FYI,

July 9, 2025, “SHORT-NOTICE” FEMA driven New Madrid 7.8M Earthquake EXERCISE with epicenter near Memphis, TN: Preliminary Results.

Participants in the July 9, 2025 FEMA Multi-Regional 7.8m New Madrid Fault Earthquake “short-notice” EXERCISE.

A quick look at the results (not a complete AAR- FORM 309 attached as PDF):

A NOTE OF APPRECIATION:

First, a note of appreciation to Donnie Monette, FEMA Region 4 RECCWG ECC, the other participating FEMA Regional RECCWG participants, their participating states, their volunteer resources and NGO partners, local Authorities Having Jurisdiction, volunteer EmComm groups who train continuously to be ready when asked, and to the CISA SHARES organization for hosting the Winlink system on their channels for their federal, state and local agency user communities. This will be the fourth year participating with the FEMA RECCWG, and for that the Winlink Global Radio Email team is grateful.

Background:

The Winlink Global Radio Email System® was used to provide its resources for this annual FEMA multi-Regional earthquake exercise. Winlink operates both on CISA SHARES, where timely critical sensitive inter/intra-agency traffic may occur securely using AES-256 transmission encryption on its own channels. For situational awareness "ground truth” where large geographic areas are in question, amateur radio (AuxComm) Winlink is used on the FCC Part 97 spectrum, which has adequate resources to provide both “Did You Feel It” information for USGS, and for this exercise, situational awareness "ground truth" for jurisdictions needing such information.

In this exercise of approximately 1162 participants, the Winlink capability available through CISA SHARES, which mainly hosts inter/intra agency communications secured by transmission encryption was asked to participate. For situational awareness “ground truth” where large numbers are needed for adequate geographical feedback, amateur radio (AuxComm) participants were asked to provide the lion’s share of the requested "ground truth,” although, SHARES also participated in the gathering of information as well. This interoperability of services allows for a myriad of alternate resilient communications options in a PACE plan when there are no other choices.

This exercise was presented to the participants' leaderships with less than one week’s notice, and for most of those actually participating, less than 2 to 3 days notice. This made the exercise a much more realistic venture than most exercises that require extensive time for planning. The approximately1162 plus participants responded to the request for information, and sent in the built-in Field Situational Awareness Report from the template list within the *Winlink Express* end-user program. For those providing Situational awareness "Ground truth” over amateur radio’s FCC Part 97 spectrum, in order to alleviate that small, precious HF spectrum, those who had Internet were encouraged to use Winlink Telnet to keep frequencies clear for those who could only use their radio systems to provide the information. Even with these instructions, there were jam-ups occurring on the Part 97.221(b) automatic control for digital station sub-bands used for this exercise. This is a good reason for the FCC to read and accept many requests for additional spectrum in their recent “DELETE, DELETE, DELETE” Notice Of Inquiry.

Discussion: always room for improvement:

Establishing procedures for responding to requests for information is sometimes overlooked. With this "short-notice" exercise as with real-life casualty events, notification that feedback when needed and where to send it is always an issue. This is especially when there is damaged, limited or otherwise occupied local communications infrastructure, and the requests for information cannot be sent when such communications are needed most. However, when *prearrangements* are made by the requesting agency, which provides instructions for feedback, including target addresses for specific incidents, information may then flow into target addresses without an immediate notification. Used or not, feedback resulting from such an operational plan will be available, with its own prewritten disciplines, and used or not, it provides a pathway for feedback. If not used, such pre-requested information will delete itself after a period of 21 days. Such a plan keeps the Winlink operator of the needed feedback trained, aware and ready to respond via specific pre-arranged instructions for providing geographic feedback to jurisdictions, or whatever the predetermined action requires. It certainly would have assisted in this exercise as well.

For emergency agencies that include Winlink through SHARES, though FCC Part 90, or through the amateur radio AuxComm community, a prearranged operational plan that spawns activating situational awareness "ground truth" requests can be extremely beneficial. Of course, the specifics may be a pre-notification for another action, depending on the agency's specific priorities. It takes an effort, but notification that information is needed after communications may not be readily available is always a problem in mass casualty events, and pre-arranging operational instructions for providing such information can well be worth the effort.

Brief Conclusion:

This was a relatively large scale exercise at over 1160 participants. Usually an exercise of this magnitude takes much longer to plan and implement, The exercise was created and implemented in less than a week with most participants having less than 3 days to become aware of the exercise, and successfully participate. Thanks to FEMA for the opportunity again this year, and let's all hope that providing information to our emergency agencies remains as an exercise and not a real-life event.

Map showing detail participation courtesy of South Carolina ESF2:*
https://scdto.maps.arcgis.com/apps/dashboards/1dfcd2d7ec524e8d8aabc87af3a936a8

*(If each of the participating states in the bar chart representing the 1162 participants in this exercise do not all show up, clearly, increase or reduce your browser resolution to obtain them all correctly. If you click on a state, and wish to return to the previous screen, click on the state, again)

The Central United States Earthquake Consortium (CUSEC) https://cusec.org defines states that would have a significant impact on a New Madrid Fault earthquake, and they are listed below, along with their participation in this exercise. Here is a quick look.

- The 8 Core states most likely to be directly affected by the New Madrid Seismic Zone include:
    - Arkansas
    - Illinois
    - Indiana
    - Kentucky
    - Mississippi
    - Missouri
    - Tennessee
- The 10 states associated with the New Madrid Seismic Zone (NMSZ) through the Central U.S. Earthquake Consortium (CUSEC):Alabama
- Georgia

- Iowa
- Kansas
- Louisiana
- Nebraska
- North Carolina
- Ohio
- Oklahoma
- South Carolina
- Virginia

The remaining states participating in regional earthquake planning, preparedness, and mitigation assume potential impacts from a significant NewMadrid Seismic Zone events and other nearby seismic zone. Remember that many communication and fuel lines do run through the NMSZ.

--- Summary of Field Situation Report ---

Number of unique reports: 1,162
Reports from amateur radio: (87.55%)
Reports from SHARES: (12.45%)

04a. POTS landlines functioning
17 (1.5 %) -- NO
340 (31.1 %) -- Unknown - N/A
735 (67.3 %) -- YES

04b. VOIP functioning
20 (1.8 %) -- NO
272 (24.9 %) -- Unknown - N/A
800 (73.2 %) -- YES

05a. Cell Phones Voice functioning
52 (4.7 %) -- NO
52 (4.7 %) -- Unknown - N/A
988 (90.4 %) -- YES

05b. Cell Phones text functioning
27 (2.4 %) -- NO
52 (4.7 %) -- Unknown - N/A
1013 (92.7 %) -- YES

06. AM/FM Broadcast Stations functioning
11 (1.0 %) -- NO
85 (7.7 %) -- Unknown - N/A
996 (91.2 %) -- YES

07a. OTA TV functioning
14 (1.2 %) -- NO
259 (23.7 %) -- Unknown - N/A
819 (75.0 %) -- YES

07b. Satellite TV functioning

6 (0.5 %) -- NO
460 (42.1 %) -- Unknown - N/A
626 (57.3 %) -- YES

07c. Cable TV functioning
25 (2.2 %) -- NO
311 (28.4 %) -- Unknown - N/A
756 (69.2 %) -- YES

08. Public Water Works functioning
13 (1.1 %) -- NO
139 (12.7 %) -- Unknown - N/A
940 (86.0 %) -- YES

09a. Commercial Power functioning
31 (2.8 %) -- NO
51 (4.6 %) -- Unknown - N/A
1010 (92.4 %) -- YES

09b. Commercial Power Stable
122 (11.1 %) -- NO
57 (5.2 %) -- Unknown - N/A
913 (83.6 %) -- YES

09c. Natural Gas Supply functioning
18 (1.6 %) -- NO
291 (26.6 %) -- Unknown - N/A
783 (71.7 %) -- YES

10. Internet functioning
35 (3.2 %) -- NO
52 (4.7 %) -- Unknown - N/A
1005 (92.0 %) -- YES

11a. NOAA/NWS Weather Radio functioning
21 (1.9 %) -- NO
97 (8.8 %) -- Unknown - N/A
974 (89.1 %) -- YES

11b. NOAA/NWS Weather Radio Audio degraded
693 (63.4 %) -- NO
190 (17.3 %) -- Unknown - N/A
209 (19.1 %) -- YES

Is there is an EMERGENT/LIFE SAFETY Need?
1090 (99.8 %) -- NO
2 (0.1 %) -- YES

Range (mi)
Minimum: 0.00, Maximum: 7403.80, Average: 630.5214

State

1 (0.0 %) -- AK
8 (0.7 %) -- AL
13 (1.1 %) -- AR
1 (0.0 %) -- AZ
1 (0.0 %) -- BC
32 (2.9 %) -- CA
16 (1.4 %) -- CO
10 (0.9 %) -- CT
1 (0.0 %) -- DX
54 (4.9 %) -- FL
91 (8.3 %) -- GA
3 (0.2 %) -- HI
3 (0.2 %) -- IA
2 (0.1 %) -- ID
51 (4.6 %) -- IL
10 (0.9 %) -- IN
4 (0.3 %) -- KS
9 (0.8 %) -- KY
35 (3.2 %) -- LA
7 (0.6 %) -- MA
8 (0.7 %) -- MD
5 (0.4 %) -- ME
17 (1.5 %) -- MI
10 (0.9 %) -- MN
35 (3.2 %) -- MO
8 (0.7 %) -- MS
6 (0.5 %) -- MT
51 (4.6 %) -- NC
2 (0.1 %) -- NE
3 (0.2 %) -- NH
18 (1.6 %) -- NJ
15 (1.3 %) -- NM
7 (0.6 %) -- NV
25 (2.2 %) -- NY
28 (2.5 %) -- OH
10 (0.9 %) -- OK
8 (0.7 %) -- ON
21 (1.9 %) -- OR
35 (3.2 %) -- PA
1 (0.0 %) -- PR
4 (0.3 %) -- RI
36 (3.2 %) -- SC
133 (12.1 %) -- TN
145 (13.2 %) -- TX
1 (0.0 %) -- US
3 (0.2 %) -- UT
50 (4.5 %) -- VA
31 (2.8 %) -- WA
19 (1.7 %) -- WI
4 (0.3 %) -- WV
1 (0.0 %) -- ZE

Date-time of first report: 2025-07-06 11:54 UTC
Date-time of last report: 2025-07-10 19:59 UTC

Again, thanks to all who participated in this exercise.

Respectfully,

Steve Waterman K4CJX