

The Cape & Islands ARES District in conjunction with the Eastern MA Section ARES Exercise #78 Scenario and Guidelines



Cape Cod ARES

Exercise **"Cyclone"**

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Revised pages with this draft version:

Page 7: objectives

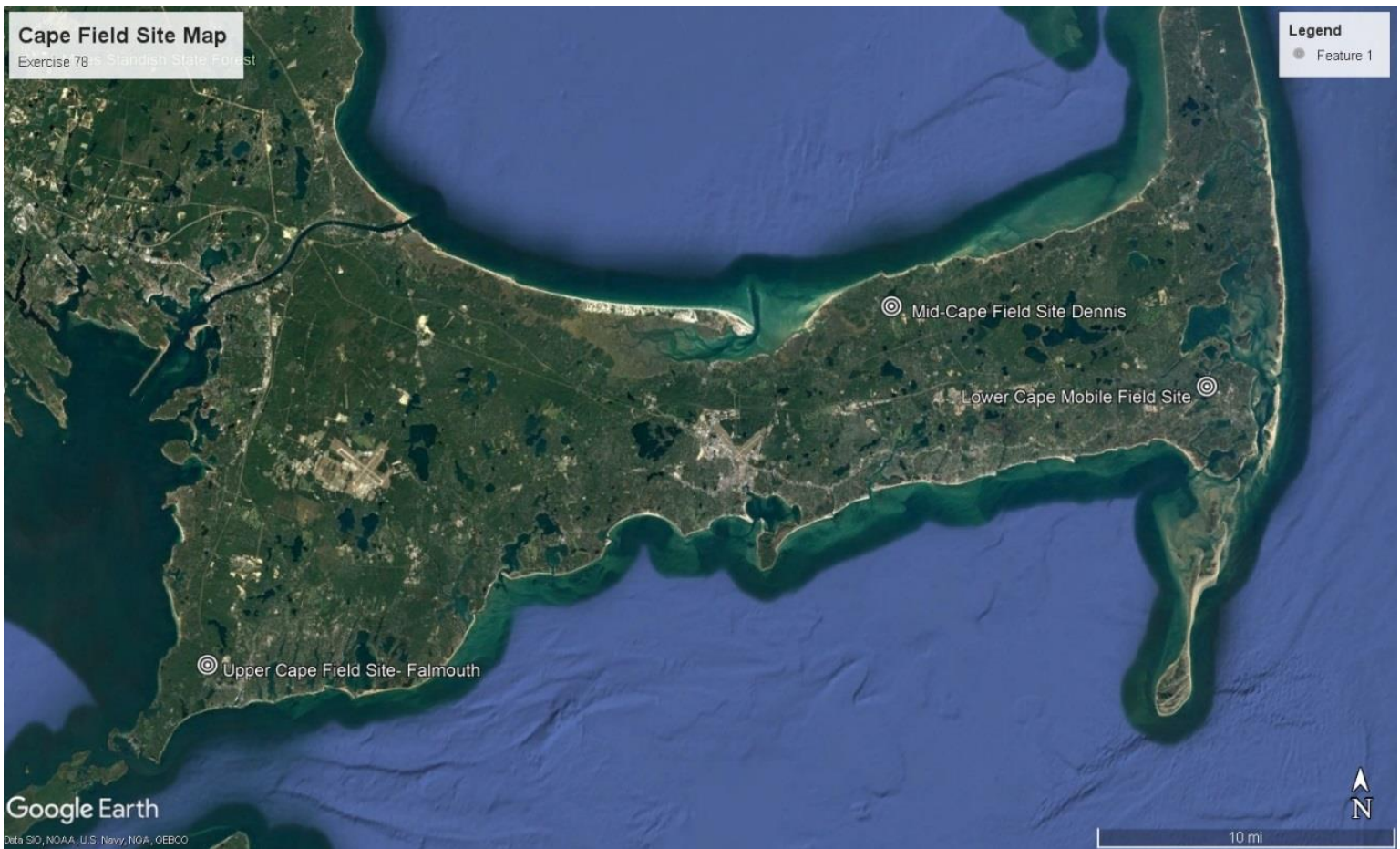
Page 10: eliminate Lower Cape fixed field site

Page 13: reflect net changes and add mention of NBEMS HF NTS net

Page 15: Add HF NTS NBEMS net frequency. Drop 75m NVIS Net frequency.

Page 18: Updated MARIDN NBEMS NTS info and time

Cape Field Site Map



Cape Cod ARES Zone Map



Date of Exercise

Saturday August 5th, 2023

Setup time: 8:30am

Start Time: 10:00am

End Time: noon

Operational Duration: 2 hours

Purpose

The Cape Cod and Islands District Amateur Radio Emergency Service will conduct a summer field operations exercise to test its capability in establishing communications with stations within its district and outside it under emergency conditions. The operational exercise called **“Cyclone”** will test the ability of several field stations to communicate. This will also be a drill to test some of our primary stations and other ARES member home stations. The exercise will attempt to build upon the lessons learned from our past operational exercises. This exercise will also involve participation of the Eastern MA Section.

Exercise Scenario

It has been a very warm and wet weather season in Southern New England. Heavy rainfall has been common throughout the summer with the ground being saturated in many locations. On July 26th, slow moving Category one Hurricane Fredrika moved up the east coast making landfall near Westport MA in the early hours of the 27th. It produced damaging wind gusts along the south coast and the Cape/Islands. Winds in New Bedford and Falmouth gusted over 93mph. Power was knocked out over much of SE MA. In western and Central MA, very heavy rainfall of 5-7" fell over already saturated ground. Many reports of flooding and road closures came in with some major roadways being closed.

Much Larger Hurricane Harriet impacted southern New England on Wednesday August 2nd. The powerful category three system with sustained winds of 120mph made landfall near the same location as Fredrika. Devastating surge values over 15' occurred in parts of the Cape and south coast of MA with higher values in Buzzards Bay which recorded a surge near 20 feet. A wind gust to 136mph was recorded at Hyannis airport.

On the Cape and Islands, the effects of Harriet were extreme. Many structures suffered full curtain wall failure with hundreds of roofs being blown off. The Cape and Islands are in a full sheltering operation with all of the regional shelters open in addition to several local community centers. Unfortunately, many of these have suffered structural damage and are unusable. Power restoration time cannot even be calculated at this point. A similar situation exists along much of the south coast of MA.

In western and central MA, flooding has been catastrophic with entire areas being inaccessible by road or by rail due to the 15-17" of rain that has fallen from Harriet severely aggravating already dangerous flooding. Many are missing in the raging flood waters in these areas.

In areas near Boston and NE MA, heavy rain and wind gusts near 95mph have caused roof and structural damage in many areas.

Telecommunications get progressively worse as you head south towards the Cape and south coast. Most commercial radio and TV are out along with many public safety and amateur radio repeaters. Cape and Islands ARES has decided to set up field stations on the Cape mainland to help facilitate radio traffic and shelter communications. Many EOCs have had antenna damage necessitating the need for portable field sites. Both Islands are also attempting to piece together any field or home station operations that they can.

ARES/RACES/AUCOMM operations are underway in other parts of MA as well. In western and central sections, it is the flooding that has damaged communications infrastructure. In areas of eastern MA away from the Cape/south coast, it is a combination of moderate flooding and wind damage.

Besides the local VHF/UHF and digital operations, HF nets are operating on 60m and 75m to help with traffic throughout the state.

It is now several days since the larger storm Harriet impacted the region. It is a grueling situation, but one that needs to keep operating for now. Be safe and good luck! Safety is JOB #1!

Cape District Exercise Objectives

The objectives of this exercise are as follows:

- Deploy field operations sites to the Mid-Cape (Dennis) and Upper Cape (Falmouth) zones
- Deploy mobile field site to Lower Cape zone
- Establish contact with other ARES districts and their EOCs where possible
- Test zone relay operations with Home Stations
- Communicate with the Nantucket and Martha's Vineyard ARES/RACES stations
- Use HF 75m and 60m voice to attempt section wide contacts
- Allow our new people to get some operating experience and field orientation
- Provide guidance for the rest of the Eastern MA ARES section to participate and develop their own local exercise operations
- Send Winlink SKYWARN and ICS-213 message on 2M VHF FM (Optional)
- Send Winlink SKYWARN and ICS-213 message on HF (Optional)
- Pass NTS formatted messages on VHF FM
- Check in on Echolink New-England3 Node 9123
- Attempt to check into and pass traffic on a new Section NBEMS NTS Net (MARIDN)

Operational Ground Rules

Communications Options to be utilized

Communications options for this exercise will be 2m FM, 440 FM UHF (on field sites), HF 75M and 60M voice. There will be a tactical net on 146.580 MHz FM simplex. VHF and HF Winlink will be used (Optional). Echolink will also be utilized (Optional).

Field teams must be completely self sufficient

The ARES field teams must bring all of their own equipment and supplies. Served agency communications equipment may **NOT** be used in any way. *We only use what we have brought with us.* Teams operating inside RACES EOC's or other served agency sites are exempt, of course.

Setup and Timeline

Setup time will be 8:30am. The exercise will begin promptly at 10am (HF). The VHF simplex net will begin at 10:30am. The exercise will last approximately 2 hours and will end at noon. Timelines may be adjusted accordingly in response to turnout and early completion of primary objectives.

Operational 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 message is one that is likely to not be misconstrued, then the words do not have to be inserted.*

Operational Players and Field Units

Mid-Cape field site-2M Net Control site (NCS) Dennis

The Cape Cod ARES Mid-Cape field site will operate:

- 2m FM 175W station
- 440 UHF simplex
- 75M and 60M voice SSB
- VHF/HF Winlink and possibly VHF NBEMS

The site in Dennis will be established at a private residence in a location on high ground that is not far from the Dennis repeater site. It will serve as the VHF Net Control site and field site for medium to long range coverage. It will operate self-sufficiently.

Upper Cape Field Site

The Upper Cape field site will be in a parking lot at Falmouth Hospital with field expedient antennas and power. It will operate 2m FM simplex. It may also have HF operation. It will operate self-sufficiently.

Communications with the islands

Communications with the Islands will be attempted from the Net control station along with ARES home stations, field teams and any EOC stations. Home relay stations can also be employed where necessary to establish contacts by simplex. Nantucket will likely have one or two stations active. Islands communications are critical, as always. We will also accept any contact with any mobile stations on the islands.

Home Operator Stations

Home operator stations will be of value in this exercise as stations that will communicate with the NCS site and field units within their range. We will continue our test of home stations and their ability to serve as backup stations to ARES/RACES EOCs. Home stations can be the primary anchor points for our zones of operation within the district. This exercise will give our member's home stations a chance for testing of any new or experimental equipment, as well as, their emergency power backup systems. This will be an ideal time for the home operators to fully evaluate their stations performance.

Lower Cape mobile field site Chatham

The Lower Cape mobile field site will be operated by a one or two team crew. It will operate from a high location in Chatham with an extension masting system. It will operate 2m FM, 440 MHz.

VHF NET Operations

Primary Tactical NET

The primary tactical NET will operate on the Primary *simplex* operating frequency of 146.580 using FM. The net will begin *30 minutes after the 10am start of the exercise* beginning at 10:30am. HF operations will begin first at 10am sharp. This will be covered in the HF section of the document. The VHF NET may remain at 146.580 or move, if necessary, to alternate frequencies as required for the exercise.

Operating Procedure for the Tactical NET

The operating procedure for this exercise will consist of a roll call format. The NCS station will do a staggered priority and geographical call up. 1st call will be for ARES/RACES field sites. The second call up will be for any EOC stations in our district (including the Islands). The third call up will be for home and other stations by order of zones in sequence (Outer Cape, Lower Cape, Mid Cape, Upper Cape, Nantucket, and Martha's Vineyard). Last call up will be for stations outside the Cape/Islands district. After the initial call up, NCS will designate one station in each zone (if available) that will call out for any stations that the NCS could not hear. NCS will then poll all field sites and individual check in stations which will read aloud those stations they could hear on the net. We will evaluate successful communications paths based on that data. All stations will keep a log of whom they can hear. Mobile units (if any) may call NCS outside of the roll call when any mobile operators feel the necessity of doing so. **In a change from previous exercises, we will not be asking each station to call out and attempt contact with all the stations on their list. This change is in order to leave more time for other operations.**

Signal strength reporting

When participants are recording/reporting the received signals of incoming stations, we will use terminology similar to that used in the Upper Cape Falmouth ARES simplex net. Signals will be reported by:

1. **No signal**
2. **Weak readable**
3. **Good readable**
4. **Strong readable (if signal is exceptionally strong)**

NTS simulated traffic net and the passing of formatted messages between the field sites

At about 1115am we will conduct a simulated traffic net as part of our exercise operation. It will be simulated as we really cannot run a full traffic net on the same frequency and time as the tactical net. Since we will not be running a separate NTS net on an alternate frequency, we will use this procedure for this exercise. Before the beginning of the simulated traffic net, all of our field stations will compose an NTS formatted message. The message will contain information as to the number of operators at the site and whether the site is operating on battery, generator, or both. The simulated traffic net will ask for the field station to check in and the field site operators will pass their messages to the NCS. All interested persons are encouraged to copy the messages for practice and/or act as relays if needed.

NTS formal message to be sent into the NTS system

The Dennis field site will condense all of the messages into a single report. It will then create a formal written NTS message that will be passed to the NTS operator N1ILZ in Orleans for insertion into the NTS system for final delivery to the recipient (s).

There will likely be one or two additional pieces of formal traffic passed to the NTS operator for sending out to EMA section officials.

VHF Winlink operations (Optional)

VHF winlink operations for the Cape and Islands district will involve the sending of a winlink ICS-213 message to the DEC WQ10 at call sign WQ10 using the W1SGL-10 RMS winlink station in Barnstable on 145.090mhz or the WA3SWJ-10 RMS station in Brewster on 145.030mhz. The ICS-213 will state the location of your station and the number of modes that you used in the exercise. Any field site or home station may send this message. Stations using Winlink are also encouraged to send a winlink message using an ICS-213 form to our Eastern MA ARES Section Emergency Coordinator Rob Macedo at call sign KD1CY. This will contain the same information as the messages to the DEC. A SKYWARN message can also be sent to call sign WX1BOX using a *Severe weather report form* in Winlink. List simulated hurricane damage and any other you feel is needed. If sending within the Winlink system to another Winlink address, the @winlink.org is not required.

Echolink operations

Operators with internet access are encouraged to check in on Echolink New-ENG3 9123 node. Although our scenario makes Echolink use unlikely in the area, we wanted to give additional exposure for our members to additional modes of operation.

HF Operations

HF voice operations

HF stations in the Cape Cod and Islands district will attempt contact with the Eastern MA section ARES HF nets of which one will likely be anchored off Cape to our north. The Nets will begin at 10am sharp. The VHF Net will begin 30 minutes later at 10:30am. The reason for this is that some members would like to participate in both HF and the VHF net. Staggering the time slot will make it easier for those operators to utilize both, especially if they are operating alone at home. The 60m net on HF will likely be operating and anchored off Cape. It will be on 60m at 5330.5 kHz. The other net will be on 75m at 3930 kHz and will be run from one of the Cape field sites (TBA). Cape field sites and home stations are encouraged to check in on one or both nets. In the future we will be increasing our use of 60m for ARES/RACES operations for drills and actual emcomm. If stations wish to contact each other, they may ask net control for permission to do so. If the off Cape net control station is unavailable, then a Cape HF station will assume the NCS duties.

60m voice operations

HF 60m operation will be first attempted on Channel one 5330.5 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 one, the net will fall back and be conducted on channel four 5371.5 kHz. **See frequency information on 60m in the frequency listings**

HF Winlink Operation

Stations having HF Winlink capability are free to attempt to send the messages described under the VHF winlink section by HF. A list of currently operating HF winlink RMS stations with locations and modes can be found on the winlink.org online site.

HF NTS NBEMS Operation

This operation will be covered under the Eastern MA section of the document.

Problem Solving Situations and Improvisation

Unexpected situations

There will be one or two unannounced problem situations in the exercise. This will require the operators to improvise and think “out of the box”. These situations will enhance our ability to adapt to rapidly changing conditions. They will occur without notice, so be prepared to act quickly.

Incident Command Structure (ICS)

ICS functions will be assigned before operations begin at the site. An Incident action plan will be created, if time permits, and distributed for all operators participating. We shall continue to use the ICS in future exercises in order for us to become knowledgeable in operating under this system for served agencies.

Critique and Evaluation of the Exercise

We will have a meeting to critique and analyze the exercise no later than 15 *days* after the exercise. All participants should bring their notes and observations for evaluation by the group. All exercises will produce information that could be useful to future operations. Even seemingly small details can prove valuable to our training and development.

This is an **Advanced** Level Exercise

Although CCARES has had some multi-site large exercises in the past, this will be an advanced level operations drill rivaling some of the earlier ones. It could be technically demanding on the field sites.

Cape-Exercise Frequency Usage

Primary Tactical NET: 146.580 Primary FM Simplex

Secondary Simplex 2m: 147.465 FM Simplex

440 MHz simplex: 446.000

Primary 75m HF Operations: 3930 kHz (LSB)

Primary 60m HF 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

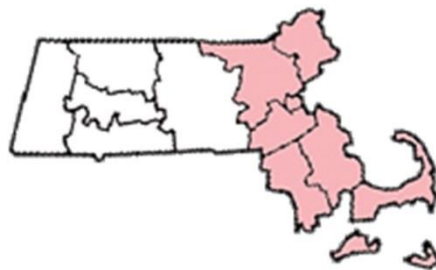
**VHF Winlink: W1SGL-10 RMS station on 145.090 MHz Barnstable.
WA3SWJ-10 RMS station on 145.030 MHz Brewster**

HF Winlink: See www.winlink.org website

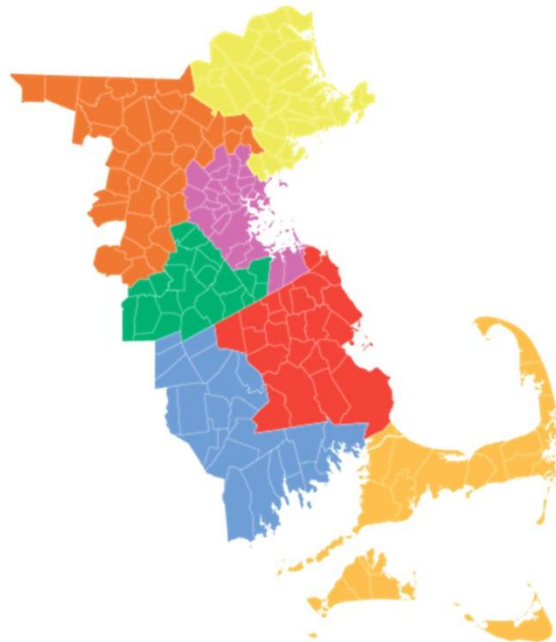
Echolink: New-Eng3 9123 node

HF NTS NBEMS Net: 3583khz start mode Thor22

Eastern MA exercise participation



Eastern MA ARES Map



The recent severe weather events in MA, short notice, as well as, a busy summer may dramatically reduce participation in this year's summer exercise.

Although the primary focus of this exercise design is for the annual Cape summer exercise, The Eastern MA section ARES likes to take advantage of any training and exercise opportunities beyond the normal Simulated Emergency Tests and region wide full exercises. The scenario was left quite broad allowing for many local and district based emcomm groups to develop plans for their own participation. You are free to use any of the operational modes listed earlier in the document or add your own as needed. Some basic objectives are listed below. These are not all requirements. Groups may use what works for them, depending on availability.

Section Wide possible objectives

- Simulate the activation of shelters in your area
- Simulate the activation of EOC stations in your area
- Establish and conduct a tactical net on simplex 2m FM/ repeater for your group
- Simulate contact with any Town EOC RACES stations
- Establish contact with other ARES districts where possible
- Establish an HF 75m and 60m voice net for all of MA (and potentially other areas)
- Pass an NTS type message on VHF 2 meters and/or 440mhz UHF
- Attempt to check into and pass traffic on a new NBEMS NTS Net (MARIDN)
- Pass a SKYWARN and/or tactical message on voice 2 meters and on the HF net
- **Optional:** Pass a SKYWARN Severe weather report form using VHF/HF Winlink RMS to wx1box
- Participate in the Winlink mapping operation by using the severe weather report form
- **Optional:** Pass an ICS-213 message form on VHF/HF Winlink RMS to kd1cy
- **Optional** Send messages locally by VHF NBEMS
- Check in on the NEW-ENG3 9123 Echolink node

VHF/UHF operations

Local ARES or RACES groups are free to determine their own local modes of operations for this exercise.

HF Operations

HF nets are to be set up on 75m and 60m. They will run for the duration of the exercise. There will be an increasing use of 60m in section exercises. 75m operation will also still be utilized to ensure that those without 60m can still participate (see earlier page for 60m operations).

HF NTS NBEMS operation

The exercise will have a new feature. This will be an HF NTS NBEMS net 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 3583khz and begin with the Thor 22 mode starting at 11:40am. More on this net and its normal operation can be found here on the Eastern MA ARRL website [MARIDN](#). Operators checking in are free to pass digital NTS traffic to their ARES or other Emcomm leadership.

Frequency usage

2 meter Local Voice nets: - The following is a list of key frequencies with any additional frequencies at the discretion of local ARES Group. Many of these may not be active if local groups are unable to participate.

147.000-Dartmouth Repeater (PL: 67.0 Hz)
146.895-Walpole Repeater (PL: 123.0 Hz) (Echolink AB1PH/R)
146.955-Westford Repeater PL: 74.4 Hz
147.435-Western Middlesex ARES Simplex (PL: 110.9 Hz)
146.580-Cape Cod ARES Simplex (No PL)

Other Local nets - Frequencies at discretion of local ARES/Emcomm Groups

Echolink: NEW-ENG3 node 9123 IRLP: 9123 (Optional)

UHF Voice nets: Frequencies at discretion of local ARES Groups

VHF/UHF NBEMS: Frequencies at discretion of local ARES Groups

Primary 75m HF voice operations: 3930 kHz LSB

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

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**

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.

HF NTS NBEMS Net (MARIDN): 3583khz start mode Thor22