

SHARES

BULLETIN

March 26, 1999

HF RADIO PROGRAM



The SHARED RESOURCES (SHARES) High Frequency (HF) Radio Program provides a single, interagency emergency message handling system by bringing together existing HF radio resources of Federal, state and industry organizations when normal communications are destroyed or unavailable for the transmission of information supporting national security and emergency preparedness (NS/EP). SHARES is one of a number of initiatives sponsored by the National Communications System (NCS) in its role of planning and preparing for NS/EP. SHARES is available on a 24-hour basis to support intra- or interagency mission requirements. Use of the flagword "SHARES" is all that is needed to get the critically important information through.

Hurricane Operations

The official hurricane season runs from June 1 to November 30. With the potential added impact from El Niño and La Niña, forecasters predicted that the 1998 season would see an increase in hurricane activity. The predictions proved all too true, making 1998 one of the busiest hurricane seasons to date, and resulting in the busiest operational year yet for SHARES.

The SHARES Coordination Network (SCN) underwent nine Operational Level changes as a result of hurricane threats alone. 2160 Station Availability Reports were processed. Thirty-three Federal, state, and industry organizations participated. Five Operational Level changes were in response to back-to-back threats from Hurricanes Bonnie, Danielle, and Earl. Hurricane Bonnie led the way on August 26 when at 6:00 a.m. (EST), Operational Level Change Notice 98-5 was issued for Level 1 operations. As Bonnie diminished three days later, the threat from Hurricane Danielle intensified. While this new storm was being tracked by the National Oceanic and Atmospheric Administration's GOES satellite, the SCN was changed to Operational Level 2. With Bonnie downgraded to a tropical storm, and Hurricane Danielle proving to be a non-threat, SCN Level Change Notice 98-7 returned the SCN to Level 3 on August 28.



SHARES operations during Hurricane Georges

On September 2, the SCN was again placed at Operational Level 2 for 24-hours as a result of Hurricane Earl striking the Mississippi Gulf Coast. Although SHARES messages were limited during these operations, status and situation reports were processed. The operations provided an excellent opportunity to assess and strengthen SHARES readiness in preparation for the next one, Hurricane Georges, which arrived two weeks later.

Entering the Caribbean on September 21, Hurricane Georges slammed into the Virgin Islands, Puerto Rico, and the Dominican Republic causing wide-spread damage. During the next 10 days, the SHARES Emergency Management System logged 1469 Station Availability Reports. Eight SHARES Operations Summaries were issued. Four STAR units deployed to the Caribbean and Mississippi Gulf Coast. SHARES messages consisted of notifications, situation and status reports, notices of life-threatening events, and requests for information from FEMA, AT&T, FAA, Customs, the American Red Cross, the Navy, and the U.S. Congress.

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**NATIONAL COMMUNICATIONS SYSTEM**OFFICE OF THE MANAGER
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MEMORANDUM FOR SHARES PROGRAM PARTICIPANTS

January 27, 1999

SUBJECT: SHARES Tenth Anniversary, 1989 - 1999

1. The 1980s saw important advancement in HF radio technology. Production of automated HF radios employing "advanced" or "adaptive" processing techniques was expanding, and the Federal government was buying. It became apparent, however, that radios from different HF vendors could not talk to one another. Federal organizations conducting joint operations were isolated when it came to HF communications. In 1985 the National Communications System (NCS) reported on the lack of interoperability of automated HF radio systems and recommended that Federal standards be established for automated HF radios. The report also recommended a Federal committee be established to develop a Concept of Operations for a national HF radio network to support national security and emergency preparedness (NS/EP). Work immediately began on a family of HF radio standards, and a committee made up of representatives from throughout the Federal government began meeting regularly to develop the Concept of Operations.
2. The NCS approved a Concept of Operations for a national HF radio network using resources of NCS member organizations. On January 27, 1989, the White House also approved the concept, issuing NCS Directive 3-3, SHARES HF Radio Program. The SHARES HF Interoperability Working Group was established as a standing Federal committee to implement the national HF network, and foster interoperability through examination of regulatory, procedural, and technical issues. By the end of 1989, the first editions of NCSM 3-3-1, SHARES Manual, and NCSH 3-3-1, SHARES Directory, were published; and the first operational SHARES message was transmitted by the Department of Veterans Affairs during Hurricane Hugo. Concurrent work on a Federal HF radio standard resulted in the publication of the first in a series of HF radio standards, FS-1045, Automatic Link Establishment, in April 1991.
3. Since 1989, SHARES has grown to 1090 stations representing 72 Federal, state and industry organizations; over 250 emergency response personnel also participate. SHARES has demonstrated its capability to provide essential communications on dozens of occasions. Support from station personnel throughout the country is strong. Work on HF radio standards continues. Interoperability issues are being addressed by the 124 member SHARES Working Group. HF radio also remains the primary back-up communications for the Federal government. The White House reaffirmed this policy on July 3, 1997, with the statement that "contingency communications plans supporting the President and the nation...rely on HF as a primary backup system."
4. On this tenth anniversary of SHARES, the purpose for which it was originally established continues: To advance interoperability of Federal HF radio systems, and provide a national HF radio network capable of supporting national security and emergency preparedness (NS/EP).

A handwritten signature in cursive script, reading "L. M. Hicks".

CDR L. M. Hicks, USN

Chairman

SHARES HF Interoperability Working Group

This SHARED RESOURCES (SHARES) HF Radio Program Bulletin 99-11 is intended to keep participating SHARES HF radio station personnel and users of SHARES informed of program activities, operations, and items of interest in the area of HF radio and Federal HF radio interoperability. SHARES bulletins are prepared by the SHARES HF Interoperability Working Group, and distributed by the Chief, Operations Division (N3) Office of the Manager, National Communications System. Comments, or information for future bulletins, may be submitted to your SHARES HF Interoperability Working Group representative or to the SHARES Project Office, Office of the Manager, National Communications System, Operations Division (N3), Arlington, VA 22204-2198.

Station Spotlight



The National Coordinating Center for Telecommunications (NCC) is a joint government-industry organization established in 1984 to assist in the initiation, coordination, restoration and reconstitution of national security and emergency telecommunications services or facilities. As part of the National Communications System, the NCC is located within the Office of the Manager, NCS, in Arlington, VA.

A recently renovated state-of-the-art Radio Operations Center is located within the NCC to provide auxiliary radio communications in the event day-to-day communications are disrupted. A back-up facility with three operating positions is located adjacent to the NCC. The NCC Radio Operations Center also serves as the SHARES Master Coordination Station (KGD-34) and supports the SHARES Emergency Coordination Team by providing a direct link into the SHARES Coordination Network.

The NCC Radio Operations Center is configured for voice, data, ALE, HF to telephone (STI), and HF e-mail operations. The Center also maintains two 24-hour HF Bulletin Board Systems (BBS). Nine HF antenna systems support Center operations: three log periodics, three broadband dipoles, two vertical whips, and one long wire. To ensure compatibility, the Center uses a variety of HF radios, modems, software, and procedures.



CDR L.M. Hicks in NCC Radio Operations Center

SHARES Networks

This year's edition of NCSH 3-3-1, SHARES Directory, includes the three SHARES networks which, together with the SHARES Coordination Network, are used to coordinate processing SHARES messages.

SHARES Bulletin Board System (BBS) Network. The SHARES BBS network facilitates digital operations within SHARES. Stations with a BBS call sign listed under the CALL SIGN column monitor Channels 9 or 10 and can accept calls using the applicable digital modes listed under the CAPABILITY column. Upon completion of any on-air activity involving SCN Channels 9 and 10, stations should submit SHARES Form 3, SHARES Station (Events) Log, to the SHARES Project Office.



SHARES Telephone Interface (STI) Network. The STI network allows the integration of automatic and manual phone-patch capability to connect users of SHARES with either an inbound or outbound telephone connection. Channel 8 of the SCN is designated for STI use. Stations monitoring this channel have demonstrated the ability to conduct phone patches with any SHARES user. Stations needing a phone patch should call using the ANY CALL procedure. Stations participating in the STI have an "S" in the CAPABILITY column. A SHARES user can have connectivity



from or to any telephone or radio during a disaster using STI. Instructions for making contact from a telephone to any HF radio are contained in NCSH 3-3-1, Chapter 1.

SHARES Transportable Auxiliary Radio (STAR) Network. The STAR network is made up of transportable stations participating in SHARES. These stations operate from remote sites directly supporting emergency response personnel in their relief efforts. When operating as a STAR unit, a SHARES station is identified by the STAR call sign listed in the CALL SIGN column of NCSH 3-3-1. STAR stations are contacted using the same procedures and capabilities used for any operation.



SHARES Working Group Activities

Y2K Activities: The SHARES Working Group continues planning for the year 2000. The SHARES Coordination Network will begin Level 2 operations on December 26. SHARES stations will report availability at scheduled intervals, and the status of SHARES maintained. Several hundred stations are expected to submit Station Availability Reports during this period. At the first sign of a Y2K problem, SCN readiness will be increased to Operational Level 1, reserving the SCN exclusively for coordinating SHARES messages. The Working Group will continue to ensure the readiness of SHARES by conducting weekly station check-ins and SHARES exercises during the year. The SHARES Working Group is also increasing awareness of the need for Y2K compliance assessments of integrated HF radio systems supporting Federal missions. SHARES members are being encouraged to include SHARES as a back-up communications capability in Y2K contingency plans. The National Guard, for example, has identified HF radio and SHARES as the sole back-up communications for their Continuity of Operations Plan (COOP). The GSA has also included SHARES in the FTS Readiness Plan as a communications resource in the event Y2K problems occur. The FAA and FEMA have also included HF radio as the only planned communications in the event day-to-day communications are disrupted.



Outreach Activities: The SHARES Outreach Program continues to serve as an important tool in expanding awareness of SHARES and demonstrating the benefits of HF radio in supporting national security and emergency preparedness (NS/EP). The SHARES exhibit was featured at the *AFCEA West '99 Convention* held in San Diego, CA, on January 19-21. With over 4500 people in attendance, the exhibit highlighted SHARES on-air emergency operations during 1998, the SHARES Coordination Network, and current HF technologies. SHARES was also on the agenda of the Federal Telecommunications Standards Committee, HF Radio Subcommittee, and HF Industry Association meetings held in January. Discussions at these forums focused on U.S. and international HF standards development efforts, and testing parameters of third generation ALE. Upcoming events include hosting the SHARES exhibit at the *National Hurricane Conference* in Orlando, FL, on March 29-April 2; at the *National Disaster Medical System Conference* in Washington, DC, on May 9-11, and at the *AFCEA GovTechNet* in Washington, DC, on June 15-17. SHARES members also presented the SHARES briefing at the *MARS Region One Conference* in Columbus, OH, and at the *Southern California Emergency Response Institute* in Riverside, CA. To schedule the SHARES briefing or SHARES exhibit, contact the Chairman or the SHARES Project Office.

Action Items: The following Action Items are under review by the SHARES Working Group:

■ **Action Item 90-3, Automated HF Radio Network Management.** Addresses the need for central management of automated HF network parameters. NCSH 3-3-2, Federal Registry of ALE Address Codes, defines the address code structure and registered codes.

■ **Action Item 93-1, Development of HF ALE STANAG.** Addresses the need to develop an international standard comparable to FS-1045.

■ **Action Item 94-1, HF Interoperability with Public Network.** Provides an automated interface between HF ALE radios and the Public Network. The SHARES Telephone Interface (STI) includes manual-patch stations along with those with automatic interface capability. STI also includes formalized phone patch procedures.

■ **Action Item No. 97-1, HF E-mail Development and Operations.** Tracks activities related to HF e-mail development and operations. A list of activities dealing with HF e-mail by government and industry along with their points of contact is available from the SHARES Project Office.

■ **Action Item 98-1, FS-1045 Compliance.** Expands awareness of possible FS-1045 compliance and misrepresentation issues by industry.

Confirmation Cards

Acknowledging the contribution of those who participate in SHARES activities has always been an important part of the SHARES program. The SHARES Working Group has also placed considerable emphasis on keeping station personnel informed of on-going SHARES activities during emergencies, and providing members who participate in a SHARES activities an after-action summary.

In the past, most of this formal feedback was done through Letters of Appreciation and SHARES Certificates of Participation. Hundreds of Letters of Appreciation and over 2,400 Certificates of Participation are distributed annually. For many members, the certificates began to stack up. A change was needed. In July 1998, the Working Group approved SHARES Form 5, SHARES Confirmation Card. Each 4x6-inch card includes a picture representing the operation supported or some aspect of the SHARES program, an after-action summary of the event, and a list by call sign of the stations which supported the activity. As part of the SHARES Outreach Program, each card also highlights some aspect of SHARES. The Confirmation Card is not intended to replace the SHARES certificates. Both the SHARES Certificate of Participation and SHARES Certificate of Appreciation will continue to be used; just less often.

Confirmation Card 001, the inaugural card issued in August 1998, was distributed to all SHARES members to acknowledge member participation in SHARES. Follow-on cards are being issued only to those stations which participate in the activity and agency Points of Contact. Since the Confirmation Card concept was approved in July, six cards have been issued.

Electronic Administration

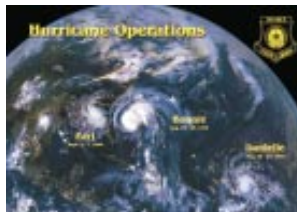
The SHARES Working Group continues to increase use of electronic processing to support SHARES administration. The Working Group has approved distribution of SHARES Operational Level Change Notices and SHARES Exercise Notices directly to members who have provided e-mail addresses. The 124 members of the Working Group have been receiving meeting minutes via e-mail since January 1998.

The biggest resource savings and improvement in operations came with distribution of the ninth edition of NCSH 3-3-1, SHARES Directory, dated February 24, 1999. One hundred-twelve new stations are included in this year's edition; six additional organizations contributed resources. Although the Directory has been available in computer-compatible format for the past few years, this is the first year in which distribution was made in either paper or CD-ROM format. This has reduced the number of paper copies of the 356-page Directory by 50 percent. Recipients of CD-ROMs were selected based on the results of the Computer Use Survey and level of participation in SHARES activities. The Working Group expects to further reduce the number of paper copies next year.

Members who received the Directory in paper form are encouraged to contact the SHARES Project Office to begin receiving the Directory in CD-ROM format. Members are also encouraged to provide the SHARES Project Office with an e-mail address; they may be sent to 'hfmail@shareshf.com'.



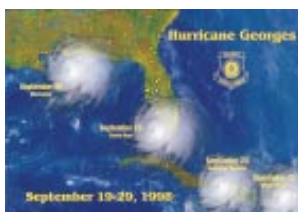
001 - SHARES Program Participation



002 - Hurricanes Bonnie, Danielle, Earl



003 - SHARES Exercise 98-2



004 - Hurricane Georges



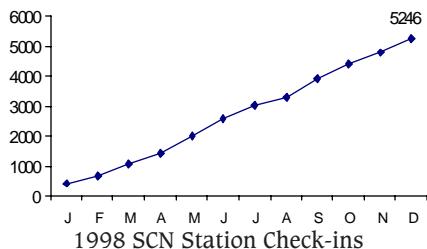
005 - Leonid Meteor Storm



006 - SHARES Exercise 98-3

SCN Check-ins

The ten SHARES Coordination Stations and five Regional Coordination Stations continue to receive station check-ins each Wednesday from 1600Z to 1800Z. Since the check-ins began, the number of stations providing Station Availability Reports has increased from



23 to over 125 stations per week. During 1998, over 5000 check-ins were recorded during the weekly 2-hour window. To check-in, a station submits a Station Availability Report using any of the 10 SCN channels. Channels 1 and 2 are used for voice operations; Channels 3-8 and Channels 9-10 are used for ALE and SHARES BBS check-ins, respectively.

MARS Participation

The DOD Military Affiliate Radio System (MARS) program represents a tremendous wealth of HF radio capability; both in numbers and talent. The three Service MARS programs alone have a combined total of over 9500 registered HF radio stations located worldwide. As one of the original SHARES participants, MARS has consistently provided professional and dedicated support. To better administer MARS participation in SHARES, the "Rule of 40" has been established to set the maximum number of MARS stations listed in SHARES to 40% of the total number of SHARES stations.

Readiness Exercises

The SHARES HF Interoperability Working Group continues to conduct three nationwide readiness exercises each year. While specific exercise objectives differ from exercise to exercise, general objectives remain the same: To provide station personnel training on SHARES message formatting and operating procedures, to expand awareness of SHARES within the Federal emergency response community, and to promote interoperability by assessing the interoperability of new HF technologies.

SHARES Exercise 98-2, originally scheduled for August 26, 1998, was rescheduled for September 18 due to Hurricane Bonnie. Although the exercise date was changed, specific areas of emphasis, to include digital modes, ALE, and STI operations, remained the same. One hundred fifty-five stations, representing 26 Federal, state and industry organizations participated. Three hundred-four SHARES messages were processed during the 10-hour exercise.

SHARES Exercise 98-3, conducted over two 8-hour periods on December 4-5, involved 262 stations representing 30 organizations. 723 check-ins were recorded; 515 messages were processed. This exercise marked the second in which multiple STAR units were deployed to a single location to support on-site operations. STAR units representing the NCC and N-MC MARS joined with the Idaho National Guard and Idaho EOC in Boise, ID, to conduct joint operations.



MG Jack Kane, Idaho Adjutant General, and Ken Carpenter, SHARES Project Office, during Exercise 98-3

The Idaho Bureau of Disaster Services participated in an exercise for the first time since recently joining SHARES. One hundred-sixteen SHARES e-mail messages were transmitted via HF radio from this site. The exercise also provided a first-hand opportunity to provide National Guard personnel training on HF radio procedures, and information on the role SHARES will play in supporting the National Guard's Y2K Continuity of Operations Plan (COOP). These exercises, coupled with the half dozen emergencies SHARES supported since August 1998, have provided an excellent opportunity to assess and strengthen SHARES readiness.

SHARES Exercise 99-1 will be conducted during two six-hour periods on April 2-3. Second day activities will support the VA Exercise Quake '99. Instructions for the exercise were included in the SHARES Exercise 99-1 Notice which was distributed to SHARES stations on March 15, 1999.