

Eastern MA ARES Summer Exercise 2024 Scenario and Guidelines



Eastern MA ARES

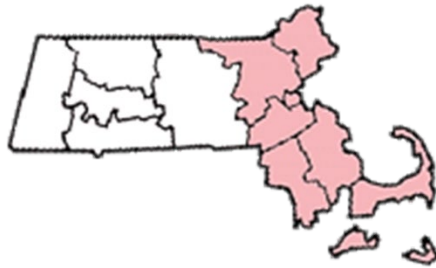
Section Exercise: **“Big Blow”**

Frank O'Laughlin – WQ1O
and the Eastern MA
ARES staff

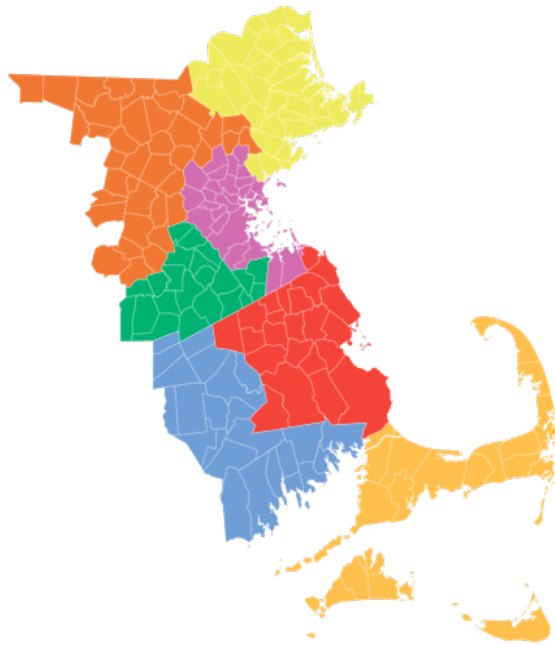
Version 1.6
07-31-24

Table of Contents

Purpose	4
Scenario	5
ARES groups and simulated activities	7
Exercise Objectives	7
Operational Ground Rules	8
ARES/RACES	8
Message Handling	8
Setup and Timeline	8
Exercise Disclaimers	8
Exercise activities	9
Field Situation Report	9
SKYWARN Tactical damage report	11
NETS and mode of operations	11
HF voice operation	11
75m Net operations	11
60m voice operations	11
VHF/UHF voice operation	12
6m voice operations (Tentatively scheduled)	12
HF and VHF/UHF Winlink operation	12
Echolink/IRLP operation	12
NTS Health and Welfare operation	13
NTS operations on HF NBEMS	13
Eastern MA Section NTS Nets	13
Minute Man Repeater System operation	14
Metrics for participation	14
Exercise Frequency Usage	14
Group Operations	16
Rhode Island Section Participation	16



Eastern MA ARES Map



Date and time of Exercise

Saturday August 3rd, 2024

Setup time: 8:45am

Start Time: 10:00am

End Time: 12:00pm

Operational Duration: 2 hours

Purpose

The Eastern MA Section Amateur Radio Emergency Service will conduct a summer operations exercise to test its capability in establishing communications with stations within its section and outside it under simulated emergency conditions. The operational exercise called “**Big Blow**” will test the ability of several home stations, EOCs, possible field sites and other stations to communicate. The exercise will attempt to build upon the lessons learned from our past operational exercises.

Scenario

The tropical Atlantic hurricane season has already been an incredible season so far. This was expected with sea surface temperatures being anomalously high basin-wide and a La Nino condition conducive for tropical development. On July 25th, Hurricane Kendra came up the east coast of the US impacting southern New England as a category one system with 85mph winds as it made landfall on Cape Cod in the early morning hours. Significant power grid damage occurred across the Cape and Islands where winds gusted over 93mph. Wind damage also occurred along the south coast and Plymouth County. Some surge damage was noted and a general flooding situation did materialize. Fortunately flooding and surge damage potential were not fully realized as the system came in at low time.

In other parts of MA, the primary issue was flooding rainfall. In western and central MA, between 8-and 10" of rain had fallen causing extensive flooding. In eastern MA away from the SE coast, 5-8" of rain had fallen with lesser but significant impacts. This only added to the issues of moderate wind damage experienced as the center of Kendra passed through the area.

In an unfortunate twist of fate, Major Hurricane Larry made a run up the east on July 31st. Larry was a strong category 3 system with winds near 125mph as it made landfall near Westport MA during the overnight. Extreme wind damage occurred from New Bedford through the entirety of the Cape and Islands including parts of SE coastal Plymouth County. Falmouth MA reported a wind gust to 139mph just before dawn. Many roofs were lost in these areas with some curtain wall failures resulting in building collapses. Much of the power grid in these areas has experience over a 95% failure. This was mainly from trees destroying above ground electrical infrastructure. Surge values near 15 feet were observed along parts of the south coast including the Cape and Islands. Heavy structural loss has occurred along these coastal sections along with many shore roads being washed out. Wind damage in other parts of Eastern MA was heavy. Winds in Boston gusted to 100mph with higher gusts along the south shore.

As with Kendra, the big impact in central and western MA was flooding. These areas saw rainfall amounts of near 15". Combined with the recent rainfalls from Kendra, this has left parts of Western MA isolated by floodwaters in a way that was similar to the 1938 hurricane. Many people had to quickly evacuate and get to higher ground with very short lead times. NE MA suffered damage similar to metro Boston.

Situation Report

The situation in southern New England is dire. Commercial broadcast stations and public telecommunications along coastal SE MA are almost non-existent. This includes most internet and cell phone service. Public safety 800 MHz communications are essentially down in these areas except for a few local communities that had their own stand-alone systems that were not trunked. VHF/UHF systems have also suffered almost complete loss including almost all amateur radio repeaters. Communities along the south coast of MA have shelters open due to the damage and almost complete power grid loss. On Cape Cod, The Regional Emergency planning Committee is working with the Incident Management Team and local towns to support regional shelter operations and road clearing operations. MA DCR and local public works are assisting in clearing roads. Search teams continue to look for folks that are trapped in their damaged homes or other structures. Utilities are working to get crews into these areas but debris is hampering their ability to travel and the fact that this event is so wide in scope has also diminished the availability of crews from adjacent areas. Many parts of the electrical grid will likely face almost completely new construction to rebuild service. This will prove to be a long duration process. Telecommunications crews are facing similar obstacles. ARES and other EMCOMM groups have banded together to assist MEMA and the local governments.

The availability of fuel is complicating matters region wide. Shelters with limited fuel supplies may face difficult challenges in keeping essential Air conditioning systems operating. Buildings and shelters with functioning natural gas systems have fared better, but not all buildings have this option. Self-stored propane or diesel supplies can only last so long without replenishment. With most roads still impassible, this creates a much more immediate issue. Some shelters have had to get clients out of the buildings due to generator/fuel issues and the stifling heat that has besieged the area in the aftermath of Larry. Cape and

Islands ARES is working with local amateur radio clubs to try to get VHF repeaters back online, but the same roads issues have delayed this endeavor. Simplex field sites have been set up outside to try to pass essential traffic.

Infrastructure damage is less severe as we get further away from SE MA, but it is still significant in the metro areas and quite significant in the south shore communities. More repeaters have survived in these areas allowing EMCOMM operators to utilize them as compared to their colleagues further south. Because of the flooding issues in western and Central MA, travel is difficult or impossible in some areas. The survival rate of the public safety communications in western sections is much better although flooding has inundated many structures.

Amateur radio has set up high frequency nets to pass traffic effectively on a regional basis. They are also working with MEMA and FEMA wherever possible. NBEMS, Winlink are being used to pass digital forms and other messaging in addition to voice nets. The National Traffic system is helping facilitate health and welfare traffic from the region. SKYWARN continues to provide damage reports to both government and commercial outlets.

This will be a long and difficult slog for EMCOMM operators in southern New England, especially along the South coast and the Cape and Islands ARES district. We are grateful to those operators who have left their damaged homes to help in this operation. Remember that safety is always our highest priority. Keep a close watch for hazards and the health of your team members. Good luck and be safe!

ARES groups and simulated activities

This exercise guideline is deliberately generic in nature. ARES groups are free to adapt this scenario and conduct their operations as needed for their groups. Feel free to use your home stations or mobiles for this purpose. It is likely that most of the operations involved in this exercise will utilize home stations.

Exercise Objectives

The objectives of this exercise are as follows:

- Establish and conduct a tactical net on simplex 2m or FM repeater for your group
- Establish contact with any Town EOC RACES stations
- Establish contact with other ARES districts where possible
- Establish an HF 75m voice net for all of MA (and potentially other areas)
- Establish a 60m HF voice net for all of MA (and potentially other areas)
- Send SKYWARN tactical damage report by VHF and/or HF voice
- Send situation report form by Winlink VHF or HF RMS station
- Check in on the MMRA repeater network
- Check in and/or pass information the NEW-ENG3 9123 Echolink node
- Conduct an NTS NBEMS net on 40m and pass traffic
- Conduct an NTS voice net on 2m VHF FM
- Attempt operations with the RI section on VHF and/or HF
- Conduct 6m operations on the Mt. Wachusetts 6m repeater

Note that not all objectives will apply to every group.

Operational Ground Rules

ARES/RACES

ARES/RACES/Auxcomm groups can fully adapt and change their individual plans to suit the needs of the local group.

Message Handling

Message handling, on voice, will occur on 2 meters, 40m, 60m, 75m HF.

Setup and Timeline

Setup time will be 845am. The exercise will begin promptly at 10am. It will last approximately 2 hours and will end at 1200pm. Timelines may be adjusted accordingly in response to turnout and early completions of primary objectives.

Exercise Disclaimers

Due to the proliferation of radio scanners and the possibility of misconstrued information by the public, all tactical voice messages *that can be misconstrued* will be preceded by the words **“This is a Drill”**. Any NTS formal messages will have the words **“This is a drill X”** as the first five words in the body text. In this time of national public concern, we must make all efforts to ensure that the general populace is not misled and that amateur radio is not portrayed in a negative manner. *If the messages are not considered to be able to be misconstrued, then the disclaimer will not be needed.*

Exercise activities

There will be two primary operational activities in addition to NTS Health and Welfare messaging. The first will involve the sending of a Field Situation Report by Winlink. The second will be the sending of a tactical SKYWARN damage report by voice on VHF 2m or by the HF Nets. For those that do not have Winlink, the voice tactical SKYWARN message will be your main activity. NTS health and welfare messages can be sent on voice 2M/HF or by the MARIDN NBEMS net on 40m. You can also send the message on the MA-RI Phone net (MARIPN). Participants may choose any or all activities they wish to attempt.

Field Situation Report

The primary digital messaging activity for this exercise will be the sending of a Field Situation Report form by **Winlink**. This message will be utilizing the Field Situation Report Form in Winlink. If you are unfamiliar with this form, there are various forums and YouTube presentations available to help you.

There is one important thing about this form. ***BOX #1 must be checked NO. If it is checked yes, the Winlink system or others could treat it as an actual emergency. Keep this in mind.***

Latitude and Longitude should be entered in decimal degree format. Do not forget the minus sign in front of the longitude value. If you have a GPS dongle set up, the coordinates will be filled in for you after setting it up.

Most of the form is relatively easy to figure out. If you wish to add comments or a damage report, it can be entered on Box 12. If you are entering a damage report in box 12, be sure to indicate the time of the report, the location, the source, and the damage details.

See the sample form on the next page.

FIELD SITUATION REPORT

Cape and Islands ARES

Setup Click to add an agency or group name

Load Field Situation data

Form info

For Non-Express recipients, this form is sent as plain text in the message body. Once this page is submitted No changes or editing of this message are allowed

PRECEDENCE: R/ Routine DATE/TIME: 2024-07-07 18:11:22Z TASK #

FROM: Frank OLaughlin

TO: KD1CY

INFO (CC):

Call signs or E-mails entered into the TO or INFO fields above, can be multiples separated by a semicolon ;

1. Is there an EMERGENT/LIFE SAFETY Need YES NO

2. City Marstons Mills County: Barnstable State: MA Territory:

3. Latitude and longitude: LAT 41.669333 LON -70.448167 MGRS 19TCG7944514076 Grid FN41sq

If your local situation is LIFE CRITICAL, report via 911. If 911 services are not available, a reporter may use this form and mark the block for LIFE CRITICAL, the reporter should describe the situation and provide the residential address.

LAT and LON are required to map this SpotRep. If entering manually use Decimal Degree format or from an attached GPS device. By default LAT, LON and MGRS to the center of the grid square listed in Express Settings

4a. POTS landlines functioning? YES NO Unknown - N/A

Verizon

4b. VOIP landlines functioning? YES NO Unknown - N/A

Verizon

5a. Cell phone voice calls functioning? YES NO Unknown - N/A

ATT

5b. Cell phone texts functioning? YES NO Unknown - N/A

ATT

6. AM/FM Broadcast Stations functioning? YES NO Unknown - N/A

WXTK 95.1

7a. OTA TV functioning? YES NO Unknown - N/A

If no, identify TV station.

7b. Satellite TV functioning? YES NO Unknown - N/A

Dish Network

7c. Cable TV functioning? YES NO Unknown - N/A

Xfinity

8. Public Water Works functioning? YES NO Unknown - N/A

Comments

9a. Commercial Power functioning? YES NO Unknown - N/A

Eversource

9b. Commercial Power Stable? YES NO- Brown outs/blinking lights Unknown - N/A

If no, state provider.

9c. Natural Gas Supply functioning? YES NO Unknown - N/A

National Grid

10. Internet functioning? YES NO Unknown - N/A

Cable Xfinity

11a. NOAA weather radio functioning? YES NO Unknown - N/A

KEC73 162.550

11b. NOAA weather radio audio degraded? YES NO Unknown - N/A

Identify NOAA Weather Radio Transmitter by frequency, call sign or location.

12. Additional Comments Brief summary of current situation - expected outage times, major observations, etc.

You may add any damage reports here or additional comments. Any damage reports should include the time of the report, the source (yourself or from another), the location and the details of the damage.

13. POC Frank OLaughlin

Submit Save Field Situation data Reset Form

SKYWARN Tactical damage report

The second primary activity is the sending of a tactical SKWARN damage report. This report will be sent by voice on either HF or 2M. The report should include the time of the report, the source, the location and the details of the damage. The report should be as concise and brief as possible as this will be received on voice nets.

Net control stations should log these reports. It is up to those NCS operators to determine how they will get the reports to SKYWARN Coordinator Rob Macedo KD1CY. This could be done by a bulk sending on Winlink to **WX1BOX** or by other means.

NETS and mode of operations

HF voice operation

An HF net will be started on 60m and 75m in MA. They will operate concurrently. Participants can send their SKYWARN tactical damage report if they wish.

75m Net operations

A 75m net will be established on 3930kHz LSB (See frequency listings section). Note that 75m operations can be difficult during this time of the day in the current phase of the solar cycle.

60m voice operations

HF 60m operation will be first attempted on Channel FIVE 5403.5 kHz. As we are a secondary user on 60m, any primary user (US Government stations) cannot have interference from a secondary user. Primary users will have priority access at all times. If a *primary user* is operating on channel FIVE, the net will fall back and be conducted on channel FOUR: 5371.5 kHz.

VHF/UHF voice operation

ARES groups are requested to set up voice nets as you normally do for exercises. These nets can be repeater, simplex or any combination of the two. Participants can send their primary voice activity involving a SKAYWARN tactical damage report if they wish. Any additional voice components for the exercise can be set by the local ARES/RACES group to fit their needs.

6m voice operations

There will be 6-meter voice operations beginning at: **1130am**

53.31-Mount Wachusett Repeater PL: 71.9 Hz

HF and VHF/UHF Winlink operation

The primary operations activity of the Field Situation Report Form can be sent by Winlink HF and VHF/UHF Winlink for this exercise and will involve the use of RMS Winlink sites. A list of currently operating HF winlink RMS stations with locations and modes can be found on the winlink.org online site.

The reports can be sent directly to the Eastern MA ARES SEC Rob Macedo **KD1CY**.

Echolink/IRLP operation

Echolink will be operational for this exercise. It will be the *NEW-ENG3* Echolink conference node 9123/IRLP 9123. It will be monitored by several ARES leaders and will serve as an online component.

NTS Health and Welfare operation

In an effort to try to promote NTS using digital modes and voice, NTS will stand up a health and welfare NTS operation. Messages can be passed by the MA/RI Digital Net (MARIDN) using NBEMS on 40m. Messages can also be passed by voice on the NTS VHF nets and the MA/RI phone net (MARIPN) on 40m.

NTS operations on HF NBEMS

There will be an HF NTS NBEMS net available that will use digital modes to pass NTS messages. This net will be a special edition of the Massachusetts-Rhode Island-Digital Net (MARIDN). The net will operate on 7042.5 kHz (1500 Hz center) and begin with the Thor 22 mode. More on this net and its normal operation can be found here on the Eastern MA ARRL website [MARIDN](#)

NTS health and welfare message can be addressed to friends or others. Remember to include the drill wording to preclude and misunderstandings. The NTS **precedence** of the NTS message should be **TEST-WELFARE** or **TEST-W**.

Eastern MA Section NTS Nets

EM2MTN (Eastern Mass 2 Meter Traffic Net)
145.23- PL88.5 Boston

MARIDN (Mass - Rhode Island Digital Net)
7042.5 USB THOR22 1500Hz center

MARIPN (Mass - Rhode Island Phone Net)
7243 LSB phone

Minute Man Repeater System operation

The Minute Man Repeater system (MMRA) will be active during the exercise and will be linked up in the same configuration as the monthly ARES Net. See the following link: https://mmra.org/repeaters/repeater_linking.html (Click the ARES box to see the repeaters and other systems linked).

Metrics for participation

All ARES groups participating in the exercise are encouraged to send a list of participants and activities by email after the exercise so a good overview of participants can be established. Send to your local ARES EC and/or DEC. If you are unaware of who your leader is, Visit the Eastern MA ARES website at <https://ema.arrl.org/ares/>

Exercise Frequency Usage

Two meter and 440 MHz local voice nets: - The following is a list of key frequencies with any additional frequencies at the discretion of local ARES Group

147.000-Dartmouth Repeater (PL: 67.0 Hz)
147.180-Bridgewater Repeater (PL: 67.0 Hz)
146.895-Walpole Repeater (PL: 123.0 Hz)
146.955-Westford Repeater (PL: 74.4 Hz) (1030 AM Start time)
145.230-Boston Repeater (PL: 88.5 Hz)
147.435-Western Middlesex ARES Simplex (PL: 110.9 Hz)
146.580-Cape Cod ARES Simplex (No PL) (1030 AM Start time)
446.675-Marlborough Repeater (PL: 88.5 Hz)

The MMRA Network will be utilized at the section level – a link to the repeaters linked up is listed in the MMRA Repeater section above.

6 meter operations

53.31-Mount Wachusett Repeater PL: 71.9 Hz (1130 AM start time)

Winlink Express VHF (non-P2P): 145.090 FM frequencies –

Local VHF RMS Stations – Some stations may offer both Packet and VARA FM modes

**AB1PH-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
W1SHS-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
KF1D-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
W1SGL-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
Note: *W1SGL-10 has been moved from Barnstable to Falmouth. A New Digi (N1YHS-7) has been placed at the old Barnstable location and can be used to get to W1SGL-10*
WZ0C-10 connect direct or via digipeater W1STR-3**

Or other VHF RMS stations available from Winlink Express station lookup.

Also see http://www.n1xtb.net/EMA_packet_map.html for locations of local RMS stations

Telnet may be used if available and necessary.

HF Winlink stations (Non-P2P):

Local HF RMS stations - VARA HF Preferred mode

**W1EO: 3937.900 KHz center, 3936.4 KHz dial
KF1D: 7101.3 KHz center, 7099.8 KHz dial
W1EO: 7102.5 KHz center, 7101.0 KHz dial**

Or other HF RMS stations available from Winlink Express station lookup.

Telnet may be used for training purposes if RF capability is not present.

Primary region wide 75m HF Operations: 3930 kHz LSB

Primary HF NTS Net (MARIPN) 40m Operations: 7243kHz LSB (Note: this is a special edition of this net and is NOT a recurring net on this frequency), the secondary HF NTS Net (MARIPN) frequency is 3978 KHz LSB (+/- to avoid QRM)

Primary 60m HF voice operations: 5330.5 kHz (USB), fall back to 5371.5 kHz if needed. Note that newer HF radios that have 60m as a standard feature often have the frequencies displayed as channelized (center frequencies) whereas radios that have been modified for 60m operation often display the dial frequencies. Power limit is 100 watts ERP.

Center	'Dial' Frequency (USB)	'Unofficial' Channel Designation
5332.0 kHz	5330.5 kHz	Channel 1
5348.0 kHz	5346.5 kHz	Channel 2
5358.5 kHz	5357.0 kHz	Channel 3
5373.0 kHz	5371.5 kHz	Channel 4
5405.0 kHz	5403.5 kHz	Channel 5

**Primary NTS HF NBEMS 40m (MARIDN) operations: 7042.5khz- USB. start mode: Thor22 1500hz,
Secondary frequency: 3582.5 KHz LSB, start mode: Thor22 1500hz
Note: this is a special edition of this net and is NOT a recurring net on this frequency)**

HF Winlink stations: See online list on the winlink.org site

Echolink: *NEW-ENG3* node 9123/IRLP: 9123

Minute Man Repeater system (MMRA) linked repeaters VHF/UHF (see MMRA.org for repeater list and look at the ARES configuration): http://www.mmra.org/repeaters/repeater_index_by_linkstate.html

***** If available**

Group Operations

There will be several groups operating during this exercise. They may be RACES/ARES/Auxcomm or some combination thereof. Information regarding their operations can be added below if needed.

Rhode Island Section Participation

(If they are available, considering the very short notice)

Possible activities:

- Check into HF nets
- Possibly try to check into MA VHF activity, if possible
- Possibly conduct VHF net and send information to EMA nets or by digital