NEXRAD Now

WARP, ITWS & OPUP Connections

A change affecting most sites in the WSR-88D network was recently released to support the Federal Aviation Administration (FAA) Weather and Radar Processor (WARP) program; FAA Integrated Terminal Weather System (ITWS) program; Air Force Weather Agency (AFWA) Open System Principal User Processor (OPUP) project; and to standardize the port naming convention. Modification Note 59 and TCTO 587 are associated with the change and can be viewed at http://www.osf.noaa.gov/ssb/sysdoc/techman/tmlinks.asp.

The instructions for making the WARP and ITWS connections begin with modem testing, because at most sites these modems have gone unused for years. After modem testing, cable installation is necessary to link the MCI communications port with the correct RPG port. WARP, and probably ITWS as well, will utilize MCI LINCS equipment that uses a zero dBm line-loss service. For this reason, the instructions state that the modem is to be set to a TX Level = -15 dBm.

After the modem is tested and the cross connect cable is installed, adaptation software changes are necessary. Software adaptation changes are related to WARP, ITWS, and OPUP, as well as renaming the ports for standardization.

Sites not affected by WARP, ITWS or OPUP will still receive a change notice for port standardization. It may seem odd that most ports at every site are being renamed. However, generically naming the ports will allow future changes to be accomplished more quickly and easily. See Table 1 for the WARP/ITWS/OPUP installation schedule.

In April 2000, the following sites participated in WARP testing: Altus AFB; Corpus Christi; Dyess AFB; Fort Hood; Fort Polk; Fort Worth; Houston; Lake Charles; Laughlin AFB; Lubbock; Midland; Norman; San Angelo; San Antonio; Shreveport; Slidell; Tulsa and Western Arkansas. Maintenance personnel at these sites did everything possible to make the test successful and are commended for exceptional job performance and commitment. One very important lesson learned from this testing is that cross connects from the RPG punchdown block to the MCI punchdown block do not require a "twist" at all sites. Thus far, most sites require only straight through wiring.

Staging MCI LINCS Equipment and Circuit Installation for FAA WARP - Mod 59/TCTO 587

The installation is being stage per the schedule included in Table 1.

What's Inside?

NEXRAD Now

Table 1: WARP/ITWS/OPUP Installation Schedule

Site Name	Site ID	WARP	ITWS	OPUP
Aberbeen, SD	ABR	1/23/01	--	--
Albany, NY	ENX	2/27/01	--	6/15/00
Albuquerque, NM	ABX	1/02/01	--	9/01/01
Altus AFB, OK	FDR	4/12/00	--	6/01/00
Amarillo, TX	AMA	1/02/01	--	--
Atlanta, GA	FFC	10/10/00	10/01/01	7/31/00
Austin/San Antonio, TX	EWX	4/12/00	--	3/01/01
Beale AFB, CA	BBX	12/20/00	--	8/01/00
Billings, MT	BLX	1/09/01	--	--
Binghamton, NY	BGM	2/20/01	--	--
Birmingham, AL	BMX	10/10/00	--	--
Bismarck, ND	BIS	1/23/01	--	6/01/00
Boise, ID	CBX	1/09/01	--	6/01/00
Boston/Tauton, MA	BOX	2/27/01	10/01/01	--
Boulder (Front Range), CO	FTG	1/16/01	--	--
Brookhaven/New York	OKX	2/20/01	10/01/01	--
Brownsville, TX	BRO	1/30/01	--	--
Buffalo, NY	BUF	9/19/00	--	--
Burlington, VT	CXX	2/27/01	--	--
Cannon AFB, NM	FDX	1/02/01	--	9/01/01
Caribou (Houlton), ME	CBW	2/27/01	--	--
Cedar City, UT	ICX	12/26/00	--	--
Charleston, SC	CLX	2/13/01	--	7/01/00
Charleston, WV	RLX	9/12/00	--	--
Cheyenne, WY	CYS	1/16/01	--	3/01/02
Chicago (Joliet), IL	LOT	10/03/00	10/01/01	--
Cincinnati/Wilmington, OH	ILN	9/12/00	--	6/05/00
Cleveland, OH	CLE	9/19/00	10/01/01	--
Columbia, SC	CAE	2/13/01	10/01/01	1/07/00
Columbus AFB, MS	GWX	8/29/00	--	5/01/02
Corpus Christi, TX	CRP	4/12/00	--	--
Dallas/Fort Worth, TX	FWS	4/12/00	10/01/01	--
Davenport (Quad Cities), IL	DVN	10/03/00	--	--
Des Moines, IA	DMX	1/23/01	--	--
Detroit, MI	DTX	9/19/00	10/01/01	6/05/00
Dodge City, KS	DDC	9/05/00	--	--
Dover AFB, DE	DOX	9/26/00	--	--
Duluth, MN	DLH	1/23/01	--	--

NEXRAD Now

Site Name	Site ID	WARP	ITWS	OPUP
Dyess AFB, TX	DYX	4/12/00	--	--
Edwards AFB, CA	EYX	12/26/00	--	--
Eglin/NW Florida	EVX	2/13/01	--	--
El Paso, TX	EPZ	1/02/01	--	9/01/01
Elko, NV	LRX	1/09/01	--	--
Eureka, CA	BHX	5/05/99	--	--
Fargo/Grand Forks, ND	MVX	1/23/01	--	6/05/00
Flagstaff, AZ	FSX	1/02/01	--	--
Fort Polk, LA	POE	4/12/00	--	--
Ft. Campbell, KY	HPX	8/29/00	--	--
Ft. Drum (Montague), NY	TYX	2/27/01	--	--
Ft. Hood (Central Texas), TX	GRK	4/12/00	--	--
Ft. Rucker, AL	EOX	2/13/01	--	--
Gaylord (Alpena), MI	APX	1/23/01	--	--
Glasgow, MT	GGW	1/09/01	--	--
Goodland, KS	GLD	1/16/01	--	--
Grand Junction, CO	GJX	1/16/01	--	--
Grand Rapids, MI	GRR	10/03/00	--	--
Gray (Portland), ME	GYX	2/27/01	--	--
Great Falls, MT	TFX	1/09/01	--	3/01/02
Green Bay, WI	GRB	10/03/00	--	--
Greer, SC	GSP	10/10/00	10/01/01	--
Hastings (Grand Island), NE	UEX	1/23/01	--	--
Holloman AFB, NM	HDX	1/02/01	--	--
Houston, TX	HGX	4/12/00	9/27/00	--
Indianapolis, IN	IND	9/12/00	10/01/01	6/01/00
Jackson, KY	JKL	9/12/00	--	--
Jackson, MS	JAN	8/29/00	--	--
Jacksonville, FL	JAX	2/13/01	--	7/01/00
Kansas City/Pleasant Hill, MO	EAX	9/05/00	10/01/00	8/01/00
Key West, FL	BYX	2/06/01	--	--
La Crosse, WI	ARX	1/23/01	--	--
Lake Charles, LA	LCH	4/12/00	--	--
Las Vegas, NV	ESX	12/26/00	--	10/01/00
Laughlin AFB, TX	DFX	4/12/00	--	--
Lincoln (Central Illinois), IL	ILX	9/05/00	--	--
Little Rock, AR	LZK	8/29/00	--	10/01/01
Louisville, KY	LVX	9/12/00	10/01/01	7/01/00
Lubbock, TX	LBB	4/12/00	--	--
Marquette, MI	MQT	1/23/01	--	--

NEXRAD Now

Site Name	Site ID	WARP	ITWS	OPUP
Maxwell AFB, AL	MXX	10/10/00	--	--
Medford, OR	MAX	5/05/99	--	--
Melbourne, FL	MLB	2/06/01	--	7/01/00
Memphis, TN	NQA	8/29/00	10/01/01	--
Miami, FL	AMX	2/06/01	10/01/01	--
Midland/Odessa, TX	MAF	4/12/00	--	7/01/00
Milwaukee, WI	MKX	10/03/00	10/01/01	--
Minneapolis, MN	MPX	1/23/01	10/01/01	--
Minot AFB, ND	MBX	1/23/01	--	--
Missoula, MT	MSX	1/09/01	--	--
Mobile, AL	MOB	1/30/01	--	5/01/02
Monterey (San Francisco), CA	MUX	12/20/00	--	--
Moody AFB, GA	VAX	2/13/01	--	--
Morehead City, NC	MHX	9/26/00	--	--
Morristown (Knoxville), TN	MRX	10/10/00	--	--
Northeast Alabama	HTX	10/10/00	--	--
Northern Indiana	IWX	10/03/00	--	6/05/00
Nashville, TN	OHX	8/29/00	10/01/01	--
Norfolk/Wakefield, VA	AKQ	9/26/00	--	7/01/00
Norman, OK	TLX	4/12/00	7/01/00	8/01/00
North Platte, NE	LNX	1/16/01	--	--
Omaha, NE	OAX	1/23/01	--	6/05/00
Oxnard (Los Angeles), CA	VTX	12/26/00	--	--
Paducah, KY	PAH	8/29/00	--	--
Pendleton, OR	PDT	5/05/99	--	--
Philadelphia, PA	DIX	2/20/01	10/01/00	9/01/00
Phoenix, AZ	IWA	1/02/01	10/01/01	3/01/00
Pittsburgh, PA	PBZ	9/19/00	10/01/01	--
Pocatello, ID	SFX	1/09/01	--	--
Portland, OR	RTX	5/05/99	--	9/01/00
Pueblo, CO	PUX	1/16/01	--	9/01/01
Raleigh, NC	RAX	9/26/00	10/01/01	7/01/00
Rapic City, SD	UDX	1/16/01	--	6/05/00
Reno, NV	RGX	12/20/00	--	--
Riverton, WY	RIW	1/09/01	--	--
Roanoke/Blacksburg, VA	FCX	9/26/00	--	--
Robins AFB, GA	JGX	10/10/00	--	--
Sacramento, CA	DAX	12/20/00	--	8/01/00
Salt Lake City, UT	MTX	1/09/01	10/01/01	3/01/01
San Angelo, TX	SJT	4/12/00	--	--

Site Name	Site ID	WARP	ITWS	OPUP
San Diego, CA	NKX	12/26/00	--	--
San Joaquin, CA	HNX	12/20/00	--	--
San Juan, PR	JUA	2/06/01	--	--
Santa Ana, CA	SOX	12/26/00	--	8/01/00
Seattle, WA	ATX	5/05/99	--	8/01/00
Shreveport, LA	SHV	4/12/00	--	8/01/00
Sioux Falls, SD	FSD	1/23/01	--	--
Slidell, LA	LIX	4/12/00	10/01/01	--
Spokane, WA	OTX	5/05/99	--	8/01/00
Springfield, MO	SGF	9/05/00	--	--
St. Louis, MO	LSX	9/05/00	10/01/01	6/05/00
State College, PA	CCX	2/20/01	--	--
Sterling, VA	LWX	9/26/00	10/01/01	9/01/00
Tallahassee, FL	TLH	2/13/01	--	--
Tampa, FL	TBW	2/06/01	10/01/01	7/01/00
Topeka, KS	TWX	9/05/00	--	--
Tucson, AZ	EMX	1/02/01	--	3/01/01
Tulsa, OK	INX	4/12/00	10/01/01	--
Vance AFB, OK	VNX	9/05/00	--	--
Vandenburg AFB, CA	VBX	12/26/00	--	--
Western Arkansas	SRX	4/12/00	--	--
Wichita, KS	ICT	9/05/00	10/01/01	6/01/00
Wilmington, NC	LTX	2/13/01	--	--
Yuma, AZ	YUX	12/26/00	--	--

Visits to the site will be performed in approximately the following order [Steps 2 and 4, 3 and 5 may be reversed]:

1) The Local Exchange Carrier (LEC) will make an appointment with the site to install a 2-wire line, also referred to as a Common Business Line (CBL).

2) The LEC will install the 2-wire line.

3) The LEC will contact the site about bringing in a new 4-wire leased, dedicated line.

4) The LEC will perform the 4-wire installation.

5) MCI will make an appointment to visit the site to perform a site prep, addressing any space and power issues the site may identify in a pre-site fax-back survey performed by the OSF. If no space or site has had MCI lines installed for other purposes, no site prep will be required.

6) If MCI equipment was not previously provided to the site, MCI will make an appointment to visit the site to install facilities equipment.

7) MCI will install the facilities equipment and then cross-connect the 4-wire and 2-wire CBL circuits to the MCI LINCS equipment.

8) Site personnel will perform the final cross-connect for the new WARP circuit from the RPG dedicated block to the MCI demarcation block and perform the necessary narrowband adaptation updates for WARP.

A Potential Time Saver - The LEC will not

WARP, ITWS & OPUP

likely deliver the 4-wire and 2-wire CBL circuit in one visit and different installers may be performing the work on these separate occasions. The OSF recommends that when the LEC contacts the site to discuss bringing in the new circuits, site personnel request that the 2-wire and 4-wire circuits be delivered at the same time. This may save an additional trip to the shelter, if the installer has been provided with both service orders.

It is essential that Step 8 be performed as soon as possible after MCI advises that they have *accepted* the new LINCS circuit. Contractors to the FAA WARP program will arrive at the FAA ARTCC soon after the circuit acceptance date and perform a contractual "check-off" to verify that the circuit is indeed passing traffic.

The complete communications standardization installation schedule can be found at http://www.osf.noaa.gov/ssb/queries/comms/schedule.asp. Graphics of the MCI LINCS equipment can be found at http://www.osf.noaa.gov/examples/index.html and narrowband documentation changes occurring with Mod Note 59/TCTO 587 can be accessed at http://www.osf.noaa.gov/ssb/queries/comms/index.asp.

Sites will receive the Communication Documentation Notebook prior to the need to make the MCI to RPG cross-connect. If the site has not received the Notebook when MCI calls to arrange the appointment to install the facilities equipment, please contact the WSR-88D Hotline.

If there are questions concerning this recommendation, problems during the installation of equipment and/or circuits, concerns that the PUES port is still required or that there may be differences between a site's configuration and the documentation supplied with Mod Note 59 or TCTO 587, please contact the WSR-88D Hotline at 1-800-643-3363 or by email at Nexrad.Hotline@noaa.gov.
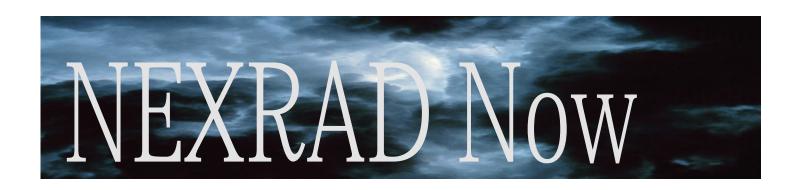
Christina Ostrander
OSF Engineering Branch
Mark Albertelly
OSF Operations Branch

Updating Interagency Operation MOA

The NEXRAD agencies are updating the Memorandum of Agreement (MOA) for the Interagency Operation of the WSR-88D. The MOA impacts personnel at an National Weather Service's (NWS) forecast offices or Department of Defense (DOD) base weather stations, or elsewhere in many ways. The MOA is the core document that defines how the partnering NEXRAD agencies will operate the WSR-88D systems, share weather radar data from the network of WSR-88D systems, establish membership of the Unit Radar Committees (URC) and conduct of the URCs. The MOA is the "glue" that holds the operation of the triagency radar program together.

The next version of the MOA will address the issues that face the NEXRAD agencies with the introduction of new WSR-88D display systems (e.g., the Federal Aviation Administration's (FAA) Weather and Radar Processor (WARP), the FAA's Integrated Terminal Weather System (ITWS), the NWS's Automated Weather Interactive Processing System (AWIPS), and the Air Force's Open PUP (OPUP)). Among the issues to be resolved are advance notification of WSR-88D preventative maintenance inspections, notification of the estimated time of restoral, and an update on the URCs. These MOA changes may not satisfy all expectations/desires, but they will lead to a continued triagency operation of the WSR-88D network. The MOA will be approved by the NEXRAD Program Management Committee (PMC) before it takes affect. The OSF will send a copy of the updated MOA to the operations and maintenance focal point at every WSR-88D site.

Tim Crum, Chief
OSF Operations Branch

NPI Rehosting Efforts

Those familiar with the WSR-88D are aware of the NEXRAD Product Improvement (NPI) Program. To summarize the initial goals of the NPI Program, the major data processing components of the WSR-88D are being updated to better take advantage of commercial advancements in computer hardware and software. These updates will include changes to the communications protocol to allow integration of WSR-88D systems and data in future National Weather Service (NWS) technical initiatives. Separate projects have been established to address the rehosting effort for the RPG, RDA, and PUP. Status reports are routinely provided to management, but the wider WSR-88D community may not be aware of NPI activities. This article summarizes the status of each of the three NPI projects.

OPEN RPG - The Open RPG Project replaces the existing Concurrent Microfive and VME Communications equipment. The Fortran applications software is also replaced with applications software written in C/C++, but the tried and tested product-generation algorithms are kept intact by encapsulating them in the C code. An additional requirement is that the Open RPG must support the existing RDA and Product distribution interfaces, but be positioned to move to more current accepted standards (i.e., TCP/IP).
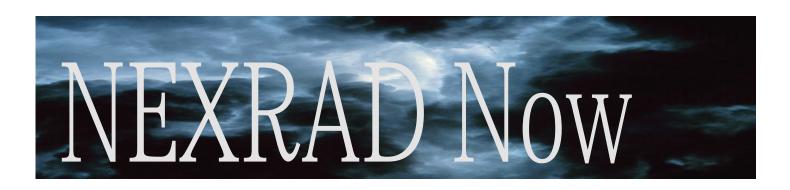
To accomplish the hardware and system work, the OSF has created a temporary organization called "Open Systems." Higher-level NPI management comes from the NWS Headquarters, with software development being conducted by the National Severe Storms Laboratory (NSSL). In April 2000, Jim Belville, Director of the OSF, was assigned the role of ORPG Program Manager.

Much of the hardware and software work is complete. However, in February 2000 the Open RPG project team was notified that the manufacturer (Simpact) of the communications server which supports the interface to the RDA and Product users was out of business. Open RPG is now using a previously-evaluated alternative for the RDA interface and have established a priority effort to identify a replacement for the Product Distribution interface. Implementing the leading candidate will have a scheduling impact. The planned start of production deployment was scheduled for April 2001. The new date for start of deployment is currently under discussion.

OPEN PUP - Though the current PUP has served the operations community well in the past, each of the three agencies have initiatives to replace the PUP. Open PUP (OPUP) is a Department of Defense (DOD) funded program to implement NEXRAD display functionality in the context of the Air Force centralized forecast Hub concept. The Hub operational scenario established four regional hubs which collect weather data and disseminate the data to weather data customers (i.e., Air Force Bases). The OPUP will be integrated into the Hub. In order to establish an OPUP presence early, a staged approach was established, deploying limited functionality versions of OPUP, to be followed with releases of increased functionality at a later time. The initial deployment, termed Spiral I, has been deployed to the four hubs, with positive feedback from the users. Beginning in August 2000, development of Spiral II will begin.

OPEN RDA - The replacement of the current Radar Data Acquisition (RDA) system is just beginning. NSSL was tasked to develop a proof-of-concept system, which was successfully demonstrated in April, 2000. That same month a tri-agency meeting was held at the OSF to develop require

The New WDTB

The Operations Training Branch of the Operational Support Facility (OTB/OSF) will soon become the Warning Decision Training Branch of the Office of Climate, Water, and Weather Services (WDTB/OCWWS) as part of the National Weather Service Headquarters reorganization. WDTB will join the National Weather Service Training Center (NWSTC) and the Cooperative Program for Operational Meteorology Education and Training (COMET) as three entities under the Training Division of OCWWS. The Branch will remain based in the OSF-South facility in Norman, OK and will continue to develop and deliver WSR-88D operator training. In addition, WDTB will expand training in the use of radar data with other remotely sensed data. The main focus of the training will be the warning process within forecast offices and include warning decision-making, situation awareness, warning methodology, and office strategies. WDTB will also develop and deliver training on baseline software changes and NEXRAD Product Improvement modifications.

Don Burgess, Chief of the Operations Training Branch since 1995, has recently left the OSF to become the National Severe Storms Laboratory (NSSL) Stormscale Research and Application Division (SRAD) Chief. John Ferree is currently the Acting OTB Chief.

WDTB will offer a variety of training opportunities during the upcoming year including, Distance Learning Operations Courses (DLOCs), Open System RPG (ORPG) and Automated Weather Interactive Processing System (AWIPS) training.

Enrollment for the fourth delivery of DLOC will begin in August, 2000. DLOC teletraining will begin in October with the concluding workshops in January and February, 2001. This newest DLOC will include many changes suggested by former students, inicluding an increase in student-instructor interaction.

ORPG operator training, scheduled for the Spring of 2001, will take three forms: electronic performance support (on-line help), computer-based training on CD-ROM, and teletraining sessions.

WDTB will also produce training on new radar-functionality in AWIPS Build 5 and SCAN version 2.0.

A new series of Warning Decision Making Workshops (WDM III) will begin in January, 2001. The WDM III workshops (four in FY01) will include enhanced displaced real-time (DRT) scenarios, and a focus on warning methodology. Web-based modules on challenging events and Z-R relationships are also being developed.

The Warning Decision Traning Branch - new name - same high quality training!

John Ferree
Operations Training Branch

NPI Rehosting Efforts

ments for the RDA. The discussions at the meeting will drive changes to the system specification, which will then be used to define the scope of development. Project schedules are under discussion.

The initial focus of development will be rehosting existing functionality using current hardware and software technology. Use of open standards will continue to be the goal, but specialized applications in the RDA will require use of some proprietary hardware and software.

Greg Cate
OSF Open Systems

Level II Archiving Update

In recent months, leaders at several WSR-88D sites have voiced concern with the large amount of staff time used to maintain the Level II recorders. The recording rate varies among the agencies, among sites within an agency and region, and sometimes from year to year at a site. In the later case, we notice sites that had been recording at a high rate for several months/years then have difficulty in recording after a new recorder is installed. Recording rates for the 158 sites average around 53% (as per National Climatic Data Center (NCDC) archival statistics) and that figure has been decreasing in recent years as the recorders age.

The OSF and National Reconditioning Center (NRC) have done a significant amount of research and work to improve Level II recorder reliability. These efforts have addressed repair procedures, field procedures documented in technical manual updates, recording media, stock and shipping practices. All of these efforts resulted in marginal improvement in recording rates. These devices are aging and we do not envision a corrective action that will greatly increase the recorder reliability.

Recently, the NRC had a technical interchange meeting with the Level II recorder manufacturer, Exabyte, to discuss the Level II failures and to seek advice and techniques for fixing the recorders and cartridge handling systems. Exabyte engineers provided the following recommendations to improve reliability of the current Level II Recorder system: re-use a tape (recycle) a maximum of five times, increase the use of head cleaning tapes, and use only Exabyte tapes. As a follow up on these recommendations: (1) the NCDC replenishes the Level II tape stock frequently enough that it is very unlikely that a tape is used five times; (2) the OSF is planning a test at select sites where cleaning tapes will be loaded in every other juke box tape slot. Site impact and recording performance improvement will be evaluated; and (3) the NCDC is restocking the tape inventory with only Exabyte tapes.

The OSF's Eight Year Modification Plan includes a replacement Level II recorder project. Development is underway and four potential devices have been ordered for testing. A field test is scheduled for FY01. However, budget uncertainties could jeopardize the planned FY02 and FY03 deployment of new recorders.

The OSF is participating in a demonstration project with the National Severe Storms Laboratory, the NCDC, and the University of Oklahoma to centrally archive Level II data in real time. In these cases, the data is compressed so that it fits on a 56 kbps phone line and is sent to the NCDC via high-speed communication networks. Implementing this approach network wide would eliminate recording of Level II data at field sites, but the tradeoff is in communications costs. The demonstration will evaluate central collection from a data rate, data quality and cost performance perspective.

The "WSR-88D Archive Level II Operating Policy and Procedures" which implements the 1994 NEXRAD Program Management Committee Level II Data Collection Plan was updated in 1998. This document was sent to all RDA sites and also appears as Appendix E in Weather Service Observing Handbook No. 9. It states, "When time permits or when maintenance personnel are at the RDA shelter for other maintenance activities, they should execute Level II equipment preventative maintenance actions at the frequency

Real-Time Base Data Distribution

With the end of the NEXRAD Information Dissemination Service (NIDS) agreement approaching, 31 December 2000, there is increased interest in the private sector and among researchers for connecting to WSR-88D systems to receive base data (Level II) in real time. The OSF and NEXRAD agencies are aware of this interest and are defining an updated policy and procedures for these potential connections.

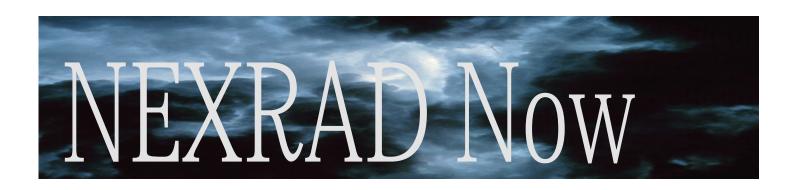While we need to make WSR-88D data available in an open manner, we must ensure that WSR-88D operations are not adversely impacted by external connections and that the impact to facilities and staff are minimized. Agreements for connections will likely state that the NEXRAD agencies do not guarantee a continuous flow of data, only the minimum required communications equipment may be installed in the NEXRAD agency facility, and access to the facility can only be granted by the site manager.

The plan prior to the installation of Open RPG is to permit external users to connect to one of the approximately 40 Radar Interface Data Distribution System (RIDDS) already in place. (Each RIDDS has an 8-port hub and no site has more than three ports in use.) After the Open RPG is deployed, beginning in FY01, the Base Data Distribution System (BDDS) will provide the capability for external connections to the base data stream in real time. The BDDS will only be installed on NWS systems and a few select DOD systems to meet NEXRAD agency requirements.

The OSF is working with the NEXRAD agencies to update the connection policy. The NEXRAD Program Management Committee will need to approve the updated policy before it takes effect. The OSF will ensure each site receives a copy of the policy and implementing procedures. The target for approval of the policy is the end of the year 2000.

Tim Crum, Chief
OSF Operations Branch

Level II Archiving

directed in the technical manuals." The policy also states, "Level II equipment will be repaired at the priority the local site management assigns." Hence, the Level II recorders are <u>not</u> viewed as a critical part of the WSR-88D operation and Level II maintenance activities should be scheduled accordingly.

In response to field requests for Level II assistance, the OSF Hotline and Engineering Branch will "triage" Level II assistance requests for technical information to determine if there is a known workaround or fix for the reported problem. If the problem will require several weeks/months to investigate and resolve, this will be done as resources become available. The OSF's focus will be on replacing the aging system.

Tim Crum, Chief
OSF Operations Branch
Deirdre Jones, Chief
OSF Engineering Branch

AC Ducting Modification For RDA Shelters

The OSF has developed a recommended/optional modification to the RDA shelter that will improve the reliability and service lifetime of transmitter components and shelter air conditioners. At this time, this modification is only applicable to single-channel systems. The modification consists of adding air conditioning ducting and has three major components: installation of sheet metal to direct the air coming from the RDA air conditioners directly to the transmitter (the largest heat source in the RDA), an "elbow" that directs the hot transmitter exhaust air toward the air conditioner intake, and installation of baffles to the exterior portion of the air conditioners to deflect the hot air coming from the compressor coils away from the air intake of the other air conditioner.

This modification, paid for by local site/regional/major command funds, costs approximately $2000 and can be installed without any radar down time. Tests and operational experience show that the modification reduces transmitter operating temperatures by 8° F, transmitter failures are reduced, air conditioners begin to cycle instead of operating continuously, and air conditioner life is extended.

During October, the OSF will send each RDA site a copy of the statement of work and drawings needed to task a local heating/air conditioner vendor to implement the modification (at the site's discretion). In addition, with this modification in place, the OSF recommends the continued use of two 5-ton wall-mounted air conditions. (Previously, the OSF investigated adoption of two 10-ton units as the standard air conditioner configuration.) The 5-ton air conditioner recommendation, plus the ducting, should provide improved cooling, require a lower air conditioner replacement cost, and reduce the possibility of a "power budget" problem at sites.

The OSF plans to soon begin work on developing ducting specifications for NWS and FAA redundant shelters. The goal is to provide guidance to redundant sites in early 2001.

Tim Crum, Chief
OSF Operations Branch

You've Got Mail

In an effort to provide a more robust electronic mail service to our customers, NOAA and the NWS are converting to Netscape mail. This conversion will cause all OSF e-mail addresses to change. The configuration of the new addresses will be First name.Middle initial.Last name@noaa.gov; for example: William.F.Haden@noaa.gov.

Addresses for the Hotline, Logistics and CM sections will also change. The new addresses will be as follows:

Nexrad.Hotline@noaa.gov
Nexrad.Logistics@noaa.gov
Nexrad.cm.comments@noaa.gov

To avoid lost messages, please make changes to address books as soon as possible. If you have any questions, please contact OSF Information Systems at (405) 366-6540 ext. 3257 or osf.is@noaa.gov.

Bill Haden, Chief
OSF Information Systems

NEXRAD Now

Spread The News

The wide variety of projects and research taking place within the WSR-88D community is amazing! There are also a number of new technologies that are being added to the NEXRAD system. Sadly, few people that are not directly involved in these projects and research activities are aware of these efforts.

To date, individuals working at the Operational Support Facility (OSF) in Norman, OK, have written most of the articles published in NEXRAD Now. This may be due to the fact that the OSF publishes the newsletter; therefore, the NEXRAD Now staff is aware of the activities and projects taking place at the OSF. However, NEXRAD Now is a publication meant to provide valuable information to the *entire* WSR-88D program. To best accomplish this task, we are seeking articles from every sector of the NEXRAD community.

NEXRAD Now is published three times a year – Spring, Summer and Autumn issues. Deadlines for article submission are posted in each issue of NEXRAD Now (see the shaded box on page 11, lower right-hand corner). However, we will accept articles at anytime and print them in the next published issue. We ask that articles be submitted in a uniform format of either Microsoft Word or Corel WordPerfect. If graphics accompany the articles, please provide the graphics as separate files in a .tif format of 300 dpi (or as high as possible). Please make a notation within the article as to where the graphics should be placed. Please submit articles electronically as an email attachment, zip, floppy or cd-rom to ruth.e.jackson@noaa.gov

Or

Ruth Jackson
Operational Support Facility

There's a wealth of information in our ranks – let's share it!

The Editor

Documentation in Cyberspace

The goal of the System Documentation Section (SDS) of the Operational Support Facility (OSF) is to provide documentation to the field as quickly and accurately as possible. In an effor to meet this goal, SDS is utilizing the World Wide Web (Internet). SDS is now posting copies of all modification documents on the Internet for quick and easy retrieval. These documents include NWS Modification Notes, Maintenance Notes and Software Notes; FAA Electronic Engineering Modifications (EEMs), Site Publication Bulletins (SPBs), and Notices; as well as DoD Time Compliance Technical Orders (TCTOs).

Internet availability of these documents is especially helpful for Air Force Major Commands (MAJCOMs) and NWS Regional Headquarters, as they strive to track active modifications to the WSR-88D system. An added bonus of posting these docments on the Internet is that field sites can view, print and perform searches on complete documents, including procedures. This is especially helpful if the document previously mailed to the site has been lost or if a cup of coffee was accidentally spilled on it.

A complete inventory of documents and links can be found at http://www.osf.noaa.gov/ssb/sysdoc/queries/techman/sect2b.asp

Jerrod Walker
STA/OSF System Support Branch