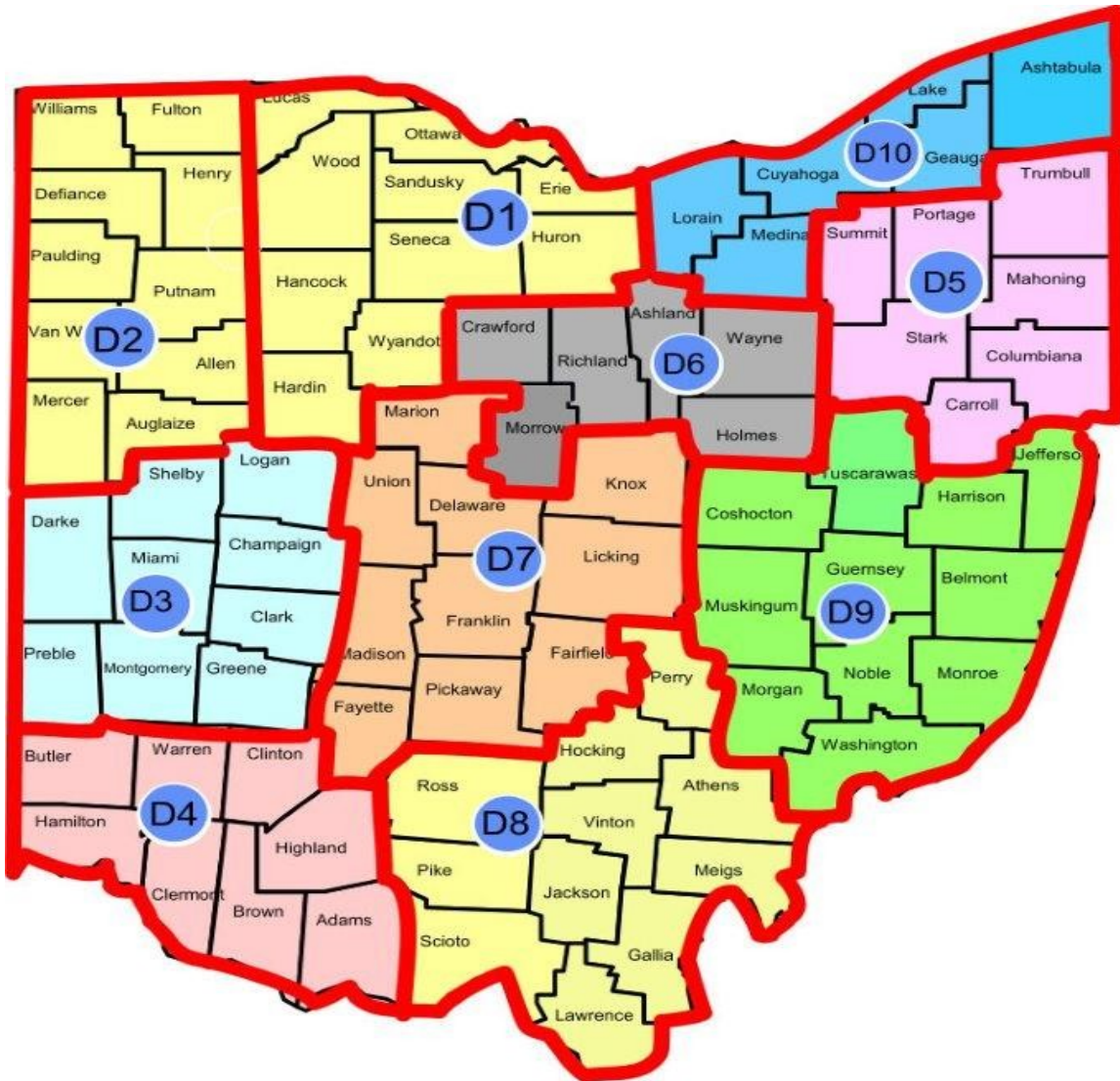




# OH DEN TRAINING PLAN

Version 0.3



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# Introduction

## ***Definition of the Ohio Digital Emergency Network***

The Ohio Digital Emergency Network (OHDEN) is a system of people, equipment, and the medium in which those people operate that equipment in service to the community. Specifically the people are volunteer amateur radio operators licensed to operate their equipment by the Federal Communications Commission. Their equipment consists of radio transmitters and receivers, antennas and feed lines for radio communications, computers, and all the associated supporting equipment. The medium is the airwaves, typically, for OHDEN, it's the surface of the earth to the ionosphere.

OHDEN as a network serves the Amateur Radio Emergency Service (ARES) Emergency Coordinators (EC) and District ARES Coordinators (DEC) who, in turn serve an agency that requires the passing of digital messages between Ohio county Emergency Operations Centers (EOC) and between the county EOCs and the state EOC. Some OHDEN radio operators are not ARES members but still serve an agency that needs digital communication. Other operators still, serve no agency or serve a non-governmental agency. All operators are welcome to participate in OHDEN and its mission.

## ***Mission***

*When the normal channels of communication are overloaded or compromised, to be ready and capable of communicating digital messages between the Ohio county EOCs and between these EOCs and the state EOC.*

This communication is typically performed using Narrow Band Emergency Messaging Software (NBEMS) and using Incident Command System (ICS) forms.

## ***Document Philosophy***

Much of the text in this document is currently contained in the OHDEN Operations Plan. Current thinking is to separate training from operations. Future revisions of OHDEN Operations Plan will reflect this change.

## **OHDEN Proficiency**

To be ready and capable of communicating messages to and from county EOCs, a certain level of proficiency is required. This proficiency exists in the following domains.

1. the radio equipment including feedlines, tuners, and antennas
2. the computer running the NBEMS software
3. the basic on-air operational standards of the network defined in the Standard Operating Guide (SOG)

4. the policies, plans, and procedures of the local jurisdiction in conjunction with the plans and procedure defined by the ARES EC or their equivalent<sup>1</sup>

With these domains in mind, methods to obtain this level of proficiency is a collaboration between the OHDEN net management and the EC.

OHDEN only has direct control over domain number 3 above. OHDEN is capable and is prepared to assist with domains numbers 1 and 2. For example, OHDEN obtained funding to purchase a quantity of four 160-meter antennas and made them available to OHDEN stations and encourages the sharing of experiences with various NVIS antenna systems. Domain number 4 is totally in the hands of the EC (and the station operator) yet, success in this domain is essential for success of the mission. Domain number 4 is mentioned in Level 5 Certification below.

The proficiency necessary for success of OHDEN's mission can be assessed using the following characteristics. Digital messages must be communicated,

- without error or loss of information,
- delivered to the correct function within the EOC,
- with all the meta-data in tact (sender, priority, date, time, etc.),
- in a timely manner, and
- with the preservation of digital record to support the after-action report.

Much of this is provided by the NBEMS software. The remainder is provided by process.

### ***Traffic Handling Proficiency***

For traffic handling proficiency, the recent survey indicates that the station operator in the EOC is typically responsible for using FLMSG to complete the ICS form.

Every station operator on the OHDEN team is encouraged to possess a level of proficiency in handling traffic. This includes:

1. being capable of completing a FLMSG ICS form based upon information provided by an EOC member. The information could originate in the form of hard copy, email, USB drive, or similar
2. being capable of relaying a completed form in electronic format to and from another station outside of a net<sup>2</sup>
3. being capable of checking into the OHDEN net, following protocols defined in the Standard Operating Guide (SOG), and transferring that message successfully to another station under the direction of the net control station (NCS) both on the net frequency and QSY
4. being capable of receiving an ICS form from another station under the direction of NCS both on the net frequency and QSY

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<sup>1</sup> Hereafter, any ARES term such as EC is meant to include any operator that leads a team serving an agency.

<sup>2</sup> This is subordinate to the following proficiency in the list and is described here only for completeness.

5. being capable of choosing a NBEMS mode (modem) that balances throughput vs. error rate and setting to that mode or setting to a mode as directed by NCS or their traffic partner<sup>3</sup>
6. being capable of saving the ICS form as a file on the computer and copying it to a USB drive or providing it to the appropriate EOC staff member in the format used in the EOC.
7. keeping a log of all traffic that passes through the station, saving that log, and formatting it for after-action reporting

### ***Equipment Proficiency***

1. being capable of both 160-meter and 80-meter operation (with 60-meter a future consideration) from their home station (The EC may not require all stations to be proficient in all bands from their home.)
2. being capable of operation of their home station equipment and computer for operation necessary to complete the Traffic Handling Proficiency.
3. being able to locate OHDEN-capable jurisdiction-owned equipment and placing it into operation within one hour using only documented procedures (this may exclude any multi-person antenna deployment)
4. being capable of preparing the jurisdiction-owned station equipment for operation necessary to complete the Traffic Handling Proficiency

Items 3 and 4 above in Equipment Proficiency are suggestions. The EC has the lead in this area and OHDEN will assist in demonstration of this proficiency by being available to send and receive training traffic.

### ***Net Control Station Proficiency***

1. being capable of calling a net to order, taking roll call, acknowledging all stations, prioritizing traffic, assigning the appropriate stations to exchange traffic on net or QSY, closing the net, creating a roster, and submitting it to the Net Manager
2. being capable of efficient use of OHDEN resources when the net is operating

Net Control is described here as a proficiency for completeness. It is not addressed by this document in terms of training or certification.

## **Methods to Facilitate OHDEN Proficiency**

### ***OHDEN Quick Start Guide***

An OHDEN Quick Start Guide will be developed to take a new operator through the process of downloading the NBEMS software and installing it, configuring it, and the use of the basic functionality to get on the air. Much of this information is contained within the *Quick*

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<sup>3</sup>Note that OHDEN standardizes on OLIVIA 8-500 and MT63-1000L for simplicity of protocol and locating other OHDEN stations quickly but any available mode could be used.

*Reference* of the SOG but separating it into its own document makes it convenient for reference.

## ***Training Program***

OHDEN will develop a program to meet the OHDEN Proficiency for which it has control and assist the EC in the proficiency for which they have control. That program will capitalize upon the expertise that exists within the OHDEN stations using willing station operators to mentor those less proficient. OHDEN will assign a mentor but encourages this to be the EC, AEC or DEC with whom the mentee volunteers.

The mentor/mentee approach has the added advantage of increasing the proficiency even of the mentors. The net manager will be responsible for administering the mentor programs, selecting and gaining acceptance of both mentor and mentee pairs, monitoring progress and documenting certification. This may be delegated.

The mentor and mentee will independently coordinate times of their sessions as well as the mechanism of support communication (telephone, email, etc.) The mentor will have significant latitude in the process. The mentor may merely "teach to the test." Experience indicates that an effective approach is to understand exactly where the mentee is in the process and work to remove the hurdles then ending with enough practice at sending and receiving FLMSG traffic that the mentee feels confident.

As mentioned earlier, OHDEN only has direct control in the domain of what processes are used over the air in connections with net operations. However in training and practice in this domain, the mentee must, by default obtain a level of proficiency in the use of both their equipment and the computer running NBEMS if they have not previously done so. The mentor must be prepared to assist in the radio equipment and the computer domains.

## ***The OHDEN Standard Operating Guide***

The document that guides our operations is the OHDEN Standard Operating Guide. The most current copy is maintained at [WWW.OHDEN.us](http://WWW.OHDEN.us). Two sections of that document are most relevant to training. They are, *OHDEN Check In Process*, and, *Traffic on OHDEN*. Having standards in these two areas reduces errors and increases efficiency. Both mentor and mentee should follow closely these standards during training. (There is no standard for having a digital conversation off of net.) NCS during certification (see below) will strictly follow the standards and stations sending and receiving traffic remain close to the standards. Note that the use of Q-signals, pro-signs and pro-words is optional. Training and certification should be limited to the pro-words common to OHDEN and the international Q signals that are listed in the OHDEN Standard Operating Guide.

## ***Certification Program***

OHDEN will develop a program of certification to validate the OHDEN Proficiency.

The most important aspect of this program is that it must serve to encourage participation and accomplishment. Anything in the process that works against the development of a strong team will be dismissed.

The certification program will consist of the following levels and associated tasks. An operator may begin certification at any level with the lower levels assumed to be accomplished. For all levels above 1, the OHDEN Standard Operating Guide should be followed. Refer to the section above, *The OHDEN Standard Operating Guide*.

### **Level 1 -- NBEMS on the Air**

Ability to:

1. Download and install FLDIGI and FLMSG
2. Install the sound card
3. Configure FLDIGI and FLMSG for use with NBEMS
4. Configure the transmitter, receiver and FLDIGI
  - o Set the receiver IF bandwidth to optimize the FLDIGI mode
  - o Properly set the Tx power
  - o Record macros
5. Conduct an on-air keyboard conversation
6. Use multiple NBEMS modes during on-air keyboard conversations

Pass/Fail recommendation is from the mentor.

### **Level 2 -- Checking into OHDEN**

Ability to:

1. Check-in to OHDEN using a macro

Pass/Fail recommendation is from the OHDEN net control operator.

### **Level 3 -- Passing Traffic on Net Frequency**

Ability to::

1. Generate a FLDIGI ICS form message
2. Send the message to a receiving station under the direction of net control on net frequency
3. Respond to a request from the message receiver to change NBEMS mode
4. Receive a FLDIGI ICS form message under the direction of net control on net frequency
5. Request a change in NBEMS mode of the message sender

Pass/Fail recommendation is from the OHDEN net control operator.

### **Level 4 -- Passing Traffic QSY**

Ability to:

1. Send the message to a receiving station under the direction of net control QSY while following the SOG
2. Respond to a request from the message receiver to change NBEMS mode
3. Receive a FLDIGI ICS form message under the direction of net control QSY

4. Request a change in NBEMS mode of the message sender (if conditions allow) Pass/Fail recommendation is from the OHDEN net control operator and the station operator assigned to transmit and receive the message to and from the station being certified.

## **Level 5 -- OHDEN at the EOC**

Ability to:

This level is under the control of the EC and is described here as a service to the EC. It may be modified to meet the needs of the individual EC.

1. Locate the jurisdiction-owned equipment and prepare it for use within one hour using only the written documentation. This includes the deployment of antennas.
2. Join the OHDEN net, prepare a ICS form message, and send the traffic to another station.
3. Respond to a request from the message receiver to change NBEMS mode Pass/Fail recommendation is from the OHDEN net control operator.

For all levels, pass/fail is a recommendation made to the EC. The EC must maintain the control of the training of the volunteers in his or her organization. Refer also to the Task Book section below.

## **Certification Ratings**

The ratings are enhancement or adjuncts to the certification similar to a private aircraft pilot obtaining a multi-engine aircraft rating.

1. Multi-band (180-meters and 160-meters) Rating
2. Winlink RF Rating
3. Mentor Rating

## **Task Book**

A task book supplement will be developed that meshes with the *ARES Section/Unit Specific Training Requirement* section of the *ARES Standardized Training Plan*. This task book will be used to record OHDEN proficiency certification. The task book will provide for the recording of recommendations and certification.



## Revision History

<b>Version</b>	<b>Name</b>	<b>Date</b>	<b>Description</b>
0.1	rjk	10/11/2020	initial document draft
0.2	rjk	10/12/2020	misc. clarification and clean-up
0.3	rjk	11/1/2020	add the ability to change modes to all levels; make more concise references to the SOG; misc clean-up