

Cape & Islands ARES District Exercise #64 Scenario and Guidelines



Cape Cod ARES

Operation **“Twilight”**

Frank O'Laughlin – WQ1O
Cape&Islands ARES DEC

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Revised pages with this draft version: HF net operation section added to page 6

Cape Cod ARES Zone Map



Date and time of Exercise

Saturday August 10th, 2019

Setup time: 8:45am

Start Time: 10:00am

End Time: 12:00pm

Operational Duration: 2 hours

Purpose

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

Scenario

On Sunday July 28th at 1am local time, commercial power began experiencing cascading failures in the Northeast United States. By 3am local time, all commercial power had failed from ME to MD including the Washington DC area. Situation report to follow:

In MA, People awoke to find no power anywhere. DHS reports that they have not found the source of the power outage, but that it has affected both computers and hardware. Many switching systems have been damaged. It remains unclear whether cyber terrorism is involved or not. All the assets of the U.S. are currently being mobilized to help with the ongoing situation.

In an unfortunate twist, a large scale heat wave has been ongoing in the northeast since August 2nd. Temperatures in the big cities along the I-95 corridor have been over 90 degrees each day with heat indices over 110 degrees. With the tremendous heat, people have been trying to use their car air conditioning to cool off resulting in almost complete depletion of gasoline supplies. This has brought almost all transportation by auto to a halt. Gasoline vendors report that their stations are virtually dry at this point. People running generators have further depleted the situation, as well as, the diesel fuel stock. Natural gas flow had been operating until August 5th when demand became impossible to meet with the reduced flow capability.

Heat exhaustion and heat stroke cases have been rising quickly. Hospitals have begun filling with patients from the sweltering heat. Patients with pre-existing chronic illnesses have fared even worse as pharmaceutical supplies have dwindled. Boston area hospitals have almost reached the breaking point. South Shore Hospital remains on generator power as does Sturdy Memorial and other regional facilities. FEMA has been trying to keep hospital fuel and generator support as its primary objective. Many nursing homes have had their generator power run out this week. This has further strained the hospital situation. Many public safety sites and emergency operations centers have had to move their operations outdoors. Temperatures in buildings have become intolerable with these temperatures with no air conditioning. Portable generators are just not enough to operate vital systems and power AC at the same time with fuel sources so bleak.

Communications have become problematical. Many commercial TV and radio stations have gone dark due to the lack of generator fuel. This has also happened to public safety repeaters and parts of the 800mhz system. MEMA has distributed whatever fuel it can find for generators supporting their VHF radio system as there are fewer of them to fuel compared to the vast number of 800mhz sites. Most of the amateur radio repeaters have also depleted their battery power, as well as, those sites located along side public safety systems. Some amateur clubs are working to get as much solar power as possible for battery recharging. MEMA has also taken up this idea to try to power some of its sites. ARES and RACES operators have been working hard with support for their local communities. Since outdoor operation is common in this event, many groups have set up field stations with whatever power they can muster. HF operations have been ongoing on 75m and 40m so parts of the region can remain in contact.

Here on Cape Cod, ARES has mobilized as many people as possible to support EOC operations outdoors. Field teams are operating on Cape in several locations. Extra battery power has been moved where it can help the most, including the Denn1 packet node. Since fuel for travel is scarce, it is almost impossible for people to try to relieve adjacent area operators. We will need to do the best we can. DHS reports that it could be another 5-7 days before any significant restoration will occur. Let's get it done, but practice safety at all time.....

Exercise Objectives

The objectives of this exercise are as follows:

- Deploy field operations site to Sandwich EOC
- Deploy communications field teams to Falmouth and Lower Cape
- Deploy a team to Falmouth Hospital
- Establish and conduct a tactical net on simplex 2m FM
- Establish contact with any Town EOC RACES stations still on the air
- Establish contact with other ARES districts and their EOCs where possible
- Conduct a test of zone relay operations with Home Stations
- Communicate with the Nantucket and Martha's Vineyard ARES/RACES stations
- Use HF 40/75m voice in the district and attempt contact with off Cape HF stations
- Allow our new people to get some operating experience and field orientation
- Deploy a team to the Falmouth EOC
- Attempt usage of the PAC digital packet system on Cape Cod
- Deploy operations team to Joint Base Cape Cod Fire Station-TBA

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, 40M voice and PAC packet digital FM VHF (Sandwich and some other sites). All Cape district stations will start by monitoring the tactical net on 146.580 MHz FM simplex for information and instructions.

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.

Message Handling

Message handling, on voice, will be very limited in the exercise. Most of our efforts will be establishing contact with as many stations as we can and noting signal strength/status reports.

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 12pm. Timelines may be adjusted accordingly in response to turnout and early completions 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.

Operational Players and Field Units

Cape Cod ARES/RACES field site in Sandwich

The Cape Cod ARES/RACES Sandwich field site will operate:

- **2m FM 175W station**
- **440 UHF simplex**
- **75M and 40M voice SSB**
- **PAC digital mode on 2m FM**

The site in Sandwich will be established outside the old Sandwich EOC, in the parking lot. It will serve as a field site for medium range coverage. It will operate self sufficiently.

Falmouth Field Team

The Falmouth field team will be outdoors at the Falmouth High School Shelter. It will operate on VHF/UHF.

Falmouth EOC

Falmouth EOC will operate on VHF/UHF FM

Communications with the islands

Communications with the Islands will be attempted from the Net control station, ARES home stations, field teams and 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 attempt to contact any mobile stations on the island.

Home Operator Stations

Home operator stations will be of value in this exercise as stations that will communicate with the command site and shelter 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 shelter field team

The Lower Cape shelter field team will operate at a location in Eastham. It will operate VHF/UHF and possibly HF. Other bands may be used if they are available. It will operate self sufficiently.

Falmouth Hospital site

Falmouth hospital site will be operational for the exercise. The hospital sites, due to their man-made height will be important stations. Their ability to communicate with mobile stations will be essential for the safe and effective transport of people and supplies, as well as, potential intelligence on medical situations throughout the Cape area. Since the hospital antennas are intact, a central NCS on 2m will be established at that site.

Joint Base Cape Cod Fire Station site

The fire station at Joint Base Cape Cod will be operational for the exercise. It will be manned by a team and operate on 2m FM.

HF Net Operation

The HF operational activity for this exercise will be anchored locally within the Cape and Islands district. Two nets will be active from two locations in Brewster. The nets will be on 75m and 40m. We invite any off Cape stations to check in and participate in addition to our local HF stations and field sites.

NET Operations

Primary Tactical NET

The primary tactical NET will operate on the Primary *simplex* operating frequency of 146.580 using FM at the start of the exercise. This NET may remain there 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 Cape and Islands EOC stations. The third call up will be for home stations on Cape Cod by order of zones in sequence (Outer Cape, Lower Cape, Mid Cape, Upper Cape). The 4th call up will be for home stations on the Islands. The 5th call up will be for any EMA/EOC stations off Cape, followed by off Cape home stations. The last call up will be for mobile stations. Later, all stations will read aloud those stations they could hear on the net and attempt direct contact with each of them *when requested by the NCS station*. This will give our operators valuable contacts and air time. We will evaluate successful communications paths based on that data. All stations will inform NCS what equipment they are using, and what antenna type. They will also report their current status including emergency power generator or battery (or a combination). All stations will keep a log of whom they can hear. Mobile units (if any) may call NCS outside of the roll call when the operators feel the necessity of doing so.

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 sites. 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 30 *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. It could be technically demanding on the field sites.

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)

Primary 40m HF Operations: 7245 kHz LSB (Secondary)

**Packetized ARES Communication (PAC) digital 145.030 FM using
Denn1 digipeater**

Consult Latest Frequency Utilization list for Cape Cod ARES.