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MEMO

NORTH CAROLINA DIVISION OF EMERGENCY MANAGEMENT

MARS Winlink Provides Reliable Back-Up for Emergency Management Communications

Most in the emergency management community are aware that amateur radio provides backup communications to support public safety agencies. In the past, amateur radio has consisted of voice messages; relaying tactical information or resource requests on behalf of other agencies. But technological advances are changing amateur radio operations.

Tom Brown points to the Winlink equipment in the State EOC.

As in other industries, much of the day-to-day work of public safety agencies is conducted via email and internet-based applications such as WebEOC. When these systems fail or become overloaded, public safety could be diminished because critical agencies are no longer able to receive and send vital information in a timely manner.

In late 2008, amateur radio volunteer operators began installing a backup email system in several NCEM facilities to provide basic email service using a unique system developed by the amateur radio community. This system, called Winlink, allows computers to communicate via shortwave radio instead of using the internet or other conventional networks.

Since long-haul radio is the communications mechanism, Winlink stations can communicate with other facilities hundreds or thousands of miles away, without any in-between infrastructure. Using shortwave radio, Winlink can bypass dead, damaged, overloaded or other non-functional infrastructure.

The Military Affiliate Radio System (amateur radio operations in support of the U.S. Department of Defense) began allowing governmental agencies to operate within the MARS Winlink system in 2008. The MARS Winlink system differs from the Amateur-only system in several ways, such as:

- Large number of dedicated Winlink-only frequencies in the military frequency bands
- Large number of remote mail servers, many in hardened facilities
- Ability to encrypt messages
- Can be connected to a Local Area Network
- Doesn't require the presence of an amateur radio operator to use the system.

In December 2008, NCEM received agency licenses from MARS and began installing equipment. By June, NCEM three fixed terminals were installed and running in Raleigh, Kinston and Conover. The system uses a standard email program, similar to Outlook Express, so minimal training was required.

Continue on page 2

INSIDE THIS ISSUE:

Durham County Weather Workshop	Pg 2
Mitigation Funds Awarded	Pg 3
Commodity Study	Pg 3
NCEMA Fall Conference Summary	Pg 3
Char-Meck. High-Rise Exercise	Pg 4
2009 World Flood Fighters Conference	Pg 4
NEMA Fall Conference Summary	Pg 5
Durham County LEPC Exercise	Pg 5

Winlink Continued

The amateur radio folks continued to tweak the system until they were satisfied that the maximum performance and reliability had been achieved. At that point, they were eager to test the new technology in an exercise.

As an active member of the State Emergency Response Team, the North Carolina Amateur Radio volunteers are often called upon to relay safety messages during storms or other disasters. Members of the group regularly work and train with local and state emergency management officials. And the statewide earthquake exercise provided an ideal opportunity to test the new Winlink system.

Winlink Equipment:The modem (gray) receives the email from an email application and with the transceiver (black), turns it into a radio wave frequency for distribution to the intended party.

In the exercise, an earthquake disabled all communications to Buncombe and surrounding counties. Within 10 minutes, the amateur radio partners established traditional voice communications with the affected areas, the western regional coordination center (RCC) and the state emergency operations center (EOC). They then used the Winlink system to establish email communications between amateur/MARS operators in the affected areas, the RCC and the EOC.

During the exercise two real-world problems made exercise participants even more dependent on amateur radio and the Winklink system. WebEOC developed some technical problems and contractors accidentally cut fiber optic lines at the western branch office, disabling the internet. Since the earthquake scenario rendered useless the phone lines, fax lines and VIPER radio at the western RCC, the only possible remaining communication with outside agencies was through amateur radio and Winlink.

Within a few minutes of the failure, messages were rapidly moving once again, this time over shortwave radio thanks to the MARS Winlink system. Since the Winlink system is connected to the LAN, NCEM personnel were able to conduct business directly from their regular operating positions without any intervention. It was email-business as usual, only the messages were transported by MARS Winlink instead of the internet.

"This exercise demonstrated the true capability of the MARS Winlink system by providing email service during a situation where all communication infrastructure would be destroyed" said Tom Brown, N4TAB, Amateur Radio Operator and Assistant Section Emergency Coordinator for North Carolina Amateur Radio Emergency Service.

"It was a busy exercise. Amateur radio had a lot of activity supported by volunteers across the state," Brown said.

"Winlink gives the state reliable backup capability to ensure we maintain communications with our first responders and government agencies in the event of the unthinkable: the complete and total loss of conventional communications technologies," says Clay Benton, NCEM Communication Center Manager.

More information, see: Amateur Radio: www.arrl.org/newham MARS: www.netcom.army.mil/mars Winlink: www.winlink.org

Durham County Hosts Weather Workshop

Durham County Emergency Management will hold a free weather workshop on Wednesday, Nov. 4. The workshop is designed for decision makers in public and private organizations who depend on advanced weather information when making operation decisions. It is scheduled to run from 9 a.m. until 12 noon at the Durham Public School Staff Development Center.

Jeff Orrock, the state's warning coordination meteorologist from the Raleigh National Weather Service Office is scheduled to speak and answer questions.

If you are interested in attending, contact David Marsee, Durham County Fire Marshal/Emergency Management at 919-560-0660 or dmarsee@co.durham.nc.us.

Towns & Counties receive Funds to Mitigate Damage from Future Disasters

By Steve Powers, NC Emergency Management

Federal Emergency Management Agency recently notified NC Emergency Management of the 2009 Hazard Mitigation Assistance grant program awards. Hazard Mitigation Assistance grants help fund activities and projects that protect life and property and reduce losses from future disasters.

The following entities received grants to update their hazard mitigation plans:
Beaufort County $37,350
Caldwell County $18,750
Caswell County $26,250
Chowan County/Town of Edenton $15,000
Craven County $37,350
Town of Kitty Hawk $11,250
Town of Pembroke $6,000
UNC System Eastern Campuses $600,000

Mecklenburg County received $576,637 in hazard mitigation funds to acquire four flood-prone properties. The county received an additional. $3.5 million through the Flood Mitigation Assistance grant program to acquire the Doral Apartment buildings which have flooded repeatedly in recent years.

Winston-Salem received $339,000 in Repetitive Flood Claims grants to acquire two properties and Clinton received $122,600 in Severe Repetitive Loss grants to buy out one property.

NCEM Hazard Mitigation staff members are currently working on project development activities and working with eligible sub-applicants for the hazard mitigation assistance 2010 funding cycle.

Contact Steve Powers, Hazard Mitigation at 919-715-8000 ext.268 for further information regarding hazard mitigation programs and opportunities.

Agencies Study How Hazardous Materials Are Transported

NC Emergency Management assisted Buncombe and Henderson counties on a regional commodity flow study performed by the Asheville Fire Department. The study, done in September, evaluated how much hazardous materials are transported in and out of the state via the highway. The study focused on two check points; one on Interstate 40 in Buncombe County, west of Asheville and the other on Interstate 26 in Henderson County, west of Hendersonville.

Researchers recorded the different types and quantities of hazardous materials carried by trucks and then passed the data to the U.S. Department of Energy. The official report will be available by December. From the report, local officials hope to gather a better idea of how much hazardous materials travels through the area. NC Emergency Management assisted by collecting data and handling paperwork. For more information, contact Asheville Fire Department at 828-259-5636.

NC Emergency Management Association Holds Fall Conference

The North Carolina Emergency Management Association held its fall conference Oct. 18-21 in Hickory. The conference provided a way for emergency management personnel to meet face-to-face to learn about and discuss current emergency management issues.

More than 30 sessions covered a variety of topics including: federal emergency management initiatives; FEMA's policy direction; RENCI technology update; evacuation planning; lessons learned from recent disasters; and the impact of social media on public safety.

More than 200 participants attended the conference.

NCEM Director Doug Hoell (r) speaks with Norma Houston (l) and Clint Osborn (m).

Charlotte-Mecklenburg Hold Evacuation Exercise with High-Rise Building

By Michael Tobin, Charlotte-Mecklenburg Emergency Management

On Oct.12 multiple Charlotte agencies participated in a full-scale exercise to evacuate a building housing the elderly, some of whom require around-the-clock medical care. The exercise simulated a natural gas rupture near Edwin Towers, shutting off all utilities to the building.

First responders evacuate a resident using a city bus.

Located in downtown Charlotte, Edwin Towers is a 12-story high-rise building home to 125-residents; it is owned and operated by the Charlotte Housing Authority.

The exercise tested plans and procedures to evacuate a building of this type under extreme conditions. As part of the exercise, crews relocated all residents, even ones with special medical needs, to an off site shelter, fed them and then returned them back to their homes.

Since utilities were shut off, first responders evacuated the building by stairs, manually assisting residents, including those wheelchair bound, down several flights of stairs.

Edwin Towers and Charlotte Fire Department Truck.

Members of Charlotte Fire Department help a resident down the stairwell at the Edwin Towers.

It took approximately 80 minutes to evacuate the building. The Charlotte Fire Department committed a 2nd Alarm High Rise Assignment to the exercise which consisted of approximately 50 firefighters and nearly a dozen vehicles. Charlotte-Mecklenburg Emergency Management participated in the exercise as evaluators and documented lessons learned and corrective actions for future exercises. Staff from the National Institute of Standards and Technology, a division within the Department of Commerce, was also on-site to gather information for a national study they are conducting on high-rise evacuations.

"All indications from participating agencies said this was a very successful and beneficial exercise. Many lessons were learned which will be used in real-life events if and when they occur," said Michael Tobin, planner for Charlotte Mecklenburg Emergency Management.

The agencies involved in the exercise included: Charlotte-Mecklenburg Police Department (CMPD), CMPD Animal Care & Control, Mecklenburg EMS Agency (MEDIC), Charlotte Area Transit System, Charlotte Department of Transportation, Charlotte Housing Authority, American Red Cross, Mecklenburg County Department of Social Services, and Mecklenburg County Council on Aging.

For more information, contact Michael Tobin at mtobin@ci.charlotte.nc.us

2009 World Flood Fighters Conference

The Charlotte Fire Department and the Chief Fire Officers Association hosted the first World Flood Fighters conference in October to bring together fire fighters, first responders and emergency management staff from the United States and United Kingdom to share best practices, programs and lessons learned in combating major floods.

More than 70 people participated in the conference to gain a better understanding of international disaster management structures, identify emerging strategies and technological advancements in responding to disasters and major flood events. The United Kingdom has held similar annual symposiums for a number of years; this is the first such international conference. It was held at the Charlotte Fire and Police Training Academy.

Crime Control and Public Safety Secretary Reuben Young gave the key note address. Deputy Director Mike Sprayberry talked about major disaster response and breaking down barriers in multi-agency working relationships.

"The conference provided an excellent opportunity for Flood Fighters in NC to share with UK Flood Fighters world how we are continuing to work with our counterparts to improve disaster response through stronger relationships," said Sprayberry.

For more information about the World Flood Fighter organization, visit www.flood-fighters.com/usaIndex.html

NEMA 2009 Fall Conference

The National Emergency Management Association Conference was held in Columbus, Ohio Oct. 9–13. The conference provided a forum for emergency management personnel from all 50 states, eight territories and the District of Columbia to discuss national and regional emergency management strategies. The conference provided an opportunity to form strategic partnerships with other state officials and brainstorm potential programs and collaborate on policy positions. NCEM Director Doug Hoell and Assistant Director Elaine Wathen attended the conference.

FEMA Administrator Craig Fugate described how FEMA is not *the* team but rather only *part* of the team that includes state and local governments. Fugate also emphasized that the community needs to be included in disaster planning; plans should include children, people with disabilities, low income individuals and families, and non-English speaking citizens.

Beth Zimmerman, Assistant Administrator for Recovery Programs for FEMA, explained how various processes are being evaluated. These processes include: the individual assistance disaster declaration process, the process for requesting and receiving disaster declarations, and the overall administration process for recovery. Zimmerman noted that management authority of the recovery process will go the FEMA regional offices over time.

"I am very encouraged about FEMA's future under Craig Fugate's leadership," said Hoell. "I'm also confident that FEMA's new leadership will address recovery issues that will have direct bearing on North Carolina's long term recovery should we experience another significant disaster," says Hoell.

Workshop handouts and presentations can be viewed on line at www.nemaweb.org/?3193.

Durham County LEPC Exercise

More than 50 emergency response personnel from 20 different government agencies, non-profit organizations and local businesses in Durham County met in September to discuss their emergency response protocol to a chemical accident. The Durham County Local Emergency Planning Committee (LEPC) planned a tabletop exercise to provide organizations an opportunity to test their emergency response plans.

An evaluator listens to discussion from the Durham County LEPC .

The scenario began with a rail car leaking chlorine on the Brenntag property, an industrial company located in east Durham. The spill site was close to fortune 500 businesses, colleges, universities and public / private schools and restaurants. The group discussed their response plans and procedures as events escalated from the initial crash, injuries and smell of chlorine to the appearance of a chlorine plum, to public panic and a large scale evacuation.

The exercise was funded through a grant from the N.C. Emergency Management Division. NCEM provides funds to LEPCs to write and update plans and to conduct exercises and drills. The Hazardous Material Emergency Preparedness grants provide financial assistance to LEPCs and emergency responders for hazmat training.

Every county in North Carolina has a LEPC that meets on a regular basis. For more information, contact John Steinauer at 919-715-8578 or jsteinauer@ncem.org

NORTH CAROLINA Emergency Management

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"In the Business of Saving Lives and Protecting Property"

The North Carolina Division of Emergency Management was formed in 1977 to coordinate the preparedness, response, recovery and mitigation activities of all agencies for emergency management within North Carolina. It performs this mission by planning, organizing, staffing, equipping, training, testing and activating emergency management programs during times of need.