

Missouri Section ARES®  
MESN Digital/Analog Exercise  
PLAYER HANDBOOK



**Version 2.5**  
**July 13, 2025**  
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## Purpose

This exercise aims to test and evaluate the coordination and efficiency of managing digital and analog messages in a single statewide radio Net. This concept is promulgated in the October 2024 revision of the Missouri Section ARES Communications Plan & Handbook, page 45. The Missouri Emergency Services Network (MESN) is tasked by the 2024 revision committee with managing both voice and digital messaging. The Missouri Section ARES Communications Plan & Handbook is available on the [mo-ares.org](https://mo-ares.org) website in the Plans section.

## Objectives

- Implement digital traffic handling protocols as part of the Missouri Emergency Services Net mission.
- Test the effectiveness of combined digital and voice procedures in a simulated operational environment.
- Identify real or potential problems that might hinder the timely and accurate transmission of emergency digital traffic.
- Gather input for improvements from exercise participants through After-Action Reports

## **Scenario.**

A magnitude 7.5 earthquake has occurred along the New Madrid Seismic Zone near Hornersville, Missouri. The earthquake caused severe damage to a large multi-state area, disrupting or destroying a large portion of the communications infrastructure in the impacted area. In addition, buildings have collapsed, highway bridges and overpasses have collapsed, and water and natural gas lines have ruptured causing multiple fires. First responders are overwhelmed. Unorganized mass evacuations and the lack of shelters and medical care in the impacted areas are causing substantial additional problems.

## **Artificialities**

The exercise is assumed to start approximately 72 hours after the earthquake as operations shift from search and rescue (SR) to recovery mode. Stations designated to send/receive messages will use Winlink. Messages will be pre-scripted and provided in Winlink-compatible ICS-213 format.

Participating stations will be assigned realistic tactical callsigns representative of actual venues that could be expected during a real emergency. Likewise, message text will reflect actual message traffic during the recovery phase of an incident. All messages will be designated as routine.

## Tactical Call signs and Operators will be:

Tactical Call	Ham	Call Sign
-St. Charles Reception Center -St. Charles OEM	Dave Bartholomew District C	ABOTO
-Kansas City Reception Center -Kansas City OEM	Neil Preston District A	WONRP
Columbia Transfer Facility	Chris Swisher District F	KOPHP
Springfield-Greene County OEM	Dave Burtrum District D	NODF
Springfield Reception Center	Dennis Kimrey District D	WOHL

## Concept of Test

Since its inception the Missouri Emergency Services Network (MESN) has used Lower Sideband (LSB) frequencies on 40 and 80 meters for routine and emergency communications. Utilization of voice messaging was effective for short messages of a tactical nature. However, as emergency management expanded, messages grew lengthy and difficult to transmit accurately. At the same time amateur radio witnessed the implementation of a growing number of personal computer-based software packages for the accurate high speed digital transmission of messages. The implementation of various digital modes is discussed in the Digital Data Modes Operations/Transmission Guide (2024) available on the [mo-ares.org](http://mo-ares.org) website in the Plans section.

## **Exercise Scope**

The MESN will establish a statewide functional exercise using a directed net incorporating both voice and digital traffic. The MESN NCS will announce the beginning and end of the exercise and serve as the traffic management hub for the Net.

Pre-scripted messages will be sent via email to a limited number of MESN stations identified as having both voice and digital capabilities. The emails with pre-scripted messages will be provided prior to the beginning of the exercise. Participating stations will utilize Winlink to transmit/receive messages.

### **Winlink Messaging:**

Winlink was selected for this exercise because it has the ability to transmit messages over the air to established message nodes that can route messages to the internet as email. In addition, the Winlink program has embedded message templates utilized by FEMA, other federal, state and local governmental agencies and Non-Governmental Organizations (NGOs). Winlink also provides a logging feature that will produce an ICS-309 Communications Log in repdf or .csv format.

Pre-scripted messages will be entered into the Winlink ICS-213 template. These messages are addressed to notional EOC's or other venues that do not have Winlink addresses.

However, they will have tactical call signs as indicated above. Exercise operators must therefore use the participating station Ham call sign indicated above as the address for a particular venue. The format to use is [callsign@winlink.org](mailto:callsign@winlink.org). All exercise messages will be classified as ***Routine*** to avoid confusion over a real emergency on the MESN net.

Participating stations will check into the MESN net as normal when their ARES District is called. However, in addition to stating their call sign they will add ***“Winlink traffic for name of venue”***. The MESN NCS will then ask if there is a station at that location who can handle the traffic. Upon receiving a reply the NCS will verify that both stations have the correct call signs and will temporarily excuse them from the net to conduct messaging. All stations shall send messages in the order specified in the Master Event Sequence List (MESL) attached as an appendix to this document.

## **Frequencies and Modes**

MESN is called at 1400 Local each Sunday afternoon. The net operates at 3.963 MHz or 7.263 MHz depending on propagation and the NCS operator's discretion.

## **Real World Emergencies:**

**“Real-World Emergency”** will be the designated phrase that indicates there is an emergency in the exercise area requiring immediate attention that may or may not stop exercise play.

## **After Action Report Outline**

An After-Action Review (AAR) is a professional discussion of an event, focused on performance standards, that enables radio operators to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses. It is a tool leaders and units can use to get maximum benefit from every incident or project.

1. **What was planned?**
  - Review the intent of the mission
  - Key task assignments.
  - Desired "End State" (what does "Right" look like).
2. **What actually happened?**
  - Establish the facts
  - Provide your perspective to build a shared picture of what happened.
3. **Why did it happen?**
  - Analysis of cause and effect
  - Focus on WHAT, not WHO.
  - Explain what occurred.
4. **What are we going to do next time?**
  - Correct Weaknesses - Focus on items you can fix, rather than external forces outside of your control.
  - Sustain/Maintain Strengths - Identify areas where groups are performing well and should sustain. This will help repeat success and create a balanced approach to the AAR."

## 5. Message Logs

Attach a copy of the ICS-309 Communications Message Log file generated by Winlink to this report. Screen captures of the page showing the frequencies and Winlink Nodes connections should also be submitted

6. All digital stations are encouraged to become proficient in Winlink peer-to-peer mode in the event such simplex operations may be required due to band conditions, VHF operations or other factors.
7. All Participating stations should submit After Action Reports within 24 hours following the exercise. Reports should be sent via email to: [WAOBER@winlink.org](mailto:WAOBER@winlink.org), [NOJBF@winlink.org](mailto:NOJBF@winlink.org) and [bcc102@yahoo.com](mailto:bcc102@yahoo.com).

## 2025 MESSN Master Scenario Events List (MSEL)

MSEL NUMBER	INJECT TIME HRS	EVENT DESCRIPTION	INJECT MODE	To	Content	Expected Actions
1	1400L	MESSN Net Opened	Voice			Preamble by NCS Net Roster established
2	TBA	Net participants check into net	Voice			NCS manages messaging sequence
3	TBD	Digital messaging throughout net per prior arrangement	Writelnk			
<b>MSEL Number</b>	<b>Digital MSG #</b>	<b>From</b> (Tactical Call Sign)	<b>Inject Mode</b>	<b>To</b> (Tactical Call Sign)	<b>Content</b>	<b>Expected Action</b>
4	22	<b>St. Charles Reception Center</b> Dave Bartholomew ABOTO	Writelnk	<b>Springfield Reception Center</b> Dennis Kimrey WOHL	Evacue transfers	Recipient acknowledges receipt of message
5	2	<b>Kansas City Reception Center</b> Neil Preston WONRP	Writelnk	<b>Columbia Transfer Facility</b> Chris Swisher KOPHP	Traffic flow restrictions	Recipient acknowledges receipt of message
6	2a Same as Msg #2	<b>Kansas City Reception Center</b> Neil Preston WONRP	Writelnk	<b>St. Charles Reception Center</b> Dave Bartholomew ABOTO	Traffic flow restrictions	Recipient acknowledges receipt of message
7	6A	<b>Columbia Transfer Facility</b> Chris Swisher KOPHP	Writelnk	<b>Springfield Reception Center</b> Dennis Kimrey WOHL	Columbia Acknowledges receipt of Message 6A	Recipient acknowledges receipt of message

### 2025 MESN Master Scenario Events List (MSEL)

MSEL Number	Digital Msg #	From (Tactical Call Sign)	Inject Mode	To (Tactical Call Sign)	Content	Expected Action
8	5	<b>Columbia Transfer Facility</b> Chris Swisher KOPHP	Winlink	<b>St. Charles Reception Center</b> Dave Bartholomew ABOTO	Columbia Facility will close 2300 local time this date	Recipient acknowledges receipt of message
9	14	<b>Springfield-Greene County OEM</b> Dave Burtrum NODF	Winlink	<b>St. Charles OEM</b> Dave Bartholomew ABOTO	Fire Mutual Aid request	Recipient acknowledges receipt of message
10	8	<b>Springfield Reception Center</b> Dennis Kimrey WOHHL	Winlink	<b>Columbia Transfer Facility</b> Chris Swisher KOPHP	Evacuee taken to hospital	Recipient acknowledges receipt of message
11	33	<b>St. Charles Reception Center</b> Dave Bartholomew ABOTO	Winlink	<b>Kansas City Reception Center</b> Neil Preston WONRRP	Two evacuee transfers cancelled	Recipient acknowledges receipt of message
12	9	<b>Springfield-Greene County OEM</b> Dave Burtrum NODF	Winlink	<b>Springfield Reception Center</b> Dennis Kimrey WOHHL	Status of local hospital	Recipient acknowledges receipt of message
13	16	<b>St. Charles OEM</b> Dave Bartholomew ABOTO	Winlink	<b>Kansas City OEM</b> Neil Preston WONRRP	Status of I/MT arrival	Recipient acknowledges receipt of message
14	?	ENDEX Digital Messaging Announcement	Voice			Call for After Action Reports

<b>ARES District</b>	<b>Contact Information</b>	<b>Tactical Call Sign(s)</b>
District A	Neil Preston WONRP 816 529-1795 WONRP@Yahoo.com	Kansas City Reception Center Kansas City OEM (Ofc Emer Mgmt)
District C	Dave Bartholomew ABOTO 314 520-9959 abOto@arrl.net	St. Charles Reception Center St. Charles OEM
District D	Dennis Kimrey WOHL 417 448-7903 denniskimrey@gmail.com	Springfield Reception Center
District D	Dave Burtrum NODF 417 224-3841 starmaster145@gmail.com	Springfield-Greene County OEM
District F	Chris Swisher KOPHP 573 228-0240 komu8ce@gmail.com	Columbia Transfer Facility
District I	Linda Lathrop KF4MXF 417 589-9800 bcc102@Yahoo.com	MESN Net Control Station

Missouri Section ARES®  
MESN Digital/Analog Exercise

After-Action-Report/Improvement Recommendations



**September 3, 2025**

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## What was Planned

The MESN will establish a statewide functional exercise using a directed net incorporating both voice and digital traffic. Winlink RMS Messaging through established gateways was utilized with Telnet connections as backup in case of poor propagation.

Pre-scripted messages in ICS-213 format will be sent via email to a limited number of MESN stations identified as having both voice and digital capabilities. Participating stations were selected in consultation with the MESN Net Control Operator.

### Participating Stations Were

Tactical Call	Ham	Call Sign
-St. Charles Reception Center -St. Charles OEM	Dave Bartholomew District C	ABOTO
-Kansas City Reception Center -Kansas City OEM	Neil Preston District A	WONRP
Columbia Transfer Facility	Chris Swisher District F	KOPHP
Springfield-Greene County OEM	Dave Burtrum District D	NODF
Springfield Reception Center	Dennis Kimrey District D	WOHL
MESN Net Control	Linda Lathrop District I	KF4MXF

## Desired Outcome

- Implement digital traffic handling protocols as part of the Missouri Emergency Services Net mission.
- Test the effectiveness of combined digital and voice procedures in a simulated operational environment.
- Identify real or potential problems that might hinder the timely and accurate transmission of emergency digital traffic.
- Gather input for improvements from exercise participants through After-Action Reviews.

## **What Actually Happened**

On or about 10 August 2025 copies of the Exercise Player Handbook and an Addendum with Operating notes were emailed to all participants. This was to allow the players time to become familiar with the scope and intent of the exercise. This was followed on 18 August 2025 with copies of the ICS-213 messages.

The Exercise was held on 24 August 2025 during a regularly scheduled net starting at 1400 local time. There were 26 stations checking into the Net including designated participating stations.

There was some initial confusion over the sequence in which messages were to be sent. One station experienced equipment failure and could not transmit messages but could receive. One station could not connect with a Winlink HF Gateway and used Telnet. Two other stations used local VHF links to a Winlink Gateway. All messages were passed and the MESN closed at 1421 local time.

All participants in the Exercise submitted After-Action-Reviews within 36 hours following the event. Copies of these

## **How Did It Happen?**

The overall exercise plan lacked clarity in many areas which led to misinterpretation by the participants. This was due in part to failure in defining terms and acronyms, assumptions of EmComm experience levels and attempting to correct errors with last minute emails. These problems would have been avoidable if the Exercise planners had conducted briefings via conference calls or Zoom Meetings on-line prior to the exercise. Examples of the most egregious problems noted in participant's comments are:

- Failure to properly define and explain the use of a Master Scenario Events List (MSEL).
- Duplicate message numbers.
- Lack of a review in basic message handling techniques.
- Confusion in message sequences.
- Incomplete scenario explanation that served as a basis for the messages.

## **Strengths**

While there was some confusion about message sequences the NCS kept the net under control and messages were passed as planned. While the concept of a unified Analog/Digital traffic net appears feasible, additional thought should be given to developing detailed methods and procedures so that it becomes fully viable and efficient.

Participants and NCS worked well together to resolve questions and overcome challenges.

## **Recommendations**

An outline of exercise topics should be developed to ensure that important details are not overlooked in planning future events. This outline should include a glossary of unfamiliar terms as well as a description of the exercise scenario.

A method should be devised to assist the NCS operator in maintaining track of which stations are

holding traffic or have checked in/out of the net while handling traffic. *Net Control Manager* is an example of one such program.

If exercise planners cite a reference document the specific text referred to should be included in the text of the plan. This will provide clarity of the instructions and avoid confusion during the exercise.

The section of the October 2024 revision of the Missouri Section ARES Communications Plan & Handbook describing MESN procedures for handling Analog and Digital traffic should be revisited to ensure that instructions are clearly stated.

MESN participants should occasionally inject voice and digital test messages during the weekly nets to build messaging skills and identify and weaknesses in net procedure.

### **Conclusion**

The consensus was that while the exercise went well additional training in operating in a combined analog/digital net environment and message handling would be beneficial.