WFO	AZ	WSR-88D		03/25/93	ACTUAL
PHOENIX WFO	AZ	WSR-88D	YUMA, AZ	12/15/95	PROJECTED
PITTSBURGH WFO	PA	WSR-88D		07/17/93	PROJECTED
POCATELLO/IDAHO FALLS WFO	ID	WSR-88D		10/01/95	PROJECTED
PORTLAND, ME WFO	ME	WSR-88D		11/12/93	PROJECTED
PORTLAND, ME WFO	ME	WSR-88D	LORING AFB, ME	07/15/95	PROJECTED
PORTLAND, OR RFC	OR	NAPUP		11/07/93	PROJECTED
PORTLAND, OR WFO	OR	WSR-88D		02/01/95	PROJECTED
PUEBLO WFO	CO	WSR-88D		01/01/95	PROJECTED
QUAD CITIES WFO	IL	WSR-88D		01/15/95	PROJECTED
RALEIGH/DURHAM WFO	NC	WSR-88D		02/12/94	PROJECTED

[1] APUP is Associated PUP, NAPUP is Non-Associated PUP
[2] FAA-owned Associated PUP to be commissioned by the FAA

Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
RAPID CITY WFO	SD	WSR-88D		11/15/95	PROJECTED
RENO WFO	NV	WSR-88D		11/01/94	PROJECTED
RIVERTON WFO	WY	WSR-88D		11/15/95	PROJECTED
ROANOKE WFO	VA	WSR-88D		01/01/95	PROJECTED
SACRAMENTO RFC	CA	NAPUP		02/04/94	PROJECTED
SACRAMENTO WFO	CA	WSR-88D		02/04/94	PROJECTED
SACRAMENTO WFO	CA	APUP	BEALE AFB, CA	03/15/95	PROJECTED
SALT LAKE CITY CWSU[2]	UT	APUP	BOISE, ID	11/19/93	PROJECTED
SALT LAKE CITY RFC	UT	NAPUP		02/09/93	ACTUAL
SALT LAKE CITY WFO	UT	WSR-88D		11/01/94	PROJECTED
SALT LAKE CITY WFO	UT	WSR-88D	CEDAR CITY, UT	10/01/95	PROJECTED
SAN ANGELO WFO	TX	WSR-88D		02/01/96	PROJECTED
SAN DIEGO WFO	CA	WSR-88D		09/01/95	PROJECTED
SAN FRANCISCO BAY AREA WFO	CA	WSR-88D		02/26/94	PROJECTED
SAN JOAQUIN VALLEY WFO	CA	WSR-88D		05/01/95	PROJECTED
SAN JUAN WFO[2]	PR	APUP	EASTERN PUERTO RICO	09/01/94	PROJECTED
SEATTLE CWSU[2]	WA	APUP	SEATTLE, WA	03/11/94	PROJECTED
SEATTLE/TACOMA WFO	WA	WSR-88D		03/11/94	PROJECTED
SHREVEPORT WFO	LA	WSR-88D		04/15/95	PROJECTED
SIOUX FALLS WFO	SD	WSR-88D		12/03/93	PROJECTED
SPOKANE WFO	WA	WSR-88D		01/15/96	PROJECTED
SPRINGFIELD WFO	MO	WSR-88D		01/15/95	PROJECTED
ST. LOUIS WFO	MO	WSR-88D		11/21/92	ACTUAL

[1] APUP is Associated PUP, NAPUP is Non-Associated PUP
[2] FAA-owned Associated PUP to be commissioned by the FAA

Information current as of May 26, 1993. Acceptance dates should not be used for planning purposes.

Office	State	Equip.	Host RDA	Acceptance Date	
TALLAHASSEE WFO	FL	APUP	NW FLORIDA	08/24/92	ACTUAL
TALLAHASSEE WFO	FL	WSR-88D		02/15/95	PROJECTED
TAMPA BAY AREA WFO	FL	WSR-88D		04/15/95	PROJECTED
TOPEKA WFO	KS	WSR-88D		05/29/93	PROJECTED
TUCSON WFO	AZ	WSR-88D		06/01/95	PROJECTED
TULSA RFC	OK	NAPUP		07/22/92	ACTUAL
TULSA WFO	OK	WSR-88D		04/23/93	ACTUAL
WASHINGTON, DC CWSU[2]	VA	APUP	STERLING, VA	06/12/92	ACTUAL
WICHITA WFO	KS	WSR-88D		10/13/92	ACTUAL
WILMINGTON WFO	NC	WSR-88D		12/01/94	PROJECTED

[1] APUP is Associated PUP, NAPUP is Non-Associated PUP
[2] FAA-owned Associated PUP to be commissioned by the FAA

NWS-Sponsored Doppler Weather Surveillance Radar (WSR-88D)

Site Component Commissioning Plan

Appendix B. NWS WSR-88D Precommissioning Activities

June 7, 1993

The following 10 items are the principal NWS WSR-88D precommissioning activities, i.e., the determinants in the decision by the NWS DAAM to begin commissioning WSR-88D site components:

1. User Education - The radar observation user community (external users as well as users within the NWS) will be educated with regard to WSR-88D products. The scope of this education is covered in the Internal and External Communication and Coordination Plan for the Modernization and Associated Restructuring of the National Weather Service.

2. OSF Readiness - The OSF will provide operational support for the WSR-88D system. Three areas important to WSR-88D commissioning are:

   a. Supporting WSR-88D Maintenance Function
   b. Software Support
   c. Hotline Support

3. RCM Product Availability Criterion - The NWS has an availability requirement of 96% for the WSR-88D. For commissioning purposes, this availability is measured using the frequency with which the RCM is generated. The time period over which this availability requirement must be met will be coordinated before commissioning can begin.

4. Tower Proximity Problem Sites - Sites where the existing radar must be decommissioned before the WSR-88D can be installed may require special procedures.

5. Archive - The ability of sites to reliably archive data using Archive III and the National Climatic Data Center's ability to read that data will be demonstrated before beginning commissioning.

6. Commissioning Memorandum of Understanding (MOU) - The issue of whether the draft triagency Commissioning MOU is a requirement for commissioning will be decided. If it is a requirement, the MOU will be completed and approved before commissioning begins.

7. Policies, Plans, and Handbooks - Relevant policies, plans, and handbooks will be updated to incorporate changes related to the implementation of the WSR-88D.

8. Technical Manuals - The contractor-supplied technical manuals will be of sufficient quality before commissioning begins.

9. Hydrometeorological Technician (HMT) Training - The training of HMT's to operate the UCP will be adequate before commissioning begins.

10. AFOS Network Loading - The impact on the AFOS network of WSR-88D products, primarily the Hourly Digital Precipitation, will be determined to be acceptable before commissioning begins.

NWS-Sponsored Doppler Weather Surveillance Radar (WSR-88D)

Site Component Commissioning Plan

Appendix C. Site Component Commissioning Approval Form When the Regional Director is the Approving Authority

June 7, 1993

NWS RDA/RPG/PUP SITE COMPONENT COMMISSIONING REPORT	
1. Office SID:	2. Office Location (Name, State, Region):
3. NEXRAD SID:	4. Software Version:
5. Contract Line Item Numbers (CLIN) From DD Form 250 RDA: RPG: PUP:	
6. Start of Evaluation (Date):	Completion of Evaluation (Date):
7. Evaluation Official (Name, Title, Phone Number): _____ _____ _____	
8. Evaluation Official Signature: _____	Date: _____

RECOMMENDATION FOR COMMISSIONING

I, the undersigned, recommend this WSR-88D Site Component be commissioned for official use by the National Weather Service.

Area Manager

9. Area Manager Name: _____

10. Signature: _____ Date: _____

APPROVAL OF COMMISSIONING

As Regional Director I approve the commissioning of this WSR-88D Site Component for official use by the National Weather Service.

11. Regional Director Name: _____

12. Signature: _____ Date: _____

IMPLEMENTATION OF COMMISSIONING APPROVAL

As NWS MAR Commissioning Manager, I verify that this Site Component was commissioned on the date indicated below.

13. NWS MAR Commissioning Manager Name: _____

14. NWS MAR Commissioning Manager Signature: _____

15. Date of Signature: _____

16. Date of Site Component Commissioning: _____

WSR-88D Site Component Commissioning Evaluation Package

July 1993

Station ID (SID):

Ownership: NWS

Location Name:

Associated Future WFO:

NWS Region:

Approving Official: DAAM

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Office of Systems Operations

Table of Contents

List of Exhibits

1. Introduction

This Doppler Weather Surveillance Radar (WSR-88D) Site Component Commissioning Evaluation Package provides the instructions and forms to be used by the Evaluation Official (EO) for conducting and documenting a National Weather Service (NWS)-sponsored WSR-88D site component commissioning evaluation.

Initiation of each site component evaluation will be scheduled by the Regional Next Generation Weather Radar (NEXRAD) Meteorologist in coordination with the EO and Area Manager (AM). This period of evaluation is expected to last approximately 4 months for Radar Data Acquisition (RDA)/Radar Product Generator (RPG)/Principal User Processor (PUP) units and approximately 2 months for Associated and Non-Associated PUPs.

1.1 Content of Package

This evaluation package consists of the following sections:

- **Section A: WSR-88D Site Component Commissioning Report**
  - The definition of the WSR-88D Site Component Commissioning Report and instructions for its preparation, transmittal, and retention.
  - The WSR-88D Site Component Commissioning Report Form (included as Attachment 1). There are three types of configuration-specific report forms:
    1. NWS RDA/RPG/PUP Site Component Commissioning Report.
    2. NWS Associated PUP Site Component Commissioning Report.
    3. NWS Non-Associated PUP Site Component Commissioning Report.
  - Instructions for completion of the report form.
  - Information on the report form describing what is to be commissioned.
- **Section B: WSR-88D Site Component Commissioning Checklist**
  - The WSR-88D Site Component Commissioning Checklist (included as Attachment 2).
  - General instructions for completion of the checklist.

Appendix A provides the WSR-88D Commissioning Evaluation Elements and Criteria.

1.2 Responsibilities for Conduct of Site Component Evaluations

The officials designated by National Weather Service Headquarters (NWSH) as EOs and Commissioning Report review officials are shown in Exhibit 1.

The responsibilities for the **conduct** of site component evaluations are as follows:

- **NWS Modernization and Associated Restructuring (MAR) Commissioning Manager (MCM)**: The MCM is responsible for the management of the WSR-88D commissioning process. Specifically, the MCM, with reference to the conduct of site component evaluations:

  a. Compiles and distributes to the appropriate Regional NEXRAD Meteorologist, the evaluation package for each WSR-88D site component.

  b. Provides guidance and support, if necessary, in the resolution of deficiencies which can be addressed with regional resources; coordinates and approves solutions in need of NWSH involvement; serves as approval authority for regionally/locally-developed work-arounds.

  c. Tracks the status of the WSR-88D evaluations and reports to NWS management as required.

- **Regional NEXRAD Meteorologist**: The Regional NEXRAD Meteorologist is responsible for the management of all WSR-88D commissioning activities within their region.

Note: For commissioning PUPs at National Centers, the duties of the Regional NEXRAD Meteorologist are assumed by the National Meteorological Center (NMC) NEXRAD Focal Point.

Specifically, each Regional NEXRAD Meteorologist:

a. Distributes WSR-88D evaluation packages to the AM.

b. Coordinates the resolution of deficiencies which can be addressed by regional resources and obtains approval of the solutions from the MCM.

c. Coordinates the resolution of deficiencies requiring national headquarters involvement with the MCM.

d. Reports status of WSR-88D commissioning activities in the Region to Regional Management and the MCM.

- **AM**: The AM is responsible for the management of the commissioning activities for WSR-88D's within the Manager's geographic area of responsibility.

Note: For commissioning PUPs at National Centers, the duties of the AM are assumed by the Center Director or Chief, Meteorological Operations Division.

Specifically, each AM:

a. Serves as the EO at NEXRAD Weather Service Forecast Offices or designates an individual to serve as EO.

b. Provides EOs with a copy of the NWS-Sponsored WSR-88D Site Component Commissioning Plan.

c. Provides EOs with the evaluation package for their particular WSR-88D.

d. Provides the EOs with guidance and support, as required, in the resolution of deficiencies which would result in an unsatisfactory rating for the WSR-88D

e. Reviews and confirms the completeness and accuracy of WSR-88D Site Component Commissioning Reports by signing the report and forwarding it to the Regional NEXRAD Meteorologist.

f. Reports on status of commissioning activities to the Regional NEXRAD Meteorologist

- **EO:** The EO is responsible for the conduct of the commissioning evaluation of the assigned WSR-88D site component. In particular, the EO:

a. Conducts the evaluation, with assistance from appropriate operations and maintenance personnel, and indicates evaluation elements satisfactorily met by appropriate entries in the site component commissioning checklist for the site.

b. Initiates actions as required, in coordination with the AM, to correct deficiencies uncovered during the evaluation.

c. Compiles the WSR-88D Site Component Commissioning Report for the site; confirms the completeness and accuracy of the evaluation by signing the WSR-88D

Office Type	Configuration	Evaluation Official	Report Review Official(s)
WFO[1]	RDA/RPG/PUP	MIC[2]	AM[3]
WFO	Associated PUP	MIC	1. MIC of Host NWS RDA 2. AM
RFC[4]	Non-Associated PUP	HIC[5]	1. MIC[6] 2. AM 3. Regional Hydrologist
Combined WFO/RFC	RDA/RPG/PUP	MIC	AM
Combined WFO/RFC	WFO Associated PUP	MIC	1. MIC of Host NWS RDA 2. AM
Combined WFO/RFC	RFC Non-Associated PUP	HIC	1. MIC of WFO 2. AM 3. Regional Hydrologist
National Center	Non-Associated PUP	National Center WSR-88D Focal Point	Center Director or Chief, Met. Ops. Div.
National Center	Associated PUP	National Center WSR-88D Focal Point	Center Director or Chief, Met. Ops. Div.

[1]Weather Forecast Office--includes NEXRAD Weather Service Forecast Offices and NEXRAD Weather Service Offices
[2]Meteorologist-in-Charge
[3]The AM responsible for reviewing the checklist is the one in whose area the WSR-88D equipment is located
[4]River Forecast Center
[5]Hydrologist-in-Charge
[6]At RFCs not collocated with WFOs, the decision as to which MIC (if any) will serve as the first review official will be made on a site-by-site basis

Exhibit 1. Evaluation Officials and Commissioning Report Review Officials For Various Configurations.

Site Component Commissioning Report; retains copies of the report and supporting materials; and transmits the original Report to the appropriate review officials (see Exhibit 1).

d. Reports on status of commissioning activities to the review officials.

1.3 Required Background Reading

The NWS-Sponsored WSR-88D Site Component Commissioning Plan, which will be provided by the AM (or NMC NEXRAD Focal Point), is required reading for WSR-88D EOs. This plan provides an overview of the entire WSR-88D site component commissioning process from the initiation of evaluations of commissioning criteria to the implementation of commissioning decisions of the Deputy Assistant Administrator for Modernization (DAAM) or a Regional Director (RD).

SECTION A:

WSR-88D Evaluation Official

Instructions for Completion and Processing of WSR-88D Site Component Commissioning Report

SECTION A: Instructions for Completion and Processing of WSR-88D Site Component Commissioning Report

The WSR-88D Site Component Commissioning Report consists of the appropriate WSR-88D Site Component Commissioning Report Form for the equipment to be commissioned and the following attachments (see Section B for details):

- The completed WSR-88D Site Component Commissioning Checklist.
- Documentation for each evaluation element which is either Not-Applicable or requires a work-around.
- Documentation of any necessary coordination with the Department of Defense or the Federal Aviation Administration (FAA).

A.1 Completion of WSR-88D Site Component Commissioning Report Form

The WSR-88D Site Component Commissioning Report Form is included as Attachment 1. In most cases, the information in blocks 1 through 5 will be filled in by the MCM and confirmed by the appropriate Regional NEXRAD Meteorologist. (Block numbering and information requested will vary slightly with the different report forms for the various equipment configurations.)

Review the information and correct it as necessary. Inform the Regional NEXRAD Meteorologist of proposed corrections. If blocks 1 through 5 have not been completed, complete them in the following manner and confirm with the Regional NEXRAD Meteorologist:

Block 1. Enter the Office Site Identifier (SID).

Block 2. Enter the Office Name, state (2-letter Post Office) abbreviation, and NWS region abbreviation.

Block 3. Enter the NEXRAD SID of the RDA.

Block 4. Enter the version number of the software.

Block 5. Enter the Contract Line Item Numbers (CLIN) from the DD Form 250 for the RDA, RPG, and PUP (or for just the PUP when commissioning an Associated or Non-Associated PUP).

Enter the start date for the evaluation in Block 6.

When the evaluation is complete, enter the completion date in Block 6, sign and date the form (Blocks 7 and 8). **Do this only when you are confident that all evaluation elements have been met and documented satisfactorily.**

A.2 Processing of the Site Component Commissioning Report and Retention of Evaluation Materials

As indicated above, a WSR-88D Site Component Commissioning Report consists of the **original copies** of:

- The WSR-88D Site Component Commissioning Report Form.
- The completed WSR-88D Site Component Commissioning Checklist.
- Documentation of Not-Applicable elements and approved work-arounds.
- Documentation of any necessary coordination with the Department of Defense or the FAA.

After the EO has completed the report, it should be sent to the first report review official (Exhibit 1) **via express mail** for their review and signature. That official should then send the report to the AM or Regional NEXRAD Meteorologist, as appropriate, **via express mail.** A copy of the report is to be retained by the EO along with the checklist worksheet and these instructions.

SECTION B:

WSR-88D Evaluation Official

Instructions for Completion and Processing of WSR-88D Site Component Commissioning Checklist

SECTION B: Instructions for Completion and Processing of WSR-88D Site Component Commissioning Checklist

The WSR-88D Site Component Commissioning Checklist (Attachment 2) includes evaluation elements grouped into seven categories:

1. Successful completion of site component acceptance test.
2. Adequate availability of trained operations and maintenance personnel.
3. Satisfactory performance of system interfaces.
4. Satisfactory support of associated NWS forecast and warning services.
5. Proper functioning of service backup capabilities.
6. Adequate documentation for operations and maintenance.
7. Adequate on-site spares, repair parts, and test equipment.

The evaluation elements and the criteria (including instructions/procedures) for their evaluation are provided as Appendix A.

During its evaluation, the WSR-88D will be operated continuously in the **test mode.** Any data that are disseminated are unofficial.

The evaluation period is expected to last approximately 4 months for WSR-88D units and approximately 2 months for Associated and Non-Associated PUPs.

Some of the checklist criteria involve tasks that will have to be performed over a period of time. Those related to changes in County Warning Area and Technical Coordination (Criteria 4n through 4t) will take longer than others to complete.

Note that the first requirement, i.e., acceptance, will have been documented as a prerequisite for the initiation of the component's commissioning process.

Software Version 5.1H (Revised) or later must be installed on the system in order to commission it (Criterion 1f). Most of the criteria on the checklist can be evaluated even if Version 5.1G is still on the system. **The following criteria, however, should not be given a final rating until Version 5.1H (Revised) or later has been installed: 3a, 3b, 3c, 3d, 3e, 4a, 4g, and 4ff.**

It would be advisable to begin tracking the Radar Coded Message (RCM) availability (Criterion 4a) soon after acceptance to

document system performance during the entire Determination of Operational Readiness. **Two requirements for beginning the official evaluation of the RCM Availability are having Software Version 5.1H (Revised) installed on the system and having the parts on the Initial Site Spares List at the end of the checklist on site.**

The EO will draw on the expertise, assistance, and input of their NWS staff, as required, while performing the evaluation.

B.1 Completion of WSR-88D Site Component Commissioning Checklist

To the extent possible, any Not-Applicable evaluation elements will be pre-checked on the checklist by the MCM (for the initial sites in a region) or the Regional NEXRAD Meteorologist. Pre-approved work-arounds will also be included under Remarks when appropriate.

Steps in completing the checklist are:

Step 1. Verify that the Office SID and Office Name information are correct.

Step 2. Review the evaluation elements pre-checked as Not-Applicable and the pre-approved work-arounds.

Step 3. Perform Evaluations:

a. Gather the required information from the operations and maintenance staff as necessary.

b. When the criterion for an evaluation element is met, mark the corresponding "S" (Satisfactory) column with a ✓.

c. If a criterion applies to a particular configuration, a "*" appears under that configuration's column in the evaluation elements (Appendix A). The five configurations are:

- RDA/RPG/PUP = NWS RDA/RPG/PUP
- APUP = NWS PUP associated with a DOD or FAA RDA/RPG
- NAPUP = NWS Non-Associated PUP
- FAA RDA/RPG/PUP = FAA RDA/RPG/PUP in Caribbean, Hawaii, or Alaska
- FAA APUP = FAA Associated PUP in a CWSU or National Center

(The FAA configurations are included for completeness. The NWS role in commissioning this equipment is described in a separate plan.)

If a criterion is not applicable to the site, and has not been pre-checked by the MCM, include, after coordination with the AM and Regional NEXRAD Meteorologist, an explanation under "Remarks" on the checklist and use a number, identifying the exclusion, in the "N/A" (Not-Applicable) column.

d. If deficiencies are found which would prevent assignment of a satisfactory rating to an evaluation element, notify the AM immediately and, as appropriate:

- Initiate necessary corrective action(s), and/or
- Contact the AM for assistance in developing a solution (additional maintenance, training, clarification, or an approved work-around)

e. Implement any approved work-arounds and, when satisfactory achievement of the evaluation element is demonstrated, mark the corresponding "S" (Satisfactory) column with a ✓ and:

- Document the work-around under "Remarks" and
- Place a number, corresponding to the work-around, in the "W/#" (Work-around) column.

B.2 Processing of WSR-88D Site Component Commissioning Checklist and Evaluation Materials

Include the WSR-88D Site Component Commissioning Checklist and associated documentation in the commissioning report as per Section A.2 above.

APPENDIX A:

WSR-88D Commissioning Evaluation Elements and Criteria

1.	Successful Completion of Site Component Acceptance Test (1 of 2)	RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
1a	Facilities DD Form 250 signed by a representative of the NEXRAD System Program Office (SPO1).	*			*	
1b	Appropriate property transaction request form, supplied by the Area Service Center, for facilities signed by the Regional Director (RD), Meteorologist-in-Charge (MIC), or designee.	*				
1c	DD Form 250 for system signed by a representative of SPO1.	*	*	*	*	*
1d	Appropriate property transaction request form, supplied by the Area Service Center, for system signed by the RD, MIC, or designee.	*	*	*		
1e	All operationally significant deficiencies listed as exceptions (open items) on the signed DD Forms 250 for facilities and system have been satisfied.	*	*	*	*	*
1f	Software Version 5.1H (Revised) or later version installed on the system.	*	*	*	*	*

2. Adequate Availability of Trained Operations and Maintenance Personnel (1 of 2)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
2a	Staffing is at Stage 1 level for the office. Details of this staffing may be found in the most recent version of the Human Resources and Position Management Plan for the NWS Modernization and Associated Restructuring. If you are unsure of whether you have the most recent version of this plan, contact your Regional NEXRAD Meteorologist.	*	*	*	*	*
2b	All meteorologists, hydrologists, and/or River Forecast Center (RFC) hydrometeorologists have attended the operations course. (Having attended the operations course implies that the necessary precursor modules have been successfully completed.) Exceptions may be granted by the RD in consultation with the EO. A possible exception could be a recently hired employee who has not yet attended the operations course. Any exceptions should be noted in the Remarks section.	*	*	*	*	*
2c	All meteorologists, hydrologists, and/or RFC hydrometeorologists have successfully completed the post-operations course test on the NEXRAD hydrometeorological precipitation processing workbook.					
2d	All meteorologists, hydrologists, and/or RFC hydrometeorologists have successfully demonstrated proficiency in the RDA/RPG/UCP and PUP tasks on the WSR-88D On-The-Job Proficiency Check List. Exceptions may be granted by the RD in consultation with the EO.	*	*	*	*	*
2e	All hydrometeorological technicians and meteorologist interns have successfully demonstrated proficiency in the RDA/RPG/UCP tasks on the WSR-88D On-The-Job Proficiency Check List. Exceptions may be granted by the RD in consultation with the EO.	*			*	

2. Adequate Availability of Trained Operations and Maintenance Personnel (2 of 2)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
2f	At least two maintenance persons have attended the WSR-88D maintenance course.	*				
2g	At least two maintenance persons have attended the Microwave Line of Sight (MLOS) maintenance course (applicable only to those sites with MLOS systems).	*				
2h	At least two maintenance persons have attended either the PUP maintenance course or the WSR-88D maintenance course.		*	*		

3. Satisfactory Performance of System Interfaces		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
3a	Radar Coded Message (RCM) and Hourly Digital Precipitation (HDP) products can be properly transmitted from the RPG to AFOS System Z.	*				
3b	The dial-in capability has been tested by dialing to at least one RPG other than the host RPG. For Non-Associated PUPs, dial-in capability has been tested by dialing to at least one RPG.	*	*	*	*	*
3c	Associated Users with PUPs that have been accepted have demonstrated the ability to dial-in to the host RPG.	*				
3d	Proper operation of the RPG Class II and V dial-up ports has been verified by having each RFC that services the office dial up and obtain data through them.	*				
3e	NEXRAD Information Dissemination Service (NIDS) products are reaching the NIDS ports. This should be verified by typing the command **ST,N** at the UCP. The NIDS ports are labeled as "OTHER" and should appear as ports 30, 31, 32, and 33. The percent of utilization figure on the display should be some non-zero value for each functional NIDS port connected to the system .	*			*	

4. Satisfactory Support of Associated NWS Forecast and Warning Services (1 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4a	The RCM has been available at least 96% of the time for a period of 30 consecutive days during the pre-commissioning period. The 30-day period may begin no earlier than 120 days prior to the projected commissioning date. **Two requirements for beginning the official evaluation of the RCM Availability are having Software Version 5.1H (Revised) or later version installed on the system and having the parts on the Initial Site Spares List at the end of the checklist on site.** The RCM is generated twice per hour, at 10 and 40 minutes after the hour. The RCM Availability for a 30-day period is computed as follows: RCM Availability = $\left[\frac{\text{No. of RCMs Available}}{1440 - (\text{No. of RCMs missing due to PM})} \right] \text{X } 100$ PM refers to preventive or scheduled maintenance during periods of quiescent weather. PM does not include maintenance for unscheduled outages, even if the outages occur during quiescent weather. The total number of possible RCMs generated during 30 days is 1440. If at least 1376 RCMs are generated during a period of 30 consecutive days, the criterion is met. RCM availability can be monitored via AFOS. To accomplish this, set up a dummy asynchronous line (speed 9600 baud) and schedule the RCM for that line. (Continued on following page)	*				

4. Satisfactory Support of Associated NWS Forecast and Warning Services (2 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4a	(Continued from previous page) Daily message logs can be printed or examined on an ADM to determine which RCM messages were transmitted successfully. Message logs more than 1 month old will be overwritten. In cases of significant AFOS outages, the PUP system status file can be examined to determine RCM Availability. Typing **S,S** at the PUP Applications Terminal displays this file. Each time the RCM is generated, the message "RCM READY 2 MIN TO STRT EDIT" appears. Note that messages may be stored on the PUP system status file for less than 24 hours if numerous messages are being generated. Archive III data, which contains the RCM, can also be read to determine which RCMs were available. Due to the volume of data, however, reading RCMs from Archive III is a time-consuming process.	*				
4b	Host RDA/RPG has been commissioned by owner agency.		*			*
4c	Unit Radar Committee (URC) is in place and functioning.	*	*		*	*
4d	The adaptation parameters with URC change authorization have been verified as being correct. These parameters are listed in Table 6-2 of FMH 11, Part A.	*	*		*	*

4. Satisfactory Support of Associated NWS Forecast and Warning Services (3 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4e	A backup of the adaptation data for the RDA, RPG, and PUP has been made. The data for the RDA, RPG, and PUP should be backed up on separate SCSI tapes. The following files must be backed up: RDA: ADAPT.DAT ADAPTCUR.DAT RDABYPAS.DAT RDACLUT.DAT LONGTERM.DAT RPG: ADAPT.DAT ADAPTONE.DAT ADAPTTWO.DAT BACKGRND.DAT HYOCCULT.DAT HYSECTRS.DAT PUP: ADAPT.DAT BACKGRND.DAT EBMFILE.DAT UFFILE.DAT (For PUP-only cases, only the adaptation data for the PUP need to be backed up.)		*	*	*	*	*
4f	A copy of the adaptation data for the RDA, RPG, and PUP has been sent to the OSF. (For PUP-only cases, only the adaptation data for the PUP need be sent.)		*	*	*	*	*

4. Satisfactory Support of Associated NWS Forecast and Warning Services (4 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4g	A backup of the system software is available on station. (For PUP-only cases, only the PUP software need be backed up.)	*	*	*	*	*
4h	Routine Product Set lists are entered and functioning.	*	*		*	*
4i	Alert Areas and Alarm Thresholds are entered and functioning. (To test an Alarm Threshold, the threshold can be temporarily set very low so that it will be easily exceeded. Only a small sample of alarm thresholds need be tested to verify this functionality.)	*	*		*	*
4j	User Functions are entered and functioning.	*	*	*	*	*
4k	The official WSR-88D identifiers for RPGs that the site has dial-in access to have been entered into the PUP database. This is done using the AD,<*PASSWORD*>,R command at the Applications Terminal. The official identifiers should be entered in the column labeled "RPG MNEM". The list of official WSR-88D RPG identifiers is included as Appendix B to this checklist. **Note: User Functions that dial RPGs must be updated to reflect any changes in the RPG MNEM column.**	*			*	
4l	Background maps are suitable for operational use.	*	*		*	*

4.	Satisfactory Support of Associated NWS Forecast and Warning Services (5 of 12)	RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4m	Regional/NWSH correspondence has been received at the site authorizing change of counties in the County Warning Area (CWA). Transfer of CWA responsibility for the RDA/RPG/PUP can occur prior to commissioning but should occur no later than 2 months following the projected commissioning date. This includes using applications programs, e.g., SRWARN, that have been updated for the new CWA. Activities required for CWA transfer are defined in the Service Transition Plan--Public Warning and Forecast Programs prepared by the Office of Meteorology. Changes in CWA for a DOD APUP are at the discretion of the Regional Director based upon available trained staff, etc.	*	*			
4n	State and local officials notified of new County Warning Area (CWA).	*				
4o	Spotter groups notified of new CWA.	*				
4p	An integrated coordination activity has been conducted with the hazard community to ensure a good working relationship with their new warning office.	*				
4q	Public Information Statement issued detailing the change in CWA.	*				
4r	NWWS subscribers notified of new CWA.	*				

4. Satisfactory Support of Associated NWS Forecast and Warning Services (6 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4s	Preparations for NOAA Weather Radio (NWR) responsibility realignment are complete. Preparations for NWR console relocation are complete. Sufficient staff to operate NWR consoles is on site.	*				
4t	Technical Coordination with external users completed and documented in accordance with requirements of Section 3.3 of the Internal and External Communication Plan for the Modernization and Associated Restructuring of the NWS (prepared by the Transition Program Office). Technical Coordination is complete when : 1. All identified users have received the technical coordination packages (as specified in Section 3.3.7.3 of the Internal and External Communication Plan). 2. The local manager or designee contacts users to ensure that the impact of commissioning of the new technology is understood. This contact is accomplished by conducting a user conference. If the mailing approach is used, a telephone call or personal visit is required. Mailings alone do not constitute technical coordination. 3. The above actions have been documented according to regional headquarters policy.	*				
4u	Automation of Field Operations and Services (AFOS) identifiers for the RCM and HDP products are officially approved and have been entered into the station's AFOS data base.	*	*			

4.	Satisfactory Support of Associated NWS Forecast and Warning Services (7 of 12)	RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4v	Application programs (e.g., SRWARN) updated for new CWA.	*				
4w	Site is able to access Operational Support Facility (OSF) Hotline 24 hours a day.	*	*	*	*	*
4x	WSR-88D reflectivity products are representative of meteorological conditions and are consistent with other meteorological data, e.g., surface observations and satellite data.	*	*		*	*
4y	WSR-88D velocity products, including Velocity Azimuth Display winds, are representative of meteorological conditions and are consistent with other meteorological data, e.g., upper air data.	*	*		*	*
4z	All of the products listed in Table 2-1 of Federal Meteorological Handbook (FMH) No. 11, Part C can be generated by the WSR-88D. This should be verified by requesting each of these products, using one-time product requests as necessary. For products generated at more than one resolution, data level, and elevation angle, it is sufficient to request just one of the products. For some products, e.g., MESOCYCLONE, the meteorological phenomenon may not have been detected. In such cases, a blank MESOCYCLONE product is sufficient. The following products should be verified as indicated: Free Text Message (FTM) - At least one FTM should have come from the UCP for display at the PUP One-Hour Digital Precipitation Array - Verify receipt at the servicing RFC Supplemental Precipitation Data - Verify capability for receipt at the servicing RFC	*	*		*	*

4. Satisfactory Support of Associated NWS Forecast and Warning Services (8 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4aa	Precipitation products derived from the WSR-88D are functional and can provide satisfactory support for the local WFO's hydrologic mission and for the associated River Forecast Center's (RFC) hydrologic mission. Staff from both the WFO and RFC should be consulted regarding the adequacy of the precipitation products.	*			*	
4bb	Precipitation Detection Function properly changes from Clear Air to Precipitation scanning mode.	*			*	
4cc	Rain Gage Data Acquisition function properly decodes and posts the rain gauge data. This functionality can be verified by examining the precipitation bias adjustment to see if it is some number other than 1.0 (see Criterion 4cc below). Not applicable if the Gage Data Support System (GDSS) has not been implemented. If the GDSS has not been implemented, a test of the RPG's capability to initiate a phone call to the Rain Gage Data Acquisition computer should be conducted. This test should be coordinated with the servicing RFC. The EO should call the Office of Hydrology at 301-713-0006 to obtain a phone number for the Rain Gage Data Acquisition computer. If no error message is received after the RPG dials that number, it may be assumed the dialing function is working.	*			*	

4.	Satisfactory Support of Associated NWS Forecast and Warning Services (9 of 12)	RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4dd	There has been a successful test of the ability of the GDSS to supply RPG with ground truth precipitation data to aid in the bias adjustment of WSR-88D precipitation fields. (Not applicable at units where the GDSS has not been implemented.) The bias adjustment can be determined by displaying a precipitation product and examining the paired alphanumeric product. The default bias is 1.0; if the bias is some other number, then the bias adjustment is working properly.	*			*	
4ee	Power supply for the WSR-88D is acceptable for operations.	*			*	
4ff	Ability to switch between primary and backup power is acceptable for operations.	*			*	
4gg	An Archive III disk has been sent to the National Climatic Data Center (NCDC) and was suitable for use by NCDC. The site will be notified within 10 days after the disk is received at NCDC whether the disk could be used. Note: Sites must begin storing Archive III data as soon after system acceptance as possible. Archive III disks sent to NCDC before commissioning must be labeled "Uncommissioned Data." At the official time of commissioning, a new (unused) disk will be inserted in the Archive III device and archiving resumed.	*			*	

4. Satisfactory Support of Associated NWS Forecast and Warning Services (10 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4hh	At sites where a WSR-57/74 is located within 400 feet of the WSR-88D (Category 1 sites), the following actions have been completed: 1. Technical coordination has been conducted with users to advise them of the new WSR-88D, phase-out of the WSR-57/74, the non-availability of radar data from the WSR-57/74, and the actions given below. 2. Radar observation responsibility has been transferred from the WSR-57/74 to the designated backup radar sites. 3. The WSR-57/74 has been or will be dismantled to permit installation, acceptance, and full operational use of the WSR-88D. 4. Preparations for transfer of radar observation responsibility from the backup radar sites to the WSR-88D are complete.	*				
4ii	At sites where a WSR-57/74 is located between 400 and 2000 feet of the WSR-88D (Category 2 sites), the presence of the WSR-57/74 does not cause operationally significant blockage or electromagnetic interference with the WSR-88D. (If this is not the case, an appropriate work-around will be coordinated between the site, region, and NWSH.)"	*				

4. Satisfactory Support of Associated NWS Forecast and Warning Services (11 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4jj	Necessary enhancements have been made to the lightning protection system. This verification can be done through the site electronics technicians, the Area Electronics Supervisor, or the Regional/Sector Facilities Technician. Verify that the following enhancements have been made: 1. Verify inside the generator shelter, single point power neutral to safety ground bond at RDA main disconnect and tied to existing ground grid. 2. Check the resistance between power neutral and safety ground before connection. Resistance measurement should be greater than 1 megohm and anything less shall be noted. 3. Verify outside the RDA shelter, ground collection plate or buss bar below the waveguide and cable entrance panel with all cables and waveguide tied to the plate which is connected to the ground grid. 4. Verify inside the RDA shelter, all cabinets in each bay are grounded together and each bay is tied to the ceiling ground plate at two points. 5. Verify inside the RDA shelter, the transient voltage surge suppressor (TVSS) is wired into the critical subpanel which is connected through the contactor to the main power disconnect box.	*				

4. Satisfactory Support of Associated NWS Forecast and Warning Services (12 of 12)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
4kk	Verify that no outstanding safety hazards exist in the equipment and that all hazard markings are clearly visible. Coordinate with the Area Electronics Supervisor and Regional NEXRAD Meteorologist as required.	*	*	*		

5. Proper Functioning of Service Backup Capabilities		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
5a	List of neighboring radar sites and their phone numbers is available.	*	*	*	*	*
5b	Instructions are available for notifying other offices of need for backup as prescribed by the NWS NEXRAD Operations Handbook and regional/local backup policies and procedures.	*	*	*	*	*
5c	Entire staff has been drilled in and is cognizant of the backup procedures.	*				
5d	Application programs (e.g., SRWARN) updated to reflect backup responsibilities.	*				
5e	Clear procedures exist for dialing an alternate site if the host RDA/RPG fails. (Applicable if adjacent WSR-88D units exist.)	*	*		*	*

6. Adequate Documentation for Operations and Maintenance (1 of 7)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
6a	The following technical manuals are on station, in good condition, compatible with the current configuration of the system, and the appropriate personnel are familiar with their format and content:					
	NWS EHB 6-500 Preliminary Technical Manual (PTM) System Description (8/15/92)	*	*	*		
	NWS EHB 6-501 PTM Illustrated Parts Breakdown (8/15/92)		*	*		
	NWS EHB 6-502 PTM Work Unit Code (8/15/92)	*	*	*		
	NWS EHB 6-503-1 Preliminary Preventative Maintenance Workcard Set for RDA (8/15/92)	*				
	NWS EHB 6-503-2 Preliminary Preventative Maintenance Workcard Set for RPG (8/15/92)	*				
	NWS EHB 6-503-3 Preliminary Preventative Maintenance Workcard Set for PUP (8/15/92)	*	*	*		
	NWS EHB 6-503-4 Preliminary Preventative Maintenance Workcard Set for Wideband Communications (8/15/92)	*				
	NWS EHB 6-503-5 Preliminary Preventative Maintenance Workcard Set for RPIE (8/15/92)	*				
	NWS EHB 6-504 Concurrent Computer Corp. Model 3210-3210/A and 3212-33212/A Installation and Theory of Operation Manual (1989)	*	*	*		
	NWS EHB 6-505 Concurrent Computer Corp. SCSI Enclosure Installation and Configuration Manual (1988)	*	*	*		
	NWS EHB 6-510 PTM Maintenance Instructions RDA (8/15/92)	*				
	NWS EHB 6-511 PTM Operations and Maintenance Instructions Transmitter System (8/15/92)	*				
	(Continued on next page)					

6. Adequate Documentation for Operations and Maintenance (2 of 7)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
6a	(Continued from previous page)					
	NWS EHB 6-512 Dielectric Communications Model HA-4 Compressor/Dehydrator P/N 19331 Instruction Manual (No publication date)	*				
	NWS EHB 6-512-1 Dielectric Communications Model HA 4X2 Dual Outlet Compressor Dehydrator P/N 41642 Instruction Manual (No publication date)	*				
	NWS EHB 6-513 PTM Maintenance Instructions Antenna Pedestal System (Limited Production) (8/15/92) (LPP sites only)	*				
	NWS EHB 6-514 WSR-88D Pedestal System Operation and Maintenance Manual (Full Production) (3/13/92) (FSP sites only)	*				
	NWS EHB 6-520 PTM Maintenance Instructions RPG (8/15/92)					
	NWS EHB 6-521 PTM Operation Instructions RPG (8/15/92)	*	*	*	*	
	NWS EHB 6-522 Concurrent Computer Corp. 3280 System Operator's Guide (1988)	*				
	NWS EHB 6-523 Perkin-Elmer Corp. MMP-200 Multi-mode Printer Installation Manual Preliminary Documentation (3/19/85)	*				
	NWS EHB 6-530 PTM Maintenance Instructions PUP (8/15/92)	*	*	*		
	NWS EHB 6-531 PTM Operation Instruction PUP (8/15/92)	*	*	*	*	*
	NWS EHB 6-532 Tektronix Inc. User Manual, 4693DX Color Image Printer (10/89)	*	*	*		
	(Continued on following page)					

6. Adequate Documentation for Operations and Maintenance (3 of 7)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
6a	(Continued from previous page)					
	NWS EHB 6-533V1 Tektronix Inc. Field Service Manual, 4693 Color Printer Volume 1: Print Engine Information (9/88)	*	*	*		
	NWS EHB 6-533V2 Tektronix, Inc. Field Service Manual, 4693 Color Printer Volume 2: Interface Information (9/88)	*	*	*		
	NWS EHB 6-540 PTM Maintenance Instructions Wideband Communications (8/15/92)	*				
	NWS EHB 6-541-1 Harris Farinon Canada RPG General Manual (No publication date) (MLOS sites only)	*				
	NWS EHB 6-541-2 Harris Farinon Canada RPG Link Manual (No publication date) (MLOS sites only)	*				
	NWS EHB 6-541-3 Harris Farinon Canada RDA General Manual (No publication date) (MLOS sites only)	*				
	NWS EHB 6-541-4 Harris Farinon Canada RDA Link Manual (No publication date) (MLOS sites only)	*				
	NWS EHB 6-550 PTM Maintenance Instructions RPIE Group (6/1/92)	*				
	NWS EHB 6-551 PTM Commercial Off The Shelf (COTS) Manual Index RPIE Group (No publication date)	*				
	NWS EHB 6-551-1 Bard Manufacturing Co. Owner's Manual Heat Pump and Air Conditioner	*				
	(Continued on next page)					

6. Adequate Documentation for Operations and Maintenance (4 of 7)			RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
6a	(Continued from previous page)						
	NWS EHB 6-551-2	Chemtron Fire Systems Testing, Inspection and Maintenance Instructions HALON 1301 Systems (No publication date)	*				
	NWS EHB 6-551-3	Chemtron Fire Systems Micro Junior Control Panel Installation and Operating Manual (9/84, Change 11/1/87)	*				
	NWS EHB 6-551-4	ASCOA Fire Systems Chemtron Micro 1-EV Control Panel Installation and Operation Manual (7/1/89)	*				
	NWS EHB 6-551-5	Cummins Operation and Maintenance Manual B Series Engines (12/89)	*				
	NWS EHB 6-551-6	Cutler-Hammer NEWA Instructions for Safe Installation, Operation, and Maintenance of Panelboards Rated 600 Volts or Less (9/6/79)	*				
	NWS EHB 6-551-7	Drexelbrook Installation and Operating Instructions for Drexelbrook Series 508-11, -12, -13, -14 Level Transmitters Using 408-2200 Series Ramp Technology Electronics (1987)	*				
	NWS EHB 6-551-8	ESSCO Technical Manual ESSCO Model S38-90 Radome (3/87)	*				
	NWS EHB 6-551-9	Onan Operator's Manual BT41, DBCB BT42, DGDA BT61, DGDB BT62 Generator Sets (3/87)	*				
	(Continued on next page)						

6. Adequate Documentation for Operations and Maintenance (5 of 7)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
6a	(Continued from previous page)					
	NWS EHB 6-551-10 Onan Installation Manual DGCA BT41 DGCB BT42 DGDA BT61 DGDB BT62 DGEA CT61 DGFA CTA61 DGFB CTA62 Generator Sets (12/87)	*				
	NWS EHB 6-551-11 Onan Operator's Manual OTIII Transfer Switch Utility-To-Genset Automatic Control (4/88)	*				
	NWS EHB 6-551-12 Onan Installation Manual OTIII Transfer Switch Utility-To-Genset Automatic Control (4/88)	*				
	NWS EHB 6-551-13 Onan Service Manual OTIII Transfer Switch Automatic Control (4/88)	*				
	NWS EHB 6-552 Kohler Standby Generator Operation and Maintenance Manual Set for Model 80ROZJ81 and M340 ATS (5/92)	*				
	NWS EHB 6-552-1 Kohler Operation Manual for Standby Generator Sets Model 80ROZJ81 (8/92)	*				
	NWS EHB 6-552-2 Kohler Control Operation & Setup Manual for Model M340 Automatic Transfer Switch (8/92)	*				
	NWS EHB 6-552-3 Kohler Service Manual for Standby Generator Sets Model 80ROZJ81 (8/92)	*				
	NWS EHB 6-552-4 John Deere Engine Service Manual for 4039, 6059, 4045, and 6068 Engines (6/19/90)	*				
	NWS EHB 6-552-5 Kohler Parts Catalog for 80ROZJ81 and M340 ATS Generator Sets (5/92)	*				
	(Continued on next page)					

6. Adequate Documentation for Operations and Maintenance (6 of 7)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
6a	(Continued from previous page) NWS EHB 6-552-6 John Deere Parts Catalog for John Deere Diesel-Fueled Engine (T06059T/6059TL) (8/92) NWS EHB 6-552-8SS1 Safety Supplement Technical Manual (This manual supplements NWS EHB 6-551-8) (No publication date)	* *				
6b	Copies of Federal Meteorological Handbook No. 11 Parts A, B, C, and D, are on station, in good condition, and the appropriate personnel are familiar with the format and content.	*	*	*	*	*
6c	A copy of the Memorandum of Agreement for Interagency Operation of the WSR-88D is available on-station.	*	*	*	*	*
6d	Most recent revisions to the following Weather Service Operations Manual (WSOM) chapters are available on-site: C-47 County Warning Areas D-90 Weather Support for Accident Investigations and Litigation J-03 Backup Operations and Site Evacuation If you are unsure if your WSOM Chapters are the most recent revisions, contact your Regional NEXRAD Meteorologist.	*	*			
6e	A copy of NWS NEXRAD Operations Handbook Chapter 5 (Radar Backup Guidelines) and Chapter 6, Section 6.3 (Archive III) is available on station.	*	*	*	*	*

6. Adequate Documentation for Operations and Maintenance (7 of 7)		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
6f	A copy of the text material from the WSR-88D operations course is available on-station.	*	*			
6g	Telephone numbers for regional WSR-88D operations and maintenance focal points are available and station personnel know where to find them.	*	*			
6h	Clear instructions/contingency plans are on-site for operation during partial outages or subsystem failures.	*	*		*	*
6i	Clear procedures for restarting/rebooting the system are available.	*	*	*	*	*
6j	Instructions for maintenance reporting (found in Engineering Handbook 4 (EHB-4) and WSOM Chapter A-14) are clearly understood by operations and maintenance personnel.	*	*	*	*	*
6k	Personnel responsible for reporting maintenance actions are able to do so using the various forms of the Engineering Management Reporting System or a personal computer.	*	*	*		
6l	Office's EHB-1 and EHB-4 are current and contain the latest revisions.	*	*	*		
6m	Maintenance personnel understand the methods for returning parts to the National Reconditioning Center (NRC). (This includes the requirement to turn in to NRC non-repairable items under warranty with specially labelled equipment return tags.)	*	*	*		
6n	Procedures and telephone numbers for contacting the OSF Hotline are available and station personnel know where to find them.	*	*	*	*	*

7. Adequate On-site Spares, Repair Parts, and Test Equipment		RDA/RPG/ PUP	APUP	NAPUP	FAA RDA/ RPG/PUP	FAA APUP
7a	A full complement of spares is on-site as prescribed by the Initial Site Spares List (ISSL). Copies of the ISSL for both Pre-MicroFive and Post-MicroFive configurations appear at the end of this checklist. Be sure to use the ISSL that applies to your site's configuration.	*	*	*		
7b	A full complement of calibrated test equipment is on hand. This equipment is listed on the checklist provided by the Office of Systems Operations (OSO) at equipment delivery. Calibration requirements will be published by NWSH. All test equipment will have a current calibration sticker. The EO shall verify that all test equipment has not exceeded the "calibration due date" specified on each unit and that a calibration report is on file at the site. If any units are out of calibration, they shall be replaced with properly calibrated units prior to commissioning.	*	*	*		
7c	A full complement of other authorized support equipment such as test plugs, hoists, and unique tools is on hand. This equipment is listed on the checklist provided by OSO at equipment delivery.	*	*	*		
7d	At least six optical disks are in stock on-site.	*				
7e	An adequate workplace meeting applicable standards exists for maintenance of WSR-88D components, e.g., computer boards. This workplace includes a grounded work surface.	*	*	*		

WSR-88D PRE-MICROFIVE INITIAL SITE SPARES LIST (PAGE 1 OF 2)

This list is valid for the pre-MicroFive WSR-88D units.

ITEM NAME	PART NO.	NWS STOCK NO.	NO. ITEMS AT RDA/RPG/PUP SITES	NO. ITEMS AT PUP-ONLY SITES
Fan,115V,50/60 HZ	0100101-00	R400-41A13B4	1	1
Fan,115V,50/60 HZ	0110020-01	R400-41A13B1	1	1
P5 Converter Module	09-163F00	R400-21A1PS2	1	0
P5U Converter Mod	09-203F00	R400-21A1PS1	1	0
FEM w/Disch & Indic	09-205F00	R400-21A1PS3	1	0
Attenuator, Assy	1213636-201	R400-4A8	1	0
Converter	1213823-201	R400-41A1A1	1	1
Fan, Tubeaxial, Circ	1213829-201	R400-4B1	1	1
Power Supply	1214505-202	R400-41PS3	1	1
Capacitor, Special	142C846H02	R400-3A9C1	1	0
Diode	142C890H01	R400-3A12A2CR1	14	0
Amplifier, Power, 4	14636-5016-1	R400-5A7A1	1	0
Motor, DC, Servo	14636-5018-1	R400-2A1A3B1	1	0
Receiver Interface	1526651-301	R400-4A32	1	0
Pulse Shaper Module	1A20768A01	R400-3A5	1	0
Trigger Amplifier	1D20986G01	R400-3A11	1	0
Circuit Card Assy	1D21304G01	R400-3A1A1	1	0
Motor, Modified	1D23067G01	R400-3B3B1-1	1	0
RF Driver Chass	1D27780G01	R400-3A4	1	0
Disk Drive 182MB	27-189F01	R400-5A5A2	1	1
Mag Tape Drive 1/4	27-199	R400-5A5A1	1	1
Pwr Cond Mstr P5	34-039F02	R400-5PS5	1	0
Power Cond, Slave	34-040F01	R400-5PS6	1	1
Power Supply, Periph	34-046F01	R400-5A5PS1	1	0
Power Supply, Periph	34-046F01M00R01	R400-5A5PS1	0	1
Bd Assy, QSA w/ Zbid	35-564F00	R400-21A4A1	1	1
Bd Assy, Quad RS232C	35-579F00	R400-21A4A17A1	1	1
Bd Assy, 8 Line Comm	35-702F00	R400-5A12A5	1	0
Bd Assy, Selch	35-732F00	R400-5A13A2	1	1
Bd Assy, EMAM-1	35-750F01	R400-5A12A1	1	0
Bd Assy, DIOS-1	35-750F02	R400-21A4A18	1	0
Bd Assy, EMAM-2	35-751F03	R400-5A13A7	1	0
Bd Assy, DIOS-2	35-751F04	R400-21A4A19	1	0
Bd Assy, CPU-C	35-769F00	R400-5A12A11	1	0
Bd Assy, CPU-D	35-770F00	R400-5A12A12	1	0
Bd Assy, MPC w/ 3203	35-910F01	R400-41A16A6	1	1

(cont.)

WSR-88D PRE-MICROFIVE INITIAL SITE SPARES LIST (PAGE 2 OF 2)

ITEM NAME	PART NO.	NWS STOCK NO.	NO. ITEMS AT RDA/RPG/PUP SITES	NO. ITEMS AT PUP-ONLY SITES
Bd Assy HD STM 4MB	35-916F01	R400-5A12A15	1	0
Bd Assy, DMI	35-941F00	R400-21A3A11	1	0
Bd Assy, 4P5 PSC	35-AACF00	R400-21A1A1	1	0
Fan, Muffin	36-011F00	R400-5A8B1	1	1
Fan Assy	36-049F00	R400-21A5A1B1	1	0
Stack Back Swing DI	3D55747G01	R400-3A12A3	1	0
PWA, Analog	40505-1301-101	R400-5A6A1	1	0
PWA, Digital Board	40505-1302-102	R400-5A6A2	1	0
4 Plane-NEXRAD	512184-04	R400-41A13A2	1	1
PCB, Graphics	513686-01	R400-41A13A12	1	1
RBDT Diode	635A716H01	R400-3A12A1CR1	10	0
Pump Unit, Centrifug	646A034H01	R400-5A10A6	1	0
Circuit Card Assy	7172737-003	R400-5A9A8	1	0
Circuit Card Assy	7172741-002	R400-5A10A7	1	0
Circuit Card Assy	7172745-001	R400-5A10A1	1	0
Circuit Card Assy	7172749-002	R400-5A10A3	1	0
Circuit Card Assy	7172761-000	R400-5A10A6	1	0
CCA Synchronizer	7172765-002	R400-5A10A4	1	0
Circuit Card Assy	7180750-000	R400-5A9A6	1	0
Circuit Card Assy	7257275-001	R400-5A9A13	1	0
Circuit Card Assy	7257279-000	R400-5A9A10	1	0
Lamp, Traffic	825-1	R400-12DS1	1	0
Bd Assy, CPU-A	96-188F00	R400-5A12A9	1	0
Bd Assy, CPU-B	96-189F00	R400-5A12A10	1	0
Graphics Tablet Puck	DT-130	R400-44A1	1	1

WSR-88D POST-MICROFIVE INITIAL SITE SPARES LIST (PAGE 1 OF 2)

This list is valid for the post-MicroFive WSR-88D units.

ITEM NAME	PART NO.	NWS STOCK NO.	NO. ITEMS AT RDA/RPG/PUP SITES	NO. ITEMS AT PUP-ONLY SITES
Fan,115V,50/60 HZ	0100101-00	R400-41A13B4	1	1
Fan,115V,50/60 HZ	0110020-01	R400-41A13B1	1	1
CDS Master	09-227		1	1
Attenuator, Assy	1213636-201	R400-4A8	1	0
Converter	1213823-201	R400-41A1A1	1	1
Fan, Tubeaxial, Circ	1213829-201	R400-4B1	1	1
Power Supply	1214505-202	R400-41PS3	1	1
Capacitor, Special	142C846H02	R400-3A9C1	1	0
Diode	142C890H01	R400-3A12A2CR1	14	0
Amplifier, Power, 4	14636-5016-1	R400-5A7A1	1	0
Motor, DC, Servo	14636-5018-1	R400-2A1A3B1	1	0
Receiver Interface	1526651-301	R400-4A32	1	0
Pulse Shaper Module	1A20768A01	R400-3A5	1	0
Trigger Amplifier	1D20986G01	R400-3A11	1	0
Circuit Card Assy	1D21304G01	R400-3A1A1	1	0
Motor, Modified	1D23067G01		1	0
RF Driver Chass	1D27780G01	R400-3A4	1	0
Disk Drive 182MB	27-189F01	R400-5A5A2	1	1
Mag Tape Drive 1/4	27-199	R400-5A5A1	1	1
Power Supply, Periph	34-046F01M00R01	R400-5A5PS1	1	1
Bd Assy, QSA w/ Zbid	35-564F00	R400-21A4A1	1	1
Bd Assy, Quad RS232C	35-579F00	R400-21A4A17A1	1	1
Bd Assy, 8 Line Comm	35-702F00	R400-5A12A5	1	0
Bd Assy, Selch	35-732F00	R400-5A13A2	1	1
Bd Assy, EMAM-1	35-750F01	R400-5A12A1	1	0
Bd Assy, DIOS-1	35-750F02	R400-21A4A18	1	0
Bd Assy, EMAM-2	35-751F03	R400-5A13A7	1	0
Bd Assy, DIOS-2	35-751F04	R400-21A4A19	1	0
Bd Assy, MPC w/ 3203	35-910F01	R400-41A16A6	1	1

(cont.)

WSR-88D POST-MICROFIVE INITIAL SITE SPARES LIST (PAGE 2 OF 2)

ITEM NAME	PART NO.	NWS STOCK NO.	NO. ITEMS AT RDA/RPG/PUP SITES	NO. ITEMS AT PUP-ONLY SITES
Bd Assy, DMI	35-941F00	R400-21A3A11	1	0
Bd Assy, 4P5 PSC	35-AACF00	R400-21A1A1	1	0
DMI	35-941F00M01		0	1
8MB CMM	35-ABIF07M00		1	1
32MB CMM	35-ABIF09M00		1	0
Fan, Muffin	36-011F00	R400-5A8B1	1	1
Fan Assy	36-049F00	R400-21A5A1B1	1	0
Stack Back Swing DI	3D55747G01	R400-3A12A3	1	0
PWA, Analog	40505-1301-101	R400-5A6A1	1	0
PWA, Digital Board	40505-1302-102	R400-5A6A2	1	0
4 Plane-NEXRAD	512184-04	R400-41A13A2	1	1
PCB, Graphics	513686-01	R400-41A13A12	1	1
RBDT Diode	635A716H01	R400-3A12A1CR1	10	0
Pump Unit, Centrifug	646A034H01	R400-5A10A6	1	0
Circuit Card Assy	7172737-003	R400-5A9A8	1	0
Circuit Card Assy	7172741-002	R400-5A10A7	1	0
Circuit Card Assy	7172745-001	R400-5A10A1	1	0
Circuit Card Assy	7172749-002	R400-5A10A3	1	0
Circuit Card Assy	7172761-000	R400-5A10A6	1	0
CCA Synchronizer	7172765-002	R400-5A10A4	1	0
Circuit Card Assy	7180750-000	R400-5A9A6	1	0
Circuit Card Assy	7257275-001	R400-5A9A13	1	0
Circuit Card Assy	7257279-000	R400-5A9A10	1	0
Lamp, Traffic	825-1	R400-12DS1	1	0
Power Supply	93-ABR		1	1
Graphics Tablet Puck	DT-130	R400-44A1	1	1

NWS-Sponsored Doppler Weather Surveillance Radar
(WSR-88D)

Site Component Commissioning Plan

Appendix B. WSR-88D RPG Identifiers

June 7, 1993

Appendix B. WSR-88D RPG Identifiers (1 of 4)

Note: These identifiers are subject to change. Blanks in the RPG Identifier column indicate that an identifier has not yet been determined.

STATE	WSR-88D SITE	RPG IDENTIFIER
ALABAMA	BIRMINGHAM	KBMX
ALABAMA	EAST ALABAMA (MAXWELL AFB)	KMXF
ALABAMA	FORT RUCKER	KEOX
ALABAMA	MOBILE	KMOB
ALASKA	ANCHORAGE	
ALASKA	BETHEL	
ALASKA	FAIRBANKS	
ALASKA	SITKA	
ALASKA	KING SALMON	
ALASKA	MIDDLETON ISL	
ALASKA	NOME	
ARIZONA	FLAGSTAFF	KFSX
ARIZONA	PHOENIX	KIWA
ARIZONA	TUCSON	KSRX
ARIZONA	YUMA	KYUM
ARKANSAS	LITTLE ROCK	KLZK
BAHAMAS	GEORGETOWN	
BRITISH WEST INDIES	GRAND TURK	
CALIFORNIA	BEALE AFB	KBBX
CALIFORNIA	EDWARDS AFB	KEYX
CALIFORNIA	EUREKA	KBHX
CALIFORNIA	LOS ANGELES	KVTX
CALIFORNIA	MARCH AFB	KRIX
CALIFORNIA	SACRAMENTO	KMCC
CALIFORNIA	SAN DIEGO	KNKX
CALIFORNIA	SAN FRANCISCO BAY AREA	KMUX
CALIFORNIA	SAN JOAQUIN VALLEY	KHNX
CALIFORNIA	VANDENBERG AFB	KVBX
COLORADO	DENVER	KFTG
COLORADO	GRAND JUNCTION	KGJX
COLORADO	PUEBLO	KPUX
DELAWARE	DOVER AFB	KDOX
FLORIDA	JACKSONVILLE	KJAX
FLORIDA	KEY WEST	KEYW
FLORIDA	MELBOURNE	KMLB
FLORIDA	MIAMI	KAMX
FLORIDA	NORTHWEST FLORIDA (EGLIN AFB)	KEVX
FLORIDA	TALLAHASSEE	KTLH
FLORIDA	TAMPA BAY AREA	KTBW

Appendix B. WSR-88D RPG Identifiers (2 of 4)

Note: These identifiers are subject to change. Blanks in the RPG Identifier column indicate that an identifier has not yet been determined.

STATE	WSR-88D SITE	RPG IDENTIFIER
GEORGIA	ATLANTA	KFFC
GEORGIA	MOODY AFB	KVAD
GEORGIA	ROBINS AFB	KWRB
GUAM	ANDERSON AFB	PGUA
HAWAII	HAWAII ISLAND	
HAWAII	KAMUELA	
HAWAII	MOLOKAI	
HAWAII	SOUTH KAUAI	
IDAHO	BOISE	KBOI
IDAHO	POCATELLO/IDAHO FALLS	KSFX
ILLINOIS	CENTRAL ILLINOIS	KILX
ILLINOIS	CHICAGO	KLOT
ILLINOIS	QUAD CITIES	KDVN
INDIANA	INDIANAPOLIS	KIND
IOWA	DES MOINES	KDMX
KANSAS	DODGE CITY	KDDC
KANSAS	GOODLAND	KGLD
KANSAS	TOPEKA	KTWX
KANSAS	WICHITA	KICT
KENTUCKY	FORT CAMPBELL	KHPX
KENTUCKY	LOUISVILLE	KLVX
KENTUCKY	PADUCAH	KPAH
LOUISIANA	LAKE CHARLES	KLCH
LOUISIANA	NEW ORLEANS	KLIX
LOUISIANA	SHREVEPORT	KSHV
MAINE	LORING AFB	KCBW
MAINE	PORTLAND	KPTX
MASSACHUSETTS	BOSTON	KBOX
MICHIGAN	ALPENA	KAPX
MICHIGAN	DETROIT	KDTX
MICHIGAN	GRAND RAPIDS/ MUSKEGON	KGRR
MICHIGAN	MARQUETTE	KMQT
MINNESOTA	DULUTH	KDLH
MINNESOTA	MINNEAPOLIS/ ST. PAUL	KMPX
MISSISSIPPI	COLUMBUS AFB	KGWO
MISSISSIPPI	JACKSON	KJAN
MISSOURI	KANSAS CITY	KEAX
MISSOURI	SPRINGFIELD	KSGF
MISSOURI	ST. LOUIS	KLSX

Appendix B. WSR-88D RPG Identifiers (3 of 4)

Note: These identifiers are subject to change. Blanks in the RPG Identifier column indicate that an identifier has not yet been determined.

STATE	WSR-88D SITE	RPG IDENTIFIER
MONTANA	BILLINGS	KBLX
MONTANA	GLASGOW	KGGW
MONTANA	GREAT FALLS	KTFX
MONTANA	MISSOULA	KMSX
NEBRASKA	GRAND ISLAND	KUEX
NEBRASKA	NORTH PLATTE	KLNX
NEBRASKA	OMAHA	KOAX
NEVADA	ELKO	KLRX
NEVADA	LAS VEGAS	KESX
NEVADA	RENO	KRGX
NEW MEXICO	ALBUQUERQUE	KABX
NEW MEXICO	CANNON AFB	KFDX
NEW MEXICO	HOLLOMAN AFB	KHMN
NEW YORK	ALBANY	KENX
NEW YORK	BUFFALO	KBUF
NEW YORK	BINGHAMTON	KBGM
NEW YORK	GRIFFIS AFB	KRMX
NEW YORK	NEW YORK CITY	KOKX
NORTH CAROLINA	MOREHEAD CITY	KMHX
NORTH CAROLINA	RALEIGH/DURHAM	KRAX
NORTH CAROLINA	WILMINGTON	KLTX
NORTH DAKOTA	BISMARCK	KBIS
NORTH DAKOTA	EASTERN NORTH DAKOTA	KMVX
NORTH DAKOTA	MINOT AFB	KMBX
OHIO	CINCINNATI	KILN
OHIO	CLEVELAND	KCLE
OKLAHOMA	FREDERICK (ALTUS AFB)	KFDR
OKLAHOMA	OKLAHOMA CITY	KTLX
OKLAHOMA	TULSA	KINX
OKLAHOMA	VANCE AFB	KEND
OREGON	MEDFORD	KMAX
OREGON	PENDLETON	KPDT
OREGON	PORTLAND	KRTX
PENNSYLVANIA	CENTRAL PENNSYLVANIA	KCCX
PENNSYLVANIA	PHILADELPHIA	KDIX
PENNSYLVANIA	PITTSBURGH	KPBZ
PUERTO RICO	EASTERN PUERTO RICO	

Appendix B. WSR-88D RPG Identifiers (4 of 4)

Note: These identifiers are subject to change. Blanks in the RPG Identifier column indicate that an identifier has not yet been determined.

STATE	WSR-88D SITE	RPG IDENTIFIER
SOUTH CAROLINA	CHARLESTON	KCLX
SOUTH CAROLINA	COLUMBIA	KCAE
SOUTH CAROLINA	GREENVILLE/ SPARTANBURG (GREER)	
SOUTH DAKOTA	ABERDEEN	KABR
SOUTH DAKOTA	RAPID CITY	KUDX
SOUTH DAKOTA	SIOUX FALLS	KFSD
TENNESSEE	KNOXVILLE/ TRI CITIES	KMRX
TENNESSEE	MEMPHIS	KNQA
TENNESSEE	NASHVILLE	KOHX
TEXAS	AUSTIN/ SAN ANTONIO	KEWX
TEXAS	AMARILLO	KAMA
TEXAS	BROWNSVILLE	KBRO
TEXAS	CORPUS CHRISTI	KCRP
TEXAS	CENTRAL TEXAS (FORT HOOD)	KGRK
TEXAS	DALLAS/FORT WORTH	KFWS
TEXAS	DYESS AFB	KDYS
TEXAS	EL PASO	KEPZ
TEXAS	HOUSTON/ GALVESTON	KHGX
TEXAS	LAUGHLIN AFB	KDLF
TEXAS	LUBBOCK	KLBB
TEXAS	MIDLAND/ODESSA	KMAF
TEXAS	SAN ANGELO	KSJT
UTAH	CEDAR CITY	KICX
UTAH	SALT LAKE CITY	KMTX
VERMONT	BURLINGTON	KBTV
VIRGINIA	NORFOLK/ RICHMOND	KAKQ
VIRGINIA	ROANOKE	KFCX
VIRGINIA	STERLING	KLWX
WASHINGTON	SEATTLE/TACOMA	KATX
WASHINGTON	SPOKANE	KGEG
WEST VIRGINIA	CHARLESTON	KRLX
WISCONSIN	GREEN BAY	KGRB
WISCONSIN	LA CROSSE	KARX
WISCONSIN	MILWAUKEE	KMKX
WYOMING	CHEYENNE	KCYS
WYOMING	RIVERTON	KRIW

NWS RDA/RPG/PUP SITE COMPONENT COMMISSIONING REPORT

1. Office SID:	2. Office Location (Name, State, Region):
3. NEXRAD SID:	4. Software Version:

5. Contract Line Item Numbers (CLIN) From DD Form 250

RDA: RPG: PUP:

6. Start of Evaluation (Date): Completion of Evaluation (Date):

7. Evaluation Official (Name, Title, Phone Number):

_____ _____ _____

8. Evaluation Official Signature: _____ Date: _____

RECOMMENDATION FOR COMMISSIONING

We, the undersigned, recommend this WSR-88D Site Component be commissioned for official use by the National Weather Service.

Area Manager

9. Area Manager Name: _____

10. Signature: _____ Date: _____

Regional Director (or Director, NMC, for commissioning at National Centers)

11. Regional Director Name: _____

12. Signature: _____ Date: _____

NWS MAR Commissioning Manager

13. NWS MAR Commissioning Manager Name: _____

14. Signature: _____ Date: _____

NWS RDA/RPG/PUP SITE COMPONENT COMMISSIONING REPORT (cont.)

APPROVAL OF COMMISSIONING

As Deputy Assistant Administrator for Modernization (DAAM) I approve the commissioning of this WSR-88D Site Component for official use by the National Weather Service.

15. DAAM Name: _____

16. Signature: _____ Date: _____

IMPLEMENTATION OF COMMISSIONING APPROVAL

As NWS MAR Commissioning Manager, I verify that this Site Component was commissioned on the date indicated below.

17. NWS MAR Commissioning Manager Name: _____

18. NWS MAR Commissioning Manager Signature: _____

19. Date of Signature: _____

20. Date of Site Component Commissioning: _____

NWS ASSOCIATED PUP SITE COMPONENT COMMISSIONING REPORT (cont.)

APPROVAL OF COMMISSIONING

As Deputy Assistant Administrator for Modernization (DAAM) I approve the commissioning of this WSR-88D Site Component for official use by the National Weather Service.

17. DAAM Name: _____

18. Signature: _____ Date: _____

IMPLEMENTATION OF COMMISSIONING APPROVAL

As NWS MAR Commissioning Manager, I verify that this Site Component was commissioned on the date indicated below.

19. NWS MAR Commissioning Manager Name: _____

20. NWS MAR Commissioning Manager Signature: _____

19. Date of Signature: _____

20. Date of Site Component Commissioning: _____

NWS ASSOCIATED PUP SITE COMPONENT COMMISSIONING REPORT

1. Office SID:	2. Office Location (Name, State, Region):
3. NEXRAD SID of Host RDA:	4. Software Version:

5. Contract Line Item Number (CLIN) From DD Form 250

PUP: _____

6. Start of Evaluation (Date): Completion of Evaluation (Date):

7. Evaluation Official (Name, Title, Phone Number):

_____ _____ _____

8. Evaluation Official Signature: _____ Date: _____

RECOMMENDATION FOR COMMISSIONING

We, the undersigned, recommend this WSR-88D Site Component be commissioned for official use by the National Weather Service.

MIC of Host RDA (Applicable to NWS RDAs only)

9. MIC Name: _____

10. Signature: _____ Date: _____

Area Manager

11. Area Manager Name: _____

12. Signature: _____ Date: _____

Regional Director (or Director, NMC, for commissioning at National Centers)

13. Regional Director Name: _____

14. Signature: _____ Date: _____

NWS MAR Commissioning Manager

15. NWS MAR Commissioning Manager Name: _____

16. Signature: _____ Date: _____

NWS NON-ASSOCIATED PUP SITE COMPONENT COMMISSIONING REPORT

1. Office SID:	2. Office Location (Name, State, Region):

3. Software Version: _____

4. Contract Line Item Number (CLIN) From DD Form 250

PUP: _____

5. Start of Evaluation (Date): Completion of Evaluation (Date):

6. Evaluation Official (Name, Title, Phone Number):

_____ _____ _____

7. Evaluation Official Signature: _____ Date: _____

RECOMMENDATION FOR COMMISSIONING

We, the undersigned, recommend this WSR-88D Site Component be commissioned for official use by the National Weather Service.

Meteorologist-in-Charge (Applicable only at RFCs)

8. Meteorologist-in-Charge Name: _____

9. Signature: _____ Date: _____

Area Manager (Applicable only at RFCs)

10. Area Manager Name: _____

11. Signature: _____ Date: _____

Regional Director (or Director, NMC, for commissioning at National Centers)

12. Regional Director Name: _____

13. Signature: _____ Date: _____

NWS MAR Commissioning Manager

14. NWS MAR Commissioning Manager Name: _____

15. Signature: _____ Date: _____

NWS NON-ASSOCIATED PUP SITE COMPONENT COMMISSIONING REPORT (cont.)

APPROVAL OF COMMISSIONING

As Deputy Assistant Administrator for Modernization (DAAM) I approve the commissioning of this WSR-88D Site Component for official use by the National Weather Service.

16. DAAM Name: _____

17. Signature: _____ Date: _____

IMPLEMENTATION OF COMMISSIONING APPROVAL

As NWS MAR Commissioning Manager, I verify that this Site Component was commissioned on the date indicated below.

18. NWS MAR Commissioning Manager Name: _____

19. NWS MAR Commissioning Manager Signature: _____

20. Date of Signature: _____

21. Date of Site Component Commissioning: _____

WSR-88D SITE COMPONENT COMMISSIONING CHECKLIST

Office SID: _____ Office Name: _____

WSR-88D Configuration:

NWS WSR-88D [ ] - NEXRAD SID: _____
NWS Associated PUP [ ] - Host NEXRAD SID: _____
NWS Non-Associated PUP [ ] - NAPUP Number: 1 [ ] or 2 [ ]

Software Version: _____

Contract Line Item Numbers (CLIN) From DD Form 250:

RDA: _____ RPG: _____ PUP: _____

S=Satisfactory, N/A=Not-Applicable, W/#=Work-Around Number (1,2,3...).

Document all Not-Applicable Ratings and Work-Arounds under Remarks.

	EVALUATION ELEMENT	S	N/A	W/#
1.	**SUCCESSFUL COMPLETION OF SITE COMPONENT ACCEPTANCE TEST**			
1a.	Facilities DD Form 250 Signed			
1b.	Facilities Property Transaction Request Form Signed			
1c.	System DD Form 250 Signed			
1d.	System Property Transaction Request Form Signed			
1e.	Operationally Significant Deficiencies on the Facilities and System DD Forms 250 Satisfied			
1f.	Software Version 5.1H (Revised) or Later Version Installed on the System			
2.	**ADEQUATE AVAILABILITY OF TRAINED OPERATIONS AND MAINTENANCE PERSONNEL**			
2a.	Stage 1 Staffing Level In Place			
2b.	Operations Training Completed			
2c.	Post-Operations Course Test on Hydrometeorological Precipitation Processing Workbook Completed			
2d.	Operations On-the-Job Training Checklist Proficiency Demonstrated			
2e.	UCP Training Completed			
2f.	System Maintenance Training Completed			
2g.	MLOS Training Completed			
2h.	PUP Maintenance Training Completed			
3.	**SATISFACTORY PERFORMANCE OF SYSTEM INTERFACES**			
3a.	RCM and HDP Transmission to AFOS System Z Verified			
3b.	Dial-In Capability Tested			

WSR-88D SITE COMPONENT COMMISSIONING CHECKLIST

Office SID: _____ Office Name: _____

	EVALUATION ELEMENT	S	N/A	W/#
3c.	Associated User Dial-In Capability Tested			
3d.	RFC Class II and V Dial-In Ports Tested			
3e.	NIDS Products Transmission Verified			
4.	**SATISFACTORY SUPPORT OF ASSOCIATED NWS FORECAST AND WARNING SERVICES**			
4a.	96% RCM Availability Met			
4b.	Host RDA/RPG Commissioned			
4c.	URC Functioning			
4d.	URC Adaptation Data Correct			
4e.	Backup of Adaptation Data Made			
4f.	Copy of Adaptation Data Sent to OSF			
4g.	Software Backup Available On-Station			
4h.	Routine Product Set Lists Prepared			
4i.	Alert Areas and Alarm Thresholds Set			
4j.	User Functions Set Up			
4k.	Proper Site Identifier Appears on Products			
4l.	Suitable Background Maps Available			
4m.	Country Warning Area (CWA) Change Correspondence Received			
4n.	State and Local Officials Notified of CWA Change			
4o.	Spotter Groups Notified of CWA Change			
4p.	Integrated Coordination Activity Has Been Conducted			
4q.	Public Information Statement on New CWA Disseminated			
4r.	NWWS Users Notified of New CWA			
4s.	Preparations for NWR Responsibility Realignment Complete			
4t.	Technical Coordination with External Users Completed and Documented			
4u.	AFOS Identifiers for RCM and HDP Entered			
4v.	Applications Programs Updated			
4w.	OSF Hotline Providing 24-Hour Support			
4x.	WSR-88D Reflectivity Data Representative of Meteorological Conditions			
4y.	WSR-88D Velocity Data Representative of Meteorological Conditions			
4z.	Products in Table 2-1 of FMH No. 11, Part C Generated by the WSR-88D			
4aa.	Precipitation Products Functional			

WSR-88D SITE COMPONENT COMMISSIONING CHECKLIST

Office SID: _____ Office Name: _____

EVALUATION ELEMENT		S	N/A	W/#
4bb.	System Properly Changes from Clear Air to Precipitation Mode			
4cc.	Rain Gage Data Acquisition Function Properly Decodes and Posts the Rain Gage Data.			
4dd.	Successful Test of Gage Data Support System			
4ee.	Power Supply for WSR-88D Acceptable for Operations			
4ff.	Switchover Between Primary and Backup Power Acceptable For Operations			
4gg.	Archive III Optical Disk Suitable for NCDC Use			
4hh.	Necessary Actions Complete for Transition From WSR-57/74 to WSR-88D Operations (Applicable Only At Sites Where the Two Radars Are Within 400 Feet of Each Other)			
4ii.	WSR-57/74 Is Not Causing Operationally Significant Disruption to WSR-88D Operation (Applicable Only At Sites Where the Two Radars Are From 400 to 2000 Feet of Each Other)			
4jj.	Necessary Enhancements Made to Lightning Protection System			
4kk.	Any Outstanding Safety Issues Resolved			
5.	**PROPER FUNCTIONING OF SERVICE BACKUP CAPABILITIES**			
5a.	List of Neighboring Radar Sites and Their Phone Numbers Available			
5b.	Instructions for Backup Procedures Available			
5c.	Staff Drilled in Backup Procedures			
5d.	Applications Programs Updated to Reflect Backup Responsibilities			
5e.	Procedures for Dialing Alternate Sites Available			
6.	**ADEQUATE DOCUMENTATION FOR OPERATIONS AND MAINTENANCE**			
6a.	Technical Manuals Compatible with Current System Configuration Are on Station, in Good Condition, with Appropriate Personnel Familiar with Format and Content			
6b.	FMH No. 11, Parts A, B, C, and D Available with Staff Familiar with Format and Content			
6c.	MOA for Interagency Operation of the WSR-88D is Available			
6d.	Revisions to WSR-88D-Related WSOM Chapters Available			
6e.	NWS NEXRAD Operations Handbook Available			
6f.	WSR-88D Operations Course Text Material Available			

WSR-88D SITE COMPONENT COMMISSIONING CHECKLIST

Office SID: _____ Office Name: _____

EVALUATION ELEMENT		S	N/A	W/#
6g.	Telephone Numbers for Regional WSR-88D Operations and Maintenance Focal Points Available			
6h.	Instructions for Operations During Partial Outages or Subsystem Failures Available			
6i.	Procedures for Restarting/Rebooting the System Available			
6j.	Instructions for Maintenance Reporting Understood by Operations and Maintenance Personnel			
6k.	Maintenance Personnel Capable of Reporting Maintenance Actions Using EMRS or a Personal Computer			
6l.	Office's EHB-1 and EHB-4 Contain the Latest Revisions			
6m.	Maintenance Personnel Understand Methods for Returning Parts to the NRC			
6n.	Procedures and Telephone Numbers for Contacting the OSF Hotline Available			
7.	**ADEQUATE ON-SITE SPARES, REPAIR PARTS, AND TEST EQUIPMENT**			
7a.	Full Complement of Operable Spares On-Site			
7b.	Full Complement of Test Equipment On-Site			
7c.	Full Complement of Other Authorized Support Equipment On-Site			
7d.	At Least Six Optical Disks On-Site			
7e.	Adequate Workplace for Maintenance of System Components Available			

REMARKS: Check _____ if additional remarks are entered on continuation pages.

Remarks (2)