After Action Report: OBRA Public Service Support to Dare County Emergency Management HUREX 2024

Date of Exercise: June 13, 2024
Prepared by: KY4RY – Malcolm Green
Date of Report: June 14, 2024

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1. Introduction

The Dare County HUREX 2024 Emergency Management Exercise was conducted on June 13 2024, to test the readiness and efficiency of various emergency response teams, including the Outer Banks Amateur Radio support and capabilities. The exercise simulated a major hurricane event impacting the county, requiring coordinated efforts across multiple agencies and communication channels. The Exercise was conducted at the Dare County Emergency Operations Center (EOC) 370 Airport Rd, Manteo. Outer Banks Repeater Association (OBRA) members deployed to the EOC, Fire Stations, Outer Banks Hospital as well as many HAMs operating from home 'ham shacks' to provide essential Net Control and support functions. List of participants is provided at Annex.

2. Amateur Radio (OBRA) Objectives

- To evaluate the effectiveness of local amateur radio communication in support of Dare County Emergency Management operations.
- To test the integration and interoperability of amateur radio with other communication systems, e.g. WinLink, WebEOC.
- To assess the readiness of amateur radio operators in responding to emergency situations.
- To identify areas for improvement in training, equipment, and procedures.

3. Participants

- Senior Dare County Elected officials
- Dare County Emergency Management (DCEM)
- Dare County Municipalities
- Outer Banks Amateur Radio Emergency Service
- Local law enforcement and fire departments
- Emergency Medical Services (EMS)

4. Scenario Overview

The exercise scenario involved a major Category 3 hurricane making landfall in Dare County causing; Catastrophic damage, power outages, communication disruptions and casualties. In line

with North Carolina policy the exercise response was structured and executed in accordance with the Incident Management System (ICS) a component of the National Incident Management Systems (NIMS). While AUXCOM certified Amateur radio operators can be called upon to provide backup communication links, relaying critical information between emergency response teams, and supporting shelters and evacuation centers our capabilities under this exercise scenario was limited to demonstrating willingness and ability to deploy to critical EM locations, establish Net Control to accurately and timely pass information to the EOC. No non-HAM capability was therefore activated such as the Voice Interoperability Plan Emergency Responders (VIPER) (P25 800MHz) Net.

5. Execution and Performance

5.1 Communication Setup

- **Pre-Exercise Preparation:** Peggy Cathey - WN4PEG called for volunteers and received outstanding response demonstrating OBRA commitment to public service and support. Peggy coordinated the volunteers and produced a manning schedule for duration of the Exercise, approximately seven hours 09:00 thru 16:00. Exercise Management Team provided limited pre-exercise information, however, beyond hurricane tracking and prediction data it wasn't until the opening Operations Briefing (09:00) by Dare County Emergency Manager Drew Pearson, that the exercise 'battle rhythm' became clear.

  The exercise would be conducted in three phases,

  Phase 1 Pre-Land Fall, - preparation planning public safety

  Phase 2 Post Land Fall– incident response

  Phase 3 Long Term Recovery - action planning.

  As with any exercise a number of 'live injects' were generated at the EOC for emergency planners and managers to action while continuing their primary Emergency Management functions. In addition to these Live Injects, additional random incident injects were passed to exercise players including OBRA volunteers. As with the Live Injects these incidents were generated to simulate real event experience in a hurricane. In all 100 live injects were planned with 75 executed. As stated, the exercise was conducted in accordance with the ICS and as such WebEOC is the mandated platform for emergency planning and response. Access to WebEOC was therefore essential to follow the exercise and maintain situational awareness. Mandatory products required under ICS, e.g., Incident Action Plan and regular Situation Reports were therefore published on WebEOC.

- **Deployment:** HAMs were deployed to key locations, including the Emergency Operations Center (EOC), Fire Stations OBX Hospital and home base stations.

5.2 Communication Operations

- **Voice Communication:** A formal Exercise Net with Net Control was established exploiting the OBRA VHF analog radio repeaters for voice communication. Operators successfully relayed messages between the EOC and field units.
- **Data Communication:** Winlink was used for e-mail message transmission, ensuring accurate and efficient data sharing exploiting HF, TELNET, and StarLink SAT communications.
- **Interoperability:** No Net Ops, or Coordination with other communication systems, such as VIPER radios, was exercised.

- 5.3 Challenges and Solutions

- **Challenge:** Net Control, it quickly became evident that Net Control was overwhelmed with its Control responsibilities while concurrently attempting to transcribe injects and forward via WebEOC while continuously receiving Net traffic.
  - o **Solution:** Initial Net Control, KW4ZL Joe Raffa was operating with KM4ZBF Chick Raffa and recognizing the situation took action to divide responsibilities between Net Control and support 'Scribe", entering inject(s) into WebEOC. This proved an effective solution and was continued throughout the exercise with;
    - ▪ N1PLV Duene Tuberville, KN4LBG Margaret Janes transcribing injects into WebEOC.
    - ▪ This was augmented with K4USB Lue Browning and W4KOB John Demaim transcribing injects via WinLink.
  - o This distributed team working proved to be an effective solution, and will be adopted for future incidents, however, it does raise another challenge. Given our limited resources many of which may evacuate during a live event, having enough volunteers to meet these needs over a 24 hour shift multi day event will be a challenge.
  - o These Operators quickly identified the problem and adapted their approach to an efficient division of responsibilities resulting in effective operations minimizing risk, errors or missing critical Net traffic.
  - o The potential viability of using HAMs remotely, who have evacuated, in a support 'transcribing' role via WebEOC or WinLink needs to be discussed as to whether viable.

- **Challenge:** WinLink HF Limited propagation impacted the ability to exchange traffic via WinLink HF.
  - o **Solution:** Messages were passed via TELNET internet connection, however, as the exercise progressed internet as well as Cell services were stated as being severely impacted therefore this solution would not be viable. It is expected however that HF propagation would be more favorable under hurricane conditions based on past experience.   A number of messages were successfully delivered via

OBRA private StarLink internet services.   This option will be further investigated.

- **Challenge: Many Operators reported need for greater information between OBRA EOC operators and those external.**
  - o **Solution:** One of the OBRA objectives was to understand the utility of WebEOC for access to Emergency Management dashboards, information and status reports as well for inputting information to the EOC.   Clearly in terms of maintaining Situational Awareness, reliance on WebEOC proved ineffective and a process whereby the OBRA EOC operator will need to provide routine hourly operational updates, while providing essential major updates timely and as they occur.

- **Challenge: Inability to gain access to Avon Fire Station – Station 46**
  - o **Solution:** This is an unmanned volunteer station and although access codes are held with OBRA officials no codes for station 46 are held. N4ACT Jim Bailey will investigate potential solution.

- **Challenge: Inability to access full WebEOC functionality on MacBook Pro. Logon successful and dashboards display correctly but unable to display documents and or reports.**
  - o **Solution:** Issue identified as a SAFARI browser issue. Switched to MS Edge Browser without further issues.

- **Challenge: One Exercise Task on all staff was to produce a 5 Day Manning Schedule; This will be a major challenge for OBRA especially during a major real event when many HAMs may evacuate.**
  - o **Solution:** no immediate solution, this will be on a case-by-case basis and dependent upon availability of volunteers**.**

- **Observation:** Other observations and suggestion made by participants for further discussion within OBRA membership.

- Co-location of Fire Station Ham Radio with other radios and audio equipment caused distraction and concern of missing emergency or critical traffic. Suggestion to consider providing headphones as solution.

- Provision of digital recording devices makes capture and retransmission easier and removes risk of error or missing critical data elements.
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- At least one Operator experienced WebEOC Timing out after approximately 2 hours.
- Desire expressed that we exercise capability more frequently to maintain and develop knowledge and skills.
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6. Outcomes

6.1 Positive Outcomes

- **Reliable Communication:** OBRA Net proved a reliable communication link, especially during periods of high traffic and when other systems failed.
- **Effective Coordination:** Seamless integration with emergency management operations demonstrated the value of amateur radio in a comprehensive emergency response plan.
- **Operator Performance:** Operators displayed high levels of proficiency and adaptability, successfully managing communication under stressful conditions.
- **Working with and alongside DCEM staff** who wanted to question and understand role and benefits of HAM Radio for their operations**.** Dare County Water Manager expressing desire to license some six staff to better coordinate emergency response.

6.2 Areas for Improvement

- **Training:** Additional training identified as a general need for WebEOC.
- **Equipment:** Nothing specifically identified, however, potential loss of Mamie Repeater discussed with Dare County Manager. Noting suggestion for Headphones in Fire Stations and Digital Recorders.
- **Procedures:** Definition and need for a number standard operating procedures (SOPs) to streamline communication workflows and reduce response times. These can be ICS based procedures to include templates to facilitate accurate communications if ICS form not available.

7. Recommendations

- **Conduct Regular Drills:** Schedule regular drills involving amateur radio operators to maintain readiness and improve skills. There are a number of HAM Clubs willing to exercise together. If formal WebEOC training not available prior to peak '24 hurricane season then potential self-help group training session maybe beneficial. There is a great deal of information available on line.

- **Upgrade Equipment:** No specific recommendations beyond maintaining current OBRA coverage and performance.
- **Expand Training Programs:** Investigate training programs focusing on WebEOC, WINLINK, ICS emergency procedures, and interoperability.
- **Enhance Collaboration:** Foster closer collaboration between amateur radio services and other emergency response agencies through potential joint exercises and planning sessions.

8. Conclusion

The Dare County Emergency Management Exercise demonstrated the critical role of amateur radio in emergency response operations. Despite minor challenges, the exercise confirmed the capability and dedication of amateur radio operators to provide essential communication support. Implementing the recommendations outlined in this report will further enhance the effectiveness and reliability of amateur radio services in future emergency scenarios.

Submitted by:
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Recommended further information;

> [North Carolina TERMS – Training Exercise Response Management System](#)
> [FEMA Emergency Management Institute – Student Portal](#) Free on-line ICS training

WebEOC Training
> Juvare – [Introduction to WebEOC](#)
> Video [WebEOC tutorial](#)
> Monroe County Basic [WebEOC training](#)

[EMCOM Training](#) – WinLink focused

ANNEX – OBRA HUREX 24 Volunteer Manning

NAME	NET CONTROL	STATION OR LOCATION	RADIO	WEBEOC	WINLINK	SHIFT	EMAIL
Jim Bailey		EOC				10:00-5:00	n4act@earthlink.net
Malcolm Green		EOC				10:00-5:00	malcolm.green@obxco.com
Dave Weik		EOC				12:00-5:00	KB7ZZ@ARRL.NET
Joe Raffa	X	Home	X	X		10:00-12:00	raffajm@verizon.net
Lou Browning		Home	X		X	10:00-12:00	obxfalcon@gmail.com
Jerry Bosley		Home	X		X	10:00-12:00	gerglbos@msn.com
Duane Tuberville		Hospital	X	X		10:00-12:00	n1plv@aol.com
John Kueck		NHFS 16	X			10:00-12:00	KUECKJ@BELLSOUTH.NET
Peggy Cathey		Manns Harbor	x			10:00-12:00	peggy.cathey@gmail.com
Ron Gendreau		Collington	X			10:00-12:00	rongend15@gmail.com
Richard Marlin		HI Rescue & Station 42	X			10:00-12:00	marlins.rm@gmail.com
Margaret Janes		Home	X	X		10:00-12:00	mjanes100@gmail.com
Bill Hedspeth		KDH FS 14	X			10:00-12:00	whedspeth@gmail.com
Carl Hacker		Duck FS 11	X			10:00-12:00	carl.hacker@outlook.com
Don Rice		Avon FS 46	X			10:00-12:00	yorktownrices@gmail.com
Chic Raffa	X	Home	X			12:00-2:00	raffajm@verizon.net
Fred Newberry		Home	X		X	12:00-2:00	fnewberry@comcast.net
John Demain		Home	X		X	12:00-2:00	oopiebuddy@gmail.com
Ron Seidman		KDH FS 14	X			12:00-2:00	roncin207@aol.com
Brad Wise		NHFS 16	X			12:00-2:00	bradwisesr@gmail.com
Ramona Bosley		Manns Harbor	X			12:00-2:00	rasbosely@gmail.com
Tom Atwell	X	Home	X			2:00-4:00	kd2u@arrl.net