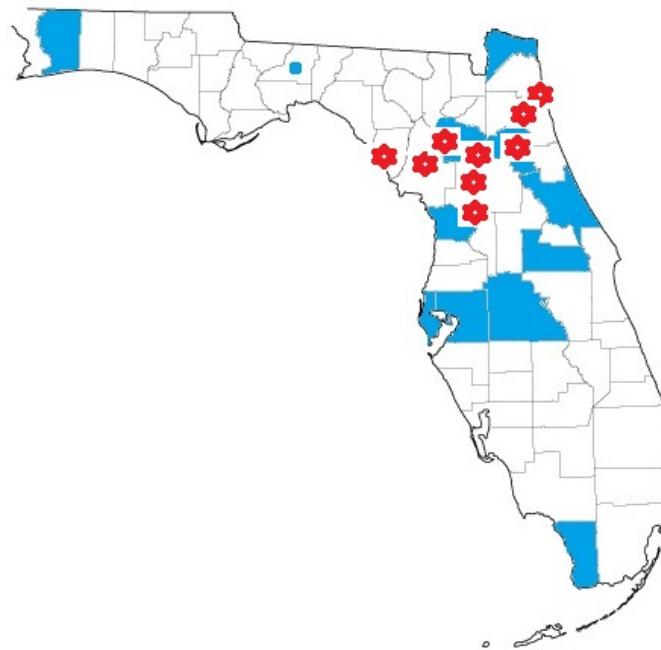


Whirlwind Boom 2021

After-Action Report & Improvement Plan



Florida Baptist Disaster Relief
Communications & Technology Ministry
Florida
Exercise Date: March 19, 2021

Gordon L. Gibby KX4Z

Correction Version: April 18 2021

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ISBN: 9798728542551

Errata

April 18 2021

A correction was made to a table entry on page 11, regarding the persons invited to help craft the Exercise in an early email,
with an associated footnote to explain the correction. I regret the previous error.

DEDICATION

This text is dedicated to all the leaders who made it possible to hold the Whirlwind Boom 2021 Exercise -- and especially those leaders who provided wisdom, encouragement and promotion!



Florida Baptist Disaster Relief trailers and vehicles arrayed in preparation for training the next day in Jacksonville, Florida. This Exercise was made possible by volunteers who deployed the massive Communications Trailer, allowing the NGO to get a good evaluation of their deployed capabilities and issues.

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Greg Lueck KN4VJL, a Florida Baptist Disaster Volunteer

Greg has pioneered an off-the-shelf Ubiquity solution to pipe Internet from the communications trailer by 5 GHz microwave inside church buildings used to support the Admin Team from Florida Baptist Disaster Relief.

ACKNOWLEDGMENTS

So many people helped bring this about! Rick Palm and Rick Lindquist provided great ARRL promotion. Karl Martin was always supportive and provided a chance to explain the exercise to all the NFL Section EC/AEC's in a web conference. Our crew here in Alachua County was so supportive; Bob Little at Florida Div of Emergency Management ALWAYS responded when I needed to talk to him; Doug Lynch has done so much work to advance SHARES licensure at EOCs throughout the state. My friends at Florida Baptist Disaster Relief were a constant support including their new leader Brad Gwartney and Marvin Corbin, Logistics Chief. Karl Martin, Pat Lightcap and many others provided such valuable reviewing of the document. It takes a bunch of people and years to bring a Section to the point that they can carry out this level of a disaster exercise -- basically recreating the entire backup communications network required to deal with a disaster that includes a large section of the state.

Thanks, folks!



*Florida Baptist Volunteers on the roof of the Communications Trailer.
This trailer was funded by very generous donors from the Panhandle who held golf tournaments year after year to raise the funds for a fantastic communications trailer designed for outreach to the public.*

1 EXERCISE WHIRLWIND BOOM 2021 OVERVIEW

This HSEEP-based radio communications exercise was designed to bring together the very volunteers who are likely to volunteer for communications disasters in Florida or nearby states. It attempts to create realistic communications that would be of great value to the responding agencies and the citizens they and we serve. As a result it has several levels, from local volunteers forwarding shelter status reports to a local net & EOC, all the way to reports converging on a simulated state data input port. The Exercise mimics a standard pyramid of information consolidation from individuals at shelters and neighborhoods, all the way to information and request convergence at the State. This is very similar to how hurricane emergency backup communications typically are organized.

The following exercise objectives in Table 1 describe the expected outcomes for the exercise. The objectives are linked to specific FEMA national core capabilities¹, which are distinct critical elements necessary to achieve the specific mission area(s). The objectives and aligned core capabilities are guided by elected and appointed officials and selected by the Exercise Planning Team.

Exercise Objective	FEMA Core Capability
(1.0) Antenna Deployments. Each applicable team able to deploy emergency antennas on suitable bands for their assigned communications, within 30 minutes of a declared antenna failure. ²	Mass Care Services Operational Communications
(2.0) Emergency Power. Each applicable team able to operate from alternative power, within 30 minutes of a declared power outage, including both radio, ancillary equipment (e.g. computer, antenna tuner, etc.) and suitable lighting. ³	Mass Care Services Operational Communications
(3.0) Communications Planning. <u>Possible Voice /Data Net Structure During Exercise</u>	Mass Care Services Operational Communications

1 FEMA Mission Areas and Core Capabilities:

<https://www.fema.gov/emergency-managers/national-preparedness/mission-core-capabilities>

2 An antenna failure may happen spontaneously, or may be declared by an inject within the Exercise, delivered by paper message, radio or email communication.

3 A power failure may happen spontaneously, or may be declared by an inject within the Exercise, delivered by paper message, radio or email communication.

Exercise Objective	FEMA Core Capability
<pre> graph TD ARN[Amateur Resource Net] --- ACN[Amateur Command Net] ACN --- SHARESCN[SHARES Command Net] ACN --- DCN[LOCAL NET] SHARESCN --- DCN DCN --- DRV1[Deployed Vol] DCN --- DRV2[Deployed Vol] DCN --- DRV3[Deployed Vol] ARN --- V1[Vol] ARN --- V2[Vol] ARN --- V3[Vol] ARN --- V4[Vol] ACN --- AC1[Agency Comms] ACN --- AC2[Agency Comms] ACN --- AV[Assigned Vol] SHARESCN --- AC3[Agency Comms] SHARESCN --- AC4[Agency Comms] SHARESCN --- V5[Vol] SHARESCN --- V6[Vol] ACN --- R1[Representative] SHARESCN --- R2[Representative] R1 --- R2 </pre> <p> Amateur Resource Net accepts incoming amateur radio based volunteers who are not already associated with a specific team, provides briefing services, and assigns roles. These unconnected volunteers are specifically welcomed in this Exercise. <ul style="list-style-type: none"> Amateur Command Net coordinates between amateur-based comms teams, and provides representative to interoperability communications to SHARES-based Command Net. SHARES⁴ Command Net accepts communications teams as well as individual resource units (volunteers) Agency Comms team might be a local ARES® or CERT or other group which serves a local EOC or other agency, and provides volunteers for deployment, for example to local shelters. The Agency Comms team with deployed volunteers would maintain a local net, perhaps on VHF, and provide one or more representatives to the Amateur Command Net. Some Agency Comms teams may consist only of a comms group serving an EOC or other agency (such as a disaster relief agency). <p>(3.1) Groups or teams whose responsibilities include deployed teams (e.g., to shelters or with search and rescue groups) <u>to create suitable ICS-205 planning materials</u> considering the possibilities of radio asset failures, and forward to the Exercise Director, c/o <u>docvacuumtubes@gmail.com</u>⁵</p> <p>(3.2) All groups/teams to successfully plan for communications by one or more representatives of their group to at least one Command Nets, depending on their licensure status (whether Amateur, SHARES, or both)</p> </p>	
(4.0) Voice Communications Accomplishments.	Mass Care Services Operational

- 4 SHARES: The DHS CISA Shared Resources High Frequency Radio Program provides an additional means for users with a national security and emergency preparedness mission to communicate when landline and cellular communications are unavailable. See: <https://www.cisa.gov/shared-resources-shares-high-frequency-hf-radio-program> and also the unofficial overview article, "SHARES: Opportunity for Amateur Radio to Service Communities" p. 2, <https://arrl-nfl.org/wp-content/uploads/2021/01/QST-NFL-February-2021-2.pdf>
- 5 The purpose of this Objective is to provide practice and measure capabilities at planning communications systems. An improvement would be to ask for an ICS-205A and a simple written plan, such as an ICS-201 document, to cover just their local communications plan.

Exercise Objective	FEMA Core Capability
<p>(4.1) Each team able to make voice contact to a suitably placed command net applicable to their licensure, despite local or ionospheric conditions.</p> <p>(4.2) Each team successfully transmits formal status report of defined structure via voice communications to RDEM@WINLINK.ORG or as requested.⁶</p> <p>Deployed individual resources (e.g., amateur unit deployed to simulated shelter) shall submit by radio transmission, a report type chosen by their local group. A suggested reporting form is to provide the data of the SHARES SPOTREP-2 form (Version 9.5 or later; see Appendix D)⁷. A suggested COUNTY LEVEL DATA AGGREGATION form, is also provided in Appendix D. [of the Exercise Plan]</p> <p>County or EOC or Agency Comms Team (e.g., ARES® or disaster ministry group) shall submit by voice, over radio transmission, their choice of either of the following two reports.⁸</p>	Communications
<p>(4.0 Voice Communications, continued)</p> <p>Option #1: AGENCY SITUATION REPORT, which is a modified version of the British Colombia Emergency Operation Center status report..⁹</p> <p>Option #2: Create a voice message with the information of the WINLINK “Incident Status Report”¹⁰</p> <p>(4.3) Each team able to create, receive, and respond to immediate</p>	

- 6 RDEM@WINLINK.ORG is a "tactical address" which can be reached either through the Internet or completely outside the Internet, via either amateur ("public") WINLINK or SHARES WINLINK. Once the formal traffic has been transmitted by voice to a recipient on the Command Net, it is presumed to have exited the disaster area, and the receiving station can forward the text as an EMAIL to RDEM@WINLINK.ORG using any desired email system. Attempt to keep the basic structure of the formal traffic as transmitted.
- 7 A word-processor created version of this form is provided in Appendix D, followed by an example of this form used within an ICS-213 voice report. This could also be sent as a (rather long) ARRL Radiogram by inserting the relevant fields into the address, text body, and signature, and then adding an OP NOTE before the text such as "Deliver formatted as ICS-213."
- 8 Note that the receiving net participant (in this Exercise, presumed to be in a non-affected area) will then forward the report by normal internet email to our proxy for a state reporting point, RDEM@WINLINK.ORG (representing the simulated "Roflida State Div of Emergency Management")
- 9 A blank copy of this form is presented in Appendix D, with an example inserted into the ICS-213 format immediately following.
- 10 This form can be accessed while using the New Message winlink procedure by choosing Select Template | Standard Templates | General Forms | Incident Status Report.txt. An image of this form is provided in Appendix D, following by an example of this information inserted into an ICS-213.

Exercise Objective	FEMA Core Capability
<p>tactical communications.</p> <p>(4.4) (Optional¹¹) Successful voice handling and transmission of survivor written messages¹² to loved ones out of disaster area, unless their Agency directs that such communications are prohibited. (Moving outbound survivor traffic to loved ones via the NTS or other methods is an historic method of public service by radio volunteers, and this portion of the Exercise aims to reacquaint volunteers with this valuable service..[These messages can be created by the volunteers to remote friends or relatives advising them of their participation in this Exercise and/or providing well wishes.] NOTE: These should be transmitted using AMATEUR RADIO transmission channels, rather than SHARES except in extreme extenuating circumstances.</p>	
<p>(5.0) Data Communications.</p> <p>(5.1) County-based teams to transmit assigned written communications when requested, including status reports of the Winlink Incident Status Report format¹³, by one or more data techniques, all involving RADIO out of their location.¹⁴ These will generally be addressed to our simulated state-level watch point, <u>RDEM@WINLINK.ORG</u>.</p> <p>(5.2) NGO-based communications teams to transmit one or more resource requests¹⁵ (example: for food stores for meals being prepared by a disaster ministry group), by one or more data techniques, all involving RADIO out of their location. An example of such a communication is provided in Appendix E.</p> <p>(5.3) Each team able to respond within 30 minutes to inquiries and replies.</p> <p>(5.4) Successful handling and transmission of survivor written messages to loved ones out of disaster area.¹⁶ NOTE: These should be transmitted using AMATEUR RADIO transmission channels, rather than SHARES except in extreme extenuating</p>	Mass Care Services Operational Communications

¹¹ While data-based techniques for moving massive survivor messaging may be easier, those who prefer or enjoy voice-based disaster messaging are vital to a response and are expressly encouraged to proceed. Any volunteer on the net who is free may accept these simulated outgoing messages and deliver them by email or telephone immediately, or they may be routed thru the normal NTS/RRI channels if desired. The point is PRACTICE.

¹² A suggested form is provided in Appendix D, followed by an example of this form utilized to create an ARRL Radiogram. After this form is transmitted over Radio to another volunteer in this exercise, the receiving volunteer will then deliver it via either email or telephone as soon as possible.

¹³ This form can be accessed while using the New Message winlink procedure by choosing Select Template | Standard Templates | General Forms | Incident Status Report.txt. An image of this form is provided in Appendix D,

¹⁴ Any data technique is allowed. Examples include APRS, broadcast peer-to-peer techniques, WINLINK, JS8.

¹⁵ These resource requests can be in normal email format or in ICS-213RR, as per the usual practice of their particular NGO

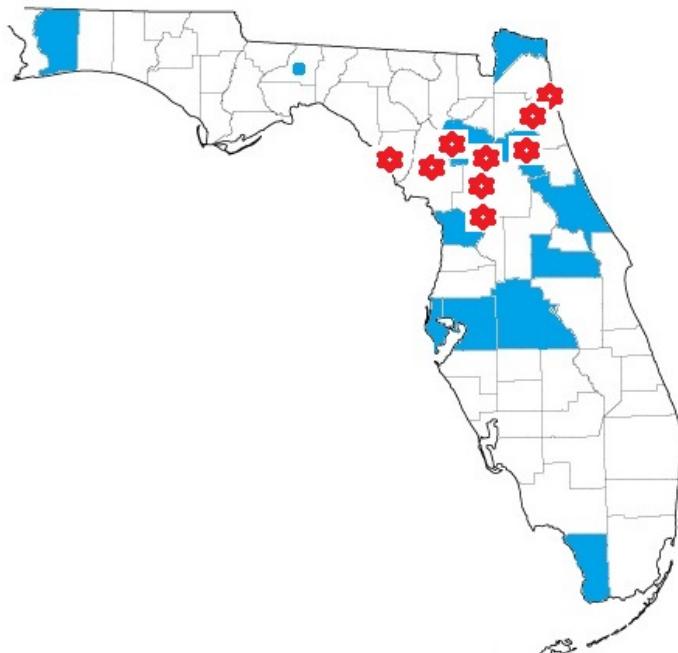
¹⁶ The suggested form is provided in Appendix D, and an example of this form turned into a standard WINLINK email as a text is provided in Appendix E.

Exercise Objective	FEMA Core Capability
<i>circumstances.</i>	
(6.0) Interoperability. Teams from different groups (FBDR, ARES®, FDEM, SHARES) to be able to coordinate via representatives to an Interoperability frequency so designated. ¹⁷	Mass Care Services Operational Communications
(7.0) Handling Volunteers. Successful integration of newcomer amateur radio volunteers on Resource Nets with suitable explanations of the Exercise and assignments of tasks to newcomer volunteers.	Mass Care Services Operational Communications

Table 1. Exercise Objectives and Associated Core Capabilities

Exercise Scenario¹⁸

“On Friday March 19th, 2021, beginning at 7 AM, a series of devastating tornadoes were created in super-cells associated with a fast-moving cold front with a massive temperature gradient. Tornadoes caused massive infrastructure damage in a band across the state of Roflida, roughly stretching from SteinKey, Roflida across to St. Florentine, Roflida.



¹⁷ Ross Merlin points out this wording mixes somewhat different entities: “SHARES isn’t a group like the other groups in this item, SHARES is resources for the those groups to meet their communications requirements. The groups listed are responders, with a presence there at the incident scene. SHARES is its networks, for some of them to use, but there is no “SHARES Team” on-site. FBDR has a mission specific to the incident, FDEM has several; ARES mission is to support those on-scene who need communications; SHARES mission is to provide federal channels and off-scene relay of messages. “I’m not quite sure how to address his correction here, but we’ll keep it in mind.

¹⁸ There are occasional issues where amateur radio volunteers are concerned about the perception that they are improperly posing as imposers, appearing improperly to be government officials or Agencies. In order to avoid this risk or perception, in this Exercise, geographical names of the State, and various counties were optionally changed. ROFLIDA instead of FLORIDA. Johnsonville instead of Jacksonville; NT&T instead of AT&T for example.

Multiple power generation systems from Peat Electric, Mercerville Regional Utilities, St. Jim County Utilities, St. Florentine City Utilities, and Roflida Power and Light are severely impacted with significant loss of generation and distribution of electrical power.

I-05 was damaged in multiple locations, creating massive traffic snarls and restricting the flow of supplies.

An estimated 270,000 persons were rendered temporarily homeless by structural damage and an estimated 1.9 million were without power by 4 PM Friday March 19th.

Roflida Div. of Emergency Management was fully activated as well as EOCs across all affected counties, working to provide adequate shelter, food and water distribution points of distribution to the citizenry. A large number of ICS responses were stood up, and request was made to the Governor of Roflida to institute Area Command for better coordination. Multiple county trunked radio systems (primarily towers) were damaged leading to delays in public service communications. Multiple EOCs called upon ARES® volunteers to staff shelters, fire stations, and other essential county service locations and assets as a result of the trunking systems failures.

At Noon, Roflida Baptist Disaster Relief trailers began deployment to Johnsonville, Roflida and arrived in the early afternoon (March 19) to begin providing disaster response services to the surrounding area.

At 1308 EDT on Friday March 19, 2021, a massive blast occurred at an NT&T central switching site in Johnsonville, on the northeast coast of Roflida, causing a cascade of communications difficulties on top of the exiting public service radio system issues. A cascading series of public switched telephone network failures brought 911 systems and internet connectivity to a crawl for the northeast corner of Roflida, including damage to the SuperNet (emergency response cell-based network) and other cell phone systems associated with NT&T.

RDEM has requested activation of the Southeast Region SHARES network for additional communications support, and portions of the North Roflida ARES® volunteer communications systems, and detailed status reports from all affected EOCs, counties, and utilities by any means possible, to assist Area Command. “

Exercise Rules

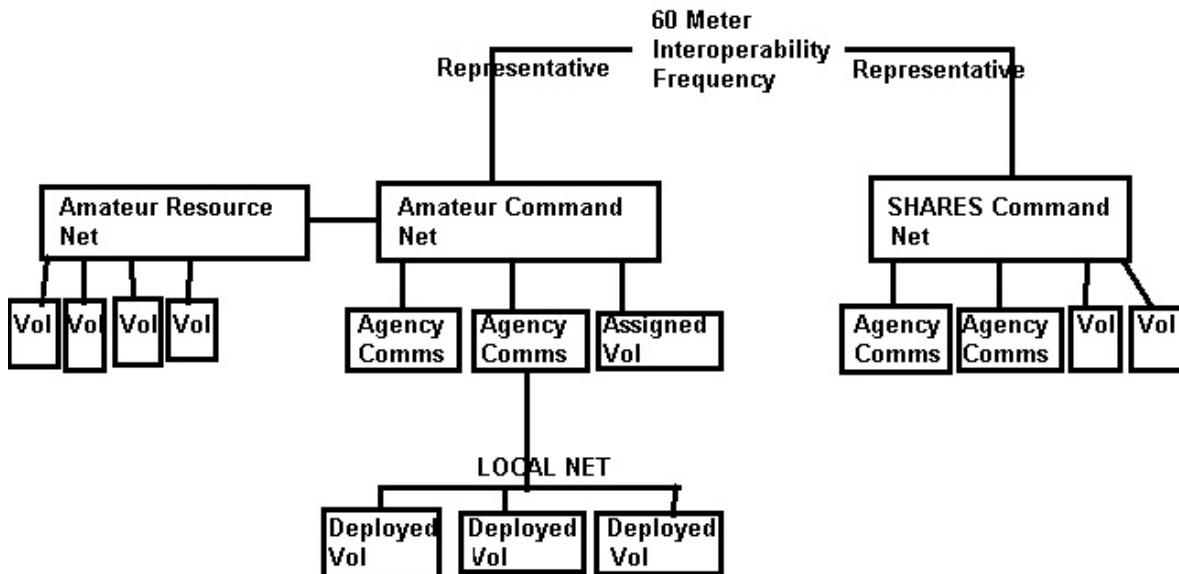
- The following general rules govern exercise play:
- In general, cell phones and cell-phone based navigation are not allowed during the Exercise. Paper maps!
- Real-world emergency actions take priority over exercise actions.
- Exercise players will comply with real-world emergency procedures, unless otherwise directed by the control staff.
- All communications (including written, radio, telephone, and e-mail) during the exercise will begin and end with the statement TEST EXERCISE MESSAGE or similar.

Current and Planned Objectives:

- Life Preservation – Transmit any Emergent Traffic immediately
- Incident Stabilization – Status reports from shelters to EOCs, status updates from EOCs to state RDEM to forward to Area Command Planning Section
- Property Protection – Prevent further fires / damage

RDEM is providing support for AREA COMMAND which is in process of forming and details are not yet fully available. Multiple counties have ICS / EOC operations.

Communications support organized so far looks something like the chart below with RDEM providing coordination of gathered information to Area Command Planning Section / IC. This hierarchical organization of the Exercise was designed to replicate a County EOC, multiple deployed units at various shelters, and connections to a state authority via voice and/or digital, on both amateur and SHARES frequencies.



Gordon Gibby KX4Z

2 ORGANIZING TOOLS

Multiple tools and techniques were very helpful in organizing and carrying out this Exercise. This chapter attempts to provide information to make holding such Exercises much easier for volunteers.

TOOL	COMMENT
EMAIL GROUPS: Google GMAIL allows (at no cost) to keep a contact list that includes the assignment of one or more "labels," which serve as tags marking various email contacts as part of one or more groups. I created a label "WHIRLWIND BOOM" and used this to easily send out group emails to everyone registered for the Exercise.	This makes it much simpler to avoid missing someone or some group in an email announcement.
Website / Web authoring tools: These proved extremely important for making documents readily available to prospective participants. I utilize free web site via qsl.net ¹⁹ , and I utilize the ancient but quite workable KOMPOZER ²⁰ what you see is what you get web authoring tool (no longer being updated).	
Single URL for Entry: Later than I wished, I realized that I needed to have only ONE "front page" on the WWW. I thus created http://qsl.net/nf4rc/whirlwindboom.pdf which allowed me to have: <ul style="list-style-type: none"> • Table of important exercise documents • Table of blank documents for leaders to use • Table of local documents of groups participating in the Exercise for others to learn from 	
GOOGLE FORMS: Very quickly I realized after initially asking for participants to contact me by email, that this was a major mistake and switched registration to a free Google Form. ²¹ This allowed me to capture, in any of multiple forms, including a spreadsheet, information about the persons interested in this Exercise, their location, contact information, and radio station capabilities. Unfortunately the Form that I created captured this information in a very unwieldy way for entry into an ICS-205A	Without Google Forms I would have had very significant difficulty keeping up with the 84 registrations for groups and individuals. This is a huge resource. A tutorial can be found here: https://support.google.com/docs/ans

19 qsl.net is a free web hosting system for amateur radio licensed individuals and groups. For further information, see:
<https://admin.qsl.net/index.php?r=site/page&view=signuppage>

20 Help information on qsl.net: <https://www.qsl.net/support/html/> and <https://www.kompozer.net/download/> There are certainly more advanced and up-to-date web authoring tools, but this older tool has met my needs so far.

21 <https://www.google.com/forms/about/> This free service is very intuitive and your first "form" can be up and running in about ten minutes.

22 Very important to distinguish between volunteer MEMBERS of a group, and leadership representatives of a group who are authorized to notify you that the GROUP itself is willing to be listed as a participant in the Exercise. I tried to be very conservative about listing Group participation.

TOOL	COMMENT
hindrance. Placing the 205 and 205A in only one of these documents would be a time saver.	incident-management-system-implementation/fda-incident-command-system-ics-forms
Confidential ICS-205A: I didn't think it was wise to provide public versions of an ICS-205A with telephone numbers, therefore I kept a second confidential version, that was later provided only to net controls. This was extra work, however.	
Keeping a Timeline: I worked to keep a list of all significant communications during the creation of the Exercise. This turned out to be very helpful.	

Timeline of Significant Events in Planning Exercise	
Date / Days before Exercise	Event
Just before Feb 1 / ~50	Received notification that the FBDR comms trailer would be available for our use at the Jacksonville March 20 Training.
Feb 1, 2021 / 47	Initial email to 14 persons broaching idea of the Exercise, with a Draft Version. Recipients included as many stakeholders as I could think of, including Section Managers of all three Florida Sections, SECs of all 3 Florida sections, ²³ including the Section Manager and SEC of the NFL Section, SHARES leadership, FBDR leadership, Steve Waterman. Draft was not yet in FEMA HSEEP format, just a series of tables.
Feb 1- Feb 5	Received responses from Steve Waterman, Ross Merlin (complete copy edit!) Doug Lynch, Michael Crisler, and Arc Thames.
Feb 8 39	Reached out to Bob Little of FDEM by telephone
Feb 9 38	Better copy distributed with dates, items better decided, better explanation of involvement of locally deployed volunteers, in HSEEP format, Version 0.4
Feb 13	Received helpful and encouraging input from NFL SEC Karl Martin, with suggestions -- all of which were implemented.
Feb 15	Email to known NFL Section Net Managers inviting participation; Version 0.5 Reply quickly from Helen Straughn, encouraging but previously committed.
Feb 17	ARES(R) Letter publishes information about the exercise even

23 The original AAR/IP incorrectly stated that the introductory email was sent to leadership of all three Florida Sections. I may have been conflating an email of July 6 2020 that did go to leadership of all three sections regarding leadership for a 2021 exercise, but the Feb 1 email included leadership of the NFL Section, not the other two. I sincerely regret the error and have issued apologies to those involved. The incorrect statement is presented in strikeout font to make this clear. G. Gibby Apr 18 2021

	before my first formal press release!
Feb 17	Press Release #1 send to ARRL, ARRL-NFL Section, Rick Palm, Ga Section officials, SEC's of WCF and SFL sections.
Feb 18	Email to Bob Little to better discuss exact involvement of FDEM. Resulted in phone call and suggestion by me of RDEM@WINLINK.ORG that would lighten his load and allow him to work via telnet.
Feb 20	Article sent to NFL Section Newsletter. Immediately acknowledged. First creation of Google Form to capture group participant information (would have been useful even earlier). Great questions from Dave Davis on exact tasks of Net Control Stations.
Feb 21 / approx 1 month before exercise	Release of "final" Exercise documentation, one day later than promised, but details of exercise remained basically static after this point, with just more and more groups added.
Feb 22	Test messages to RDEM@WINLINK.ORG
Feb 23	Acquired "business" zoom account so that zoom sessions for hotwash could be held.
Feb 24	NFLSEC encouragement of participation by Karl Martin (thank you from me)
Feb 25	ARRL LETTER publishes announcement of Exercise
Feb 27	<p>As a presenter of 2 talks at the WCF TechCon2021 I included a few slides to announce the Exercise.</p> <p>Hour-long zoom conference with NFL Voice Net leadership, including Dave Davis and Dave Barton. Both agreed that the Survivor Messages are a good mission for amateur operators. Dave Davis concluded to try and work out placing an amateur physically at the State EOC (this never materialized, possibly due to constraints). The winlink email remained the only connection for state recipient.</p> <p>With significant confusion about the use of out-of-state volunteers for relaying during telecommunications failures, I created a new illustration and wording to better explain this concept to volunteers.</p>
Feb 28	<p>Created my email storage label WhirlwindBoom -- 20 persons now added to that email list. First email to encourage the group and remind them of two zoom conferences scheduled for video briefing.</p> <p>Corrected and updated my own NFL EC/AEC contact list; email to these leaders.</p> <p>Created short slide show about the costs of not including volunteer comms into response efforts (E.G., Cedar Rapids Iowa derecho response delay)</p> <p>Discussions with Ross Merlin about involving newly selected</p>

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	SHARES SE regional leadership.
Mar 3	Extensive discussions with Alachua County EM personnel, including this Exercise. Received very first County Plan -- Marion County is #1. Posted on NFL groups.io page to assist other counties.
Mar 4	First creation of single URL entry point for interested person. Press Release #2 went out. First Zoom Conference -- attended by 21 persons. Several participants from the FPTN joined by telephone. First discussion of whether SHARES can handle H&W (turns out they can't). Made aware of issues in Flagler County and worked to ameliorate those.
Mar 5 / 2 weeks	Discussion with Volusia County ARES(R) leadership.
Mar 7	Worked with Robert Little of FDEM to get RDEM working for him. Very significant increase (quite unexpected) in number of out-of-state individual resource units registering.
Mar 8	Posted local example plans from Marion, Florida Baptist, and Columbia county. Developed simple encryption method to send out gmail emails that volunteers could download but not "peek" at injects until actually desired.
Mar 9	Created a "just the basics" example local communications plan in response to a lot of observed confusion.
Mar 10	Learned how to use TWO displays in zoom conference. First set of Command net controls have to drop out due to medical issues.
Mar 11	Registration now has hit 50 persons or groups. Began the process of writing the AAR/IP Began creating the injects. Brief presentation on the Exercise to the NFL EC/AEC meeting using slides created for the zoom conference. Questions on communications with EOC authorization.
Mar 12	Questions from more and more EC's counties. Reviewed all Injects to confirm verbiage indicating messages authorized to be sent. Created resource net "mission assignments" (document promised) to help out the NCS there -- they were delighted to get it. Sent out email injects to most out-of-state potential participants.
Mar 13	Took hours, but mailed or delivered 99 injects to Florida groups / EOCs / designated deployed person, by county group. More questions from Hamilton / Hillsborough counties but not any written documentation. Madison county joining. Dave Davis has found two more command net volunteer NCS. Encouraged those gentlemen to read the documentation and phone call on Monday.

Mar 14	2nd Email to my list of NFL EC/AEC offering additional chance to join. One EC requested to be off that mailing list.
Mar 15	Completed color coded illustration of Injects.
Mar 16	Got list of sites for Taylor county, created injects for them, emailed. Latest group of Command Net NCSs no longer available. At this point, training emails are going out every morning to the registered participants.
Mar 17	Further work with Bob Little to get RDEM@WINLINK.ORG Tactical Address working. Sandy Allison becomes the official Command NCS (and did a fantastic job)
Mar 18	Packed my RV for deployment.
Mar 19	Deployed to Jacksonville; after visiting with FBDR, drove to rest area just south of Jacksonville, set up trailer antenna and placards advising participation in a radio exercise (good move). Monitored FOUR different nets round-robin (HF Resource, HF Command, SHARES Command, HF PSK) as fast as possible during Exercise, took copious notes to keep situational awareness. Moderated the Zoom Hotwash Session

EXERCISE EDUCATION

EDUCATION was perhaps my biggest effort. While the professional Emergency Managers were very familiar with Exercise creation, documentation, and execution, there was less understanding of exercises in general, and the concepts of a tiered emergency volunteer backup communications structure ranging from neighborhoods through Counties and all the way to the State or beyond, in the general volunteer pool. My tactics to create an understanding of the communications system and the procedures to be used inside of it during the Exercise are summarized in the following Table.

Educational Effort	Date / Comment
Emails to Florida leadership inviting participation	Beginning Feb 1 2021
Creation of Exercise Plan and Incident Action Plan	While original documents started as simple tables, these rapidly improved to: Formal HSEEP Exercise Plan: Feb 8 2021 Incident Action Plan: Feb 15 2021
Press Releases to amateur radio news outlets	#1 Feb 17 #2 Mar 4 #3 Mar 18 (version designed to be sent out by local groups) AMATEUR RADIO NEWS MEDIA COVERAGE:

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	ARRL ARES LETTER: Feb 17 2021 ARRL LETTER: Feb 25 2021																																																																																																										
Creation of formal "one-URL" entry to all documentation																																																																																																											
Training Emails to registered groups and individual participants, each on one or more subjects, generally written early in the day. Dates on which training emails went out are marked in bold and underlined.	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="7" style="text-align: center;">FEB 2021</th> <th colspan="7" style="text-align: center;">MAR 2021</th> </tr> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> <th></th><th></th><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> <td></td><td></td> <td>1</td><td><u>2</u></td><td><u>3</u></td><td>4</td><td><u>5</u></td><td>6</td> </tr> <tr> <td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td> <td></td><td></td> <td><u>7</u></td><td><u>8</u></td><td>9</td><td>10</td><td><u>11</u></td><td>12</td><td><u>13</u></td> </tr> <tr> <td>14</td><td><u>15</u></td><td>16</td><td>17</td><td>18</td><td><u>19</u></td><td>20</td> <td></td><td></td> <td><u>14</u></td><td><u>15</u></td><td>16</td><td><u>17</u></td><td><u>18</u></td><td>29</td> </tr> <tr> <td><u>21</u></td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td> <td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>28</td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>	FEB 2021							MAR 2021							S	M	T	W	T	F	S			S	M	T	W	T	F	S		1	2	3	4	5	6			1	<u>2</u>	<u>3</u>	4	<u>5</u>	6	7	8	9	10	11	12	13			<u>7</u>	<u>8</u>	9	10	<u>11</u>	12	<u>13</u>	14	<u>15</u>	16	17	18	<u>19</u>	20			<u>14</u>	<u>15</u>	16	<u>17</u>	<u>18</u>	29	<u>21</u>	22	23	24	25	26	27									28														
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Explanatory Article for the NFL Section Newsletter	Written Feb 20, published Mar 1																																																																																																										
Zoom Conferences explaining Exercise	7PM Mar 4 and 7PM Mar 18																																																																																																										
Presentation to NFL EC/AEC's thanks to Karl Martin SEC	Zoom, March 11																																																																																																										

WEB-AVAILABLE EDUCATIONAL DOCUMENTS

The following tables were published, and continually updated, at a unified URL <https://www.qsl.net/nf4rc/whirlwindboom.pdf>) to provide continuously-available explanatory information to all leadership and participants in the Exercise:

Whirlwind Boom 2021 Exercise

A radio-based communications exercise Friday evening March 19 2021, 7-9PM EDT. Combining multiple volunteer and professional response organizations to practice in the setting of a simulated severe weather event complicated by terrorist intervention.

Document	URL
Registration Google Form • Group Leader • Individual registering who is not part of a group.	https://docs.google.com/forms/d/e/1FAIpQLSfeOZg8ehrWL_Brg45aKAq3ImIVglvrgY98bwup2ycwMF3BQ/viewform?vc=0&c=0&w=1&flr=0&gxids=7628
Incident Action Plan (for radio communications portion)	https://qsl.net/nf4rc/FBDR/2021/2021WhirlwindBoomICS201.pdf

Exercise Plan (full HSEEP-based documentation)	https://qsl.net/nf4rc/FBDR/2021/2021WhirlwindBoomExercisePlan(Participant).pdf
Information about a real-life communications issue faced by Cedar Rapids, Iowa just last summer.	https://qsl.net/nf4rc/FBDR/2021/FailureOfVolunteerUtilization.pdf
Slides from the March 4th Zoom Conference going over this Exercise (as amended)	https://qsl.net/nf4rc/FBDR/2021/ZoomConferenceSlides.pdf
Tutorial on reading encrypted INJECTS delivered by email (NOT by ham radio)	https://qsl.net/nf4rc/FBDR/2021/EncryptedInjectTutorial.pdf

**EASY EXAMPLE PLAN FOR A COUNTY GROUP
"ABRACADABRA COUNTY INCIDENT ACTION PLAN"**

PDF COPY	https://qsl.net/nf4rc/FBDR/2021/AbracadabraJustTheBasicsIAP.pdf
.ODT WORD PROCESSOR COPY	https://qsl.net/nf4rc/FBDR/2021/AbracadabraJustTheBasicsIAP.odt
.DOC WORD PROCESSOR COPY	https://qsl.net/nf4rc/FBDR/2021/AbracadabraJustTheBasicsIAP.doc

Writing up a plan for a local volunteer communications response to an exercise/incident about to happen is one of those things that needs to get done almost ANNUALLY here in Florida! This exercise provides a great chance for county leadership to assess where they are and put down on paper what they're REALLY going to do, on a given day, March 19th, if we have a disaster (exercise) that night!

**FOR YOUR INFORMATION -- Examples of Local Group / Agency / NGO response plan documents created for this exercise. These may give you ideas for your local group.
(In reverse order of filing date)**

Taylor County	ICS-205: https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/TaylorCountyWhirlwindboom2021ICS205.pdf ICS-205A: https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/TaylorCounty205ACommListWhirlwindBoom2021.pdf
Madison County	Forwarded an ICS-205 and 205A (not yet an exercise plan) [note the proscription against health and welfare during emergency operations] https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/MadisonCountyICS205.pdf https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/MadisonCountyICS205A.pdf
Flagler County	https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/Flagler-Boom -

Whirlwind Boom 2021

	<u>Exercise - EXPLAN -v3.13.21.pdf</u>
Suwannee County	Leadership there has been hit with a pre-exercise "Inject" as some participants have had acute severe medical issues -- working on altered plans
Santa Rosa County Florida Local Plan	https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/SantaRosaCountyLocalExercisePlan.pdf A very comprehensive job from Arc Thames for their County!! Thanks for making my job easier!!
Alachua County Florida Local Plan.	Jim Bledsoe KI4KEA took a stem that I had provided and corrected all the placeholders for the correct Alachua County Information -- and with a few passes thru copy-editing, had a great local plan!! https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/AlachuaCountyLocalPlan.pdf
Columbia County Florida (named "Columbine" in the documents to avoid any critique of improperly posing as a government)	A very easily made Exercise Plan -- all Brad had to do was change a tiny bit of the Scenario to make it fit exactly his County: https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/2021WhirlwindBoomExercisePlan(Columbia Participant)2.pdf (It is still very, very long, unfortunately, blame me, not him!) Brad came up with a very nice ICS-205 for his County. I would quibble that he made an unnecessary VHF Resource Net that will have almost NO work to do, and he accidentally deleted all information about the Statewide voice nets -- but he did the crucial thing of providing LOCAL COMMAND NET vhf information: https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/ColumbineCountyICS-205.pdf Brad made a short-and-sweet ICS-205A that gives exactly what people need to know -- who is WHERE, and how do you reach them (of course, those emails won't work during the exercise.....! Might have been better to provide winlink addresses?) -- I erased one phone number for safety sake: https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/ColumbineCountyICS-205A.pdf
Florida Baptist Disaster Relief	https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/FBDR-ICS205.pdf https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/FBDR-ICS205A.pdf
Marion County (very spiffy graphics!!! and some locally-altered formats to suit their desires)	https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/MarionCountyLocalPlan(Rev2).pdf https://qsl.net/nf4rc/FBDR/2021/GroupDocuments/MarionCounty205-205AForPublicViewing.pdf

3 INITIAL TASKS

Participants were requested to undertake significant preparation before the Exercise:

Before the Exercise

Review appropriate organizational plans, procedures, and exercise support documents.

Leadership for each participating group should provide The Controllers with information on proposed frequency assignments or corrections to suggested ICS-205 entries. (Please carefully study Appendix A, Exercise Schedule) You may wish to follow a "checklist" of preparation to become more ready for this exercise. Some suggested items include:

Check Off	Preparation Item
<input type="checkbox"/>	If part of a group, have you received an assignment?
<input type="checkbox"/>	If part of a local group, have you received an ICS-205 giving any local frequencies that will be utilized? (The Exercise Plan focuses on state-level communications.)
<input type="checkbox"/>	Do you have suitable antennas plus the ability to replace them in timely fashion?
<input type="checkbox"/>	Do you have backup power available? Will it include LIGHTING?
<input type="checkbox"/>	Are you able to check your output power?
<input type="checkbox"/>	Are you able to create the necessary voice or digital modulations?
<input type="checkbox"/>	For data operations, can you successfully operate your computer simultaneously with your radio, or are there lockup or interference issues?
<input type="checkbox"/>	Are you familiar with the FORMS that are requested to be used in this Exercise?
<input type="checkbox"/>	Are you familiar with the software and systems that may be required during this Exercise?
<input type="checkbox"/>	If you are fulfilling a leadership or county-level role, can you monitor both HF and VHF/UHF comms simultaneously if necessary?
<input type="checkbox"/>	Have you acquired the Survivor Message forms and possibly already completed one or more, or had family/friends complete one? This is a useful familiarization process.
<input type="checkbox"/>	Do you have a copy of band plans (amateur) or net channels (SHARES) available to you?
<input type="checkbox"/>	Do you understand how to embed an ICS-213 into a Radiogram or how it might come to you?
<input type="checkbox"/>	Have you or your local leader registered your planned participation?

<input type="checkbox"/>	If you are the leader of a local group, did you receive INJECT materials by two days prior to the Exercise? If not, you may wish to contact the Exercise Director to check.
<input type="checkbox"/>	Last minute review of the Exercise Plan or Incident Action Plan?

The Exercise was broken into three Sessions:

7PM EDT - 7:45 PM	Session One
7:45 PM - 8:30 PM	Session Two
8:30 PM - 9PM	Session Three.

Injects were provided to most participants (either on paper or by email) to be opened at designated Session begin times. These provided updated information about their situation and instructions for their communications (See next chapter).

The INITIAL INSTRUCTIONS GIVEN for the beginning of Session One were:

Exercise Date / Time	Personnel	Activity	Location
Friday March 19 2021 Daytime BEFORE the Exercise	All participants	<p>ANTENNA</p> <p>Each group is encouraged to begin the exercise with any suitable antennas normally present at their location, but if in a deployed position, to have already erected suitable antennas.</p> <p>ALL groups are warned to be ready to erect replacement antennas as Injects are likely to indicate that existing antennas are unusable.</p>	Exercise participant location.
Friday March 19 2021 Daytime BEFORE the beginning of the exercise 7 PM	All participants	<p>EMERGENCY POWER</p> <p>Each group is encouraged to begin the exercise either on emergency power (including lighting) or to be ready to move expeditiously to emergency power if Injects down their existing power.</p> <p>Note: participants working from their home locations should be ON or prepared to go to full EMERGENCY POWER for all radio communications including lighting.</p>	Exercise participant location.

EXERCISE BEGINNING

EXERCISE SESSION ONE: 7PM – 7:45 PM

Note: Typically groups are left relatively unscathed in the 1st Session and merely have to deal with their own equipment and training issues....be ready for things to fail that you didn't expect!

Exercise Date / Time	Personnel	Activity	Location
INJECTS			
<p>If you received an INJECT ENVELOPE for Session One, open it at this time.</p> <p>If you received emailed (encrypted) INJECTS, decrypt your Session ONE Injects now: web page : http://telmo.pt/xecryption/ The encryption key is SessionOne²⁴</p>			
	<p>Basic Theme of Reaching Outside A Disaster Area: Find voice or data stations that are UNAFFECTED and use them to manually or automatically relay your messages to the intended recipient, if direct connections aren't available.</p> <p>With widespread damage to the Internet from the tornadoes and the terrorist blast, situational reports and survivor outbound messaging may need to go to DISTANT voice/data volunteers, or DISTANT Winlink RMS stations for delivery.</p> <p>Example: KA4AAA took your outbound Situation Report from your damaged county, and put it on gmail to the Roflida State EOC, when the state EOC was not available on voice channels.</p> <p>Example: Winlink-equipped volunteer comms station in a damaged county send outbound Survivor Messages via an Alabama Winlink RMS, causing the message to be quickly delivered to the email address of the distant loved one.</p> <p>RESPONSES</p> <p>When State level responses need to return to affected EOCs, if voice comms aren't available, the process will reverse -- Distant Volunteers will help to pick up and relay BACK the responses by any means necessary.</p> <p>Example: State EOC emailed back a response to KA4AAA, addressed to your county Emergency Manager. KA4AAA then reaches back via a voice net to relay the response back to the station in the damaged county.</p> <p>DO WHATEVER WORKS!!</p>		
Friday March 19	Leadership of	Initiate Net Control	Exercise participant

²⁴ I later discovered that most of the injects were encrypted with an "automatic" key and one could decrypt by merely pressing decryption button on the web page. That would have made it a lot easier set of instructions....

Exercise Date / Time	Personnel	Activity	Location
2021 7 PM	each group.	<p>Leadership constitute Command Nets and Resource Net(s) as assigned and commence activities.</p> <p>NOTE</p> <p>For the entire exercise there will be Resource and Command Nets on HF frequencies. However, if a local group has deployed assets within their county, VHF control would be more appropriate locally, and information should have been provided within their ICS-205 planning materials submitted earlier; such local nets are expected and encouraged, but be certain to have representation in the Exercise HF net.</p>	location
Friday March 19 2021 7 PM	Non-leadership participants without any other assignment	<p>Check into Nets</p> <p>Check into assigned HF Resource Net (if extant) and receive information and assignment. If unable to locate Resource Net, check into applicable Command Net.</p>	Exercise participant location



Marida, one of our enthusiastic out-of-state volunteers -- permission for publishing granted.

4 EXERCISE INJECTS

The Master Scenario Event List gives a blow-by-blow listing of all expected events during the entire Exercise. This information was not released to the Participants. This document is extremely important in the construction of an Exercise, and allows the Exercise Director some chance of keeping track of the various Units and their activities. The tabular form of the MSEL is provided in an Appendix; a graphical version which provides much easier overview of the Injects is as follows:

INJECT LEGEND	
INJECT TYPE	COLOR
No Utility Power	Blue
Antenna Issue	Green
Shelter Disturbance	Red
Station Disappears	Grey
Equipment Issue	Orange
Nearby Emergency	Yellow

TEAM	Session One		Session Two	Session Three
Fl Bapt Dis. Relief	POWER	SATEL.	Power & Generator Failure	PWR, GEN SATEL
Alachua EOC			Antenna Failure	Antenna Failure
Alachua #1	Antenna Failure		OK	
Alachua #2	PWR	SICK	PWR	PWR
Alachua #3	Bldg Collapse		OK	OK

Alachua #4	ANT	Fire	OK	OK
Alachua #5	PWR	SHOTS ²⁵	PWR	PWR
Alachua #6	PWR	Bldg Col.	PWR	PWR
Alachua #7	PWR	Disturb.	PWR	PWR
Alachua #8	PWR	FIRE	PWR	PWR
MARION EOC	TREES		OK	OK
Command NCS	BLDG COLLAPSE		OK	OK
Data NCS	PWR	Violent	PWR	PWR
Resource NET R.A.W.	PWR	FIRE	PWR	PWR
Shelter P.B.	PWR	ILL	DISAPPEAR	PWR
Shelter L.J.	PWR	SHOTS	PWR	PWR
Additional Shelter	PWR	LEAK	PWR EVAC	PWR EVAC
COLUMBINE EOC	OK		OK	OK
SHELTER MH	PWR	ILL	PWR EMBERS	PWR
SHELTER MP	PWR	LEAK	PWR CAVE IN	PWR
SHELTER GB	PWR	SHOTS	PWR ILL	PWR
SANTA ROSA EOC	ROLL	EMAIL	RUMORS	
RELAY 1	ANTENNA		PWR	PWR
RELAY 2	POWER		DISAPPEAR	PWR
RELAY 3	PHONE	SHOTS	PHONE BATTLE	PHONE BATTLE

25 Two reviewers took great exception to the Inject involving gunshots heard, with the inject indicating the shelter manager asked the amateur volunteer to report this (as other communications were out of service). One reviewer stated these words should NEVER be used in an Exercise. Another reviewer shared concerns expressed by a retired highway patrol colleague who happened to turn on his ham radio midstream, to hear the Inject involving "shots fired" being passed in a report. This gentleman was concerned that any police agency would immediately begin a 911 response "and ask questions later," suggesting that they should never be used in an Exercise, and not verbally at least **Obviously one needs to be cautious with Injects that have significant importance! No War of the Worlds hysteria, please!** However, no professional EMs expressed such concerns, and I'm not aware of any incidents. To gain perspective, I searched for nationwide standards regarding NEWS MEDIA using these words in their broadcasts, and found none. Situational awareness should involve discerning the actual situation before taking rash action on one or two overheard words; a quick question might solve the issue or hearing the TEST MESSAGE; those words or EXERCISE is heartily suggested to be used frequently. Nevertheless, some repeaters ARE monitored by local authorities, and with these two reviewers' urgent concerns, other exercise designers may wish to avoid such impactful Injects.

Whirlwind Boom 2021

RELAY 4	PWR	PHONE	PWR	Violent	PWR	Violent
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Taylor County received similar injects by email. Suwannee County information was late in being assimilated and they did not receive injects. To my chagrin, it later developed that I failed to send injects to the volunteers in Madison County, however Pat Lightcap K4NRD stepped into the gap and provided injects to the great volunteers in that and surrounding counties.



Ad Hoc antenna switch to allow Alachua County EOC to choose between antennas on the fly.

5 RESULTS

The Exercise documentation requested ICS-214 and 309 to be emailed to docvacuumtubes@gmail.com, but compliance was spotty at best. For most participants, Session 3 injects were designed to get traffic totals accumulated at the EOC and then forwarded to docvacuumtubes@gmail.com. Compliance with that was somewhat better, with some data from all known counties by 4 days after the event.

KNOWN PARTICIPATION

(derived from available materials, including ICS-214 or 309 returned by county leaders)

County or Group	Participants	Comment
Florida Baptist Disaster Relief	Team leader and 2 additional participants.	Other team members were not able to deploy to Jacksonville, and the author was occupied with being Exercise Director.
Alachua County	EOC: EOC Program Manager, three amateurs, 1 visitor-assistant. 6 shelters and 2 HF community operators = 13 participants	Notes are little difficult to decipher.
Columbia County	EOC: 3; 5 other operators at 2 locations.	
Flagler County	EOC: 2; 7 other amateurs in other locations + 6 GMRS participants =15 total	
Madison County	Operators Involved: 17 (9 from Madison County) Counties Involved with Madison Taylor: 3 operators Hamilton: 1 operator Lowndes County, Georgia: 3 operators Emergency Management Officials: Director Basford-Madison County Deputy Director Houk-Taylor County	
Marion County	7 total participants; EOC, EOC alternate, 2 net control operators and additional participants.	
Santa Rosa County	4 total amateur operators	

Suwannee County		
Taylor County	1 Emergency Manager, 4 amateur radio operators, 1 GMRS operator = 6 total.	Derived from ICS-309
Net Controls	2 Resource net controls 1 Command net control 1 or more SHARES net controls 1 PSK31 net control	
Individual Resource Units i not associated with a registered group	At least 7 based on incoming reports	Likely quite a bit more than this but due to limitation of reporting cannot be certain.
GRAND TOTAL	85 known participants	

MESSAGE TRAFFIC

County of Individual	Total Messages Sent/Received via Voice	Total Messages Sent/Received by Data	Total
County RADIO traffic total (sent + received)			
Alachua "Gator"	32	12 Agency + 12 Survivor = 24	56
Columbia "Columbine"	17	5	22
Flagler	94	32	126
Madison (includes Taylor, Hamilton, Lowndes Cty. GA)	28	0	28
Marion	N/A	N/A	38
Santa Rosa	1	3	4
Taylor	54		54
Volusia	2		2
COUNTY SUBTOTALS	228+ ?	64 + ?	330
Individual Resource Units RADIO traffic total (sent + received)			
Coltrane	1	0	1
Swartz	0	2	2
KF5PWM	0	3(S)	3
Cunningham		1(S)	1
Shulters	6	0	6

County of Individual	Total Messages Sent/Received via Voice	Total Messages Sent/Received by Data	Total
NJ2N	0	1	1
Christian	0	3(S)	3
<i>INDIVIDUAL SUBTOTALS</i>	7	11	17
State Agency Target Traffic (sent+received)			
Florida Div Emerg. Mgt (Winlink Telnet)	Received 53 messages; created 31 replies (all over telnet WINLINK)		84
EXERCISE GRAND TOTALS (formal traffic)			
			431

(S) = Survivor Message. Marion County provided totals but not breakdown by technique.

Exercise Director Observations on Various Nets

Resource Net	HF Ham Command	PSK	SHARES	WINLINK RDEM
I was unaware of their usage of 7.242(my lack of checking for the 40 meter alternate--I mistakenly didn't think that would be very useful! -- it was apparently VERY useful for taking in volunteers from more distant states, a big learning point for me); heard the net for the first time at 1914 -- good calling going on!	Net was up and running promptly; NCS elected to run through the entire listed 205A - but some stations were probably caught up in the RESOURCE NETS on 80/40 and thus wouldn't be there early. Lots of GREAT checking in ; Heard Hernando county check in. Message traffic errors were being graciously handled.	Heard calling on frequency by 1915 but it seemed to be a station calling themselves? By 1920 heard WA4WES calling the net, and then other stations. Still one station calling themselves (difficulty with software?)	Heard the net up and running promptly.. Unfortunately I wasn't able to maintain reception of this net after another half hour or so.	Found traffic arriving to RDEM almost immediately after 1900. Some difficulties getting State up and running but quickly overcome and up and running quite well by 7:30 Processing messages as fast as possible, very fast throughput

	work. Listened to an entire survivor message transfer "up 3" from K9RFT to KJ4UC -- excellent work done, with a bit of QSB.			
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Approx 1 hour into Exercise: Rest area security guard noted the vehicle with placards advising of the Exercise and stopped by to check -- he was FASCINATED by what he was watching as his background included significant message passing in the military. Alerted his superior by radio of the exercise. He was so interested that the conversation lasted 30 minutes and I wasn't able to monitor the nets very well during that time.

State Traffic: Messages Sent Directly By Amateur Winlink Radio²⁶ to State Tactical Address Within Exercise Period

The WINLINK Development Team maintains an automatic US Amateur Radio Message Viewer (accessible after login, at https://winlink.org/content/us_amateur_radio_message_viewer) which allows registered amateur radio users to freely read ALL messages transferred by RADIO over the winlink system. I was able to leverage this unique system to review messages sent by radio to the assigned tactical callsign. This system does NOT capture messages sent over the Internet, nor messages sent through the SHARES radio winlink system. This allowed me to examine a significant portion of the delivered messages to see their origination, and the winlink Gateway and frequency utilized.

NOTES:

1. Sender is not necessarily the callsign of the station creating the traffic.
2. Additional messages were relayed by other techniques out of the disaster area, and then sent by working Internet to the State tactical address, and are not captured with this Windows Viewer. This list includes ONLY those sent directly to RDEM@WINLINK.ORG directly over amateur radio.
3. Attachment = 1 generally means a "form" was sent as the message to the State.

²⁶ The WINLINK system provides for completely separated "groups" using different "service codes." This is set in your SETTINGS | Winlink Express Setup menu options. The default for amateur radio users is "PUBLIC"; while some other groups, such as SHARES, use a different "service code" and thus are kept separate, avoiding erroneous frequency choices.

No.	TIMESTAMP	GATEWAY	SENDER ²⁷	SUBJECT
	SIZE	Att	Freq	Comment [by Exercise Director]
1	03/19/21 11:03 PM 320	KB5OZE 0	N4FBC FBDR	Exercise FLDR Food Unit Arrived
2	03/19/21 11:13 PM 2483	AB4NX 1	K1CE Forth White FL Indiv Resource	//WL2K P/ SPOTREP 191845Z MAR 2021
3	03/19/21 11:17 PM 281	AB4NX 0	N3JUY Flagler	EXERCISE*** STATUS REPORT *** EXERCISE
4	03/19/21 11:18 PM 6037	N5TW 1	KD5BJ (out of state) ²⁸	Lee County ARES TX INCIDENT STATUS - WhirlwindBoom 2021, 2021-3-19 18:12
5	03/19/21 11:23 PM 413	AB4NX 0	N3JUY Flagler	EXERCISE*** REQUEST ***EXERCISE
6	03/19/21 11:24 PM 239	N4SER 0	W1HQL City of Homestead EOC	WhirlWind Boom 2021
7	03/19/21 11:25 PM 553	AB4NX 0	N3JUY Flagler	FW: Exercise
8	03/19/21 11:26 PM 2677	W1SP 1	AB1CR (out of state)	//WL2K P/ SPOTREP 192323Z MAR 2021 - This is an Exercise
9	03/19/21 11:27 PM 5709	AK4SK 1	N5CBP Columbia County	213RR-whirlwind boom 2021-Request #:1
10	03/19/21 11:31 PM 301	KB5OZE 0	N4FBC Exercise- FBDR	
11	03/19/21 11:44 PM 2480	W1SP 1	AB1CR (out of state)	//WL2K P/ SPOTREP 192342Z MAR 2021 - This is an exercise
12	03/19/21 11:50 PM 03-19 19:493188	AK4SK 1	W1HQL Flagler	213-2021 Whirlwind Boom-Available Resource if needed - 2021-
13	03/19/21 11:53 PM 948	KS5Z 0	KG5ZYP (out of state)	Status report
14	03/19/21 11:55 PM 814	KB5OZE 0	N4FBC FBDR	Re: Exercise-
15	03/20/21 12:00 AM 4534	K6MBY 1		WACLALARC 205A-Whirlwind Boom-2021-03-19 16:38 PDT (out of state)

27 Sender refers to the entity that sent the messages, which may or may not be the station was transmitting it.

28 (out of state) indicates a WINLINK message from an out-of-state entity that reflects a misunderstanding and lack of clarity in the exercise instructions; out-of-state stations should not have been advised to send status messages to RDEM

16 17:00 PDT	03/20/21 12:01 AM PDT	K6MBY 6106 1 7.102 MHz	WACLALARC 214-Whirlwind Boom-Carole Woods-3/19/2021 16:00 PDT TO (out of state)
17 PDT	03/20/21 12:02 AM 4957 1	K6MBY 7.102 MHz	WACLALARC 213-Whirlwind Boom-messages to FL residents - 2021-03-19 16:55 (out of state)
18	03/20/21 12:04 AM 3590 1	WA5TED 14.065 MHz	KG5ZYP 213--Status as of 1823 local - 2021-03-19 18:23 (out of state)
19	03/20/21 12:07 AM 273 0	K9KDJ 7.103 MHz	K9RFT //W2LK EXERCISE MESSAGE TO RDEM Relay for Columbia County
20	03/20/21 12:09 AM 2394 1	K6MBY 7.102 MHz	WACLALARC 213-Whirlwind Boom-Propagation - 2021-03-19 17:05 PDT (out of state)
21	03/20/21 12:10 AM 267 0	K4FEM 3.591 MHz	N3JUY EXERCISE*** STATUS UPDATE ***EXERCISE Flagler EOC
22	03/20/21 12:16 AM 2482 1	KB5HCD 14.103 MHz	W9MNC 213-2021 WHIRLWIND BOOM-OUTAGES - 2021-03-19 19:42 Marion County EOC
23 19:19	03/20/21 12:16 AM 2455 1	KB5HCD 14.103 MHz	W9MNC 213-WHIRLWIND BOOM EXERCISE-OUTAGES - 2021-03-19 Marion County EOC
24	03/20/21 12:20 AM 5979 1	N5TW KD5BJ 145.030 MHz	Lee County ARES TX INCIDENT STATUS - WhirlindBoom 2021, 2021-3-19 19:09 (out of state)
25	03/20/21 12:23 AM 345 0	K4SRC 145.090 MHz	KT4DD //WL2K EXERCISE MESSAGE TO RDEM Hernando County activation
26 03-19 20:13	03/20/21 12:26 AM 3778 1	AB4NX 3.589 MHz	N5CBP 213-WHIRLWIND BOOM 2021-Columbine County Situation Report - 2021- Columbia County EOC
27 20:17	03/20/21 12:26 AM 2874 1	K4PAR KC5CMX 7.104 MHz	213-2021 WHIRLWIND BOOM-W9MNC LOSING POWER - 2021-03-19 Marion County EOC – real world FYI report.
28	03/20/21 12:27 AM 1557 0	K4FEM 3.591 MHz	NNA4FC Re://WL2K P/ SPOTREP 200005Z MAR 2021 Flagler County (SHARES) (orig ham radio?)
29	03/20/21 12:31 AM 1, Priority 3211 1	WW4MSK 3.593 MHz	KA4FJV //WL2K ARC213-DR#: , TEST whirlwind Boom Exercise, Msg#: (out of state)
30	03/20/21 12:37 AM 331 0	K4SRC 145.090 MHz	KT4DD //WL2K EXERCISE MESSAGE TO RDEM Hernando County activation
31	03/20/21 12:38 AM 730 0	KB5HCD 14.103 MHz	W9MNC FW: QTC 1 W OCALA FL 34484 Marion County EOC
32	03/20/21 12:38 AM 3325 1	K4FEM 3.591 MHz	KA4QVH //WL2K Exercise MESSAGE Check In (out of state)
33	03/20/21 12:39 AM	KB5HCD	W9MNC FW: //WL2K P/ SPOTREP 192306Z MAR 2021

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2525	1	14.103 MHz	Marion County EOC
34	03/20/21 12:40 AM	KB5HCD	W9MNC FW: HICS213: whirwind boom exercise - Msg# [KS4SW1]
	2950	1 14.103 MHz	Marion County EOC
35	03/20/21 12:40 AM	KB5HCD	W9MNC FW: 213-2021 WHIRLWIND BOOM EXERCISE-GUNSHOT
SURVIVER - 03-19-2021 19:46			
	2760	1 14.103 MHz	Marion County EOC
36	03/20/21 12:41 AM	KB5HCD	W9MNC FW: HICS213: whirwind boom exercise - Msg# [KS4SW1]
	2950	1 14.103 MHz	Marion County EOC
37	03/20/21 12:41 AM	N4SER	N3JUY FW: Exercise Traffic
	755	0 3.595 MHz	Flagler County EOC
38	03/20/21 12:42 AM	KB5HCD	KC5CMX 213-2021 WHIRLWIND BOOM-W9MNC LOSING POWER -
2021-03-19 20:17			
	4134	1 14.103 MHz	Marion County EOC
39	03/20/21 12:46 AM	WW4MSK	N3JUY EXERCISE*** INJECT THREE *** EXERCISE
	372	0 3.593 MHz	Flagler County EOC
40	03/20/21 12:55 AM	N5TW NF4AC213RR-Whirlwind Boom 2021-Request #:1	
	7378	1 10.148 MHz	Alachua County EOC

(Ham) HF Radio Gateways Utilized In Order Of First Appearance

NOTE: No information available on SHARES Gateways utilized.

#	Gateway	Frequency (MHz)	# of utilization	State	Approx Distance
1	KB5OZE	10.145	2	LA	450
2	AB4NX	7.103	4	GA	350
3	N5TW	145.030	2	TX	900
4	N4SER	3.595	2	FL	100
5	W1SP	145.030	2	CT	local to user
6	AK4SK	7.064	2	VA	200
7	K5SZ	145.030	1	TX	local to user
8	K6MBY	7.102	4	WA	2400
9	WA5TED	14.065	1	TX	1100
10	K9KDJ	7.103	1	IN	600
11	K4FEM	3.591	3	GA	300
12	KB5HCD	14.103	7	TX	750

13	K4SRC	145.090	2	FL	local to user
14	AB4NX	3.589	1	GA	350
15	K4PAR	7.104	1	GA	250
16	WW4MSK	3.593	2	GA	300
17	N5TW	10.148	1	TX	900

HF Ham Bands Used by Agencies

Band	Number of Gateways Utilized	Agency Usages	MHz of space allotted for usage
80 M	4	8	0.015
40 M	5	12	0.005
30 M	2	3	0.010
20 M	2	8	0.016

HOTWASH ZOOM CONFERENCE COMMENTS (drawn from my handwritten notes)

	Comment	Response
1	Bob, PA: couldn't connect, sent survivor msg via Winlink	
2	Jim: most fun he ever had!	
3	Bob Little: less interest in his mind in the situation reports; work toward higher specificity in resource requests; when asking for food/water need to know how many bottles, size, be specific. Also need to know WHERE to send. Handled 53 incoming messages, replied to 31; considered this exercise a good start, recommends more in depth requests in next exercise. 213 better way to communications. At his desk in SEOC, he separates requests to go to specific ESF and send them out to get fulfilled. Noted that there are VERY FEW search and rescue teams, but are of various sizes. Had fun!	Lack of specificity in messages was the fault of the Exercise Director; next time possibly enlist more aid from EOC / EM staff who are trained to specify type, kind etc -- can do a better job creating more specific requests, if we can enlist their aid.
4	Bob Little: really wished all counties had access to SHARES	
5	Doug: comment about "shots heard" [my writing illegible] - areas to improve	
6	Rosemary: device died, had to go to car transceiver; suggests find locations of assets and map them	

Whirlwind Boom 2021

7	Don - North GA - lot of activity on command net, messages; NCS could send them out for passing; but also very important to keep up a lot of "chatter" on the net frequency to "keep" the frequency	
8	Bob 7.242 radar signals killed them; sent various participants to the Command Net; there were significant issues with interference, incorrectly operated transceivers and malicious high power intentional interference	
9	Dave Davis -- PSK net -- 5 checkins, 4 messages, K4CRD went to PSK125 -- good throughput	
10	?Sandy had very high noise level, needed an alternate	No alternate available
11	Arc T. -- RR go to the outside [illegible] used it, worked well! great job on the injects	
12	Leland: very successful. (1) lack of capacity for digital -- Tried TWENTY FIVE public ham gateways, all busy; went to SHARES, smooth sailing...Shares ALWAYS worked for him (2) Injects were wonderful, felt bad for the local EMs! (3) did the HF digital, worked (4) HF phone -- couldn't get to the SHARES command net, couldn't hear, made it to the amateur command net [illegible] 29 passed	Note high noise level experienced unexpectedly at HF at Alachua
13	Susan -- received 13 traffic, sent 6, messed up 2 [not further explained] ; problem documenting fast enough!	
14	Dalton: no further comment; Mark Thomas showed up and worked on documentation, did GREAT job at that.	
15	Sandy (HF Command Net Control): "pretty easy" time; 2 messages + 1 radiogram, sent people up 3 kHz "it is fun"	Amazing cool during this exercise
16	[illegible] Lee county TX -- could not reach HF nets; googled the documents	
17	Carl -- "did OK" rocky at beginning; he was the "boss" directed net in his county; will do more training on WINLINK for all groups as a result, 7 or 8 different stations [illegible] Need more training on winlink and ICS; had 8 or 9 persons, one of them brand new	
18	Dave -- "we just pass along" traffic. GOT to have authorizing signatures; [illegible]	
20	Mike -- MAYOR of their town came by and was very impressed with the performance, good demonstration to community	
21	Karl: I agree a resource net is an optimal way of coordinating personnel and resources, but we do not have the people. It is not that we don't have trained stations. We don't have people willing to do the job. Dave has been doing a great job of encouraging everyone to be a net control operator.	Karl was kind enough to provide me with written comments when I was unable to read my hen-scratched notes, thanks!

<p>This operator had a good way of putting it:</p> <p>"... the General with years of military training understands the overall plan.</p> <p>The corporal can shoot, move, and communicate, and knows to 'grab your rifle and go here.'</p> <p>While an overall understanding of the overall plan might be helpful to the corporal, he can't deduce from that plan, his own personal mission.</p> <p>That must be spelled out directly. 'Grab your rifle, and go north with your squad to the villages where we will engage the enemy.' Assigned, well-defined missions would have been helpful."</p>	<p>Great Comments, and I certainly had difficulties in trying to find the most clear way to explain separately to all of the following disparate groups:</p> <ol style="list-style-type: none"> 1. out-of-state volunteers (a much larger than expected number!) 2. in-state individuals unaffiliated with a group 3. leadership at county level 4. membership at county level presumably in neighborhood watch or shelter duty 5. SHARES volunteers 6. NGO Agency volunteers (Florida Baptist Disaster relief) <p>what their individual missions were! The INJECTS (see illustrations above, and Appendix details below) were one attempt to give each person the "assigned, well-defined missions" that the writer suggests, and might have been unaware.</p> <p>A point of significant confusion that might have been avoided was asking out-of-state volunteers to both</p> <ul style="list-style-type: none"> • Volunteer to RELAY for Florida Stations (clearly recognizing their out-of-state status) • And generate their own "simulated survivor messages" for practice, which makes them get the mindset of being WITHIN the disaster area. <p>That confusion was unintended, and clearer explanation might have avoided it.</p>
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22	<p>Comments from Taylor County (by email)</p> <p>1. We did not have a local net control established other than the EOC. The plan was for the EOC to receive all messages and then send out any requests to the state. I quickly found out that it was too much information for one person to handle and also record on the logs. It is our plan to ensure a local VHF/UHF and separate GMRS net control is in place in the future.</p> <p>2 A person/net control will be identified to be responsible for receiving and sending traffic out of county. We didn't have that at first but soon established one once we seen the need was there.</p> <p>3. All nets will have a scribe available if possible to keep accurate logs.</p>	Apparently I missed their comments earlier.

ANONYMOUS GOOGLE FORM EVALUATION (n=12 responses)

Overall Experience (1-5 Scale)	41.7% = 4 "Good" 58.3% = 5 "Excellent"
Best part of the Exercise	<p>A lot of stations checking in and passing traffic</p> <p>Getting to participate as an individual</p> <p>Being able to prepare and practice. Injects were well written and useful.</p> <p>Many modes utilized</p> <p>We had 8 people participate, expected 2</p> <p>As a newcomer, I gained some understanding of how I could help out in an actual disaster. The whole thing was out of my frame of reference, but the experience helped fill in the frame of reference so I might understand things better the next time. I understand passing Radiograms and messages, but the overall structure of how something like this works was beyond me.</p> <p>Things are coming more into focus now.</p> <p>Being able to utilize shares digital for moving traffic. This proved to be very useful.</p> <p>It's breadth to include outside stations. The overall plan was very ambitious.</p> <p>Sending traffic via Winlink</p> <p>As part of the out of state SHARES net, we had limited communications from Florida. We were monitoring the Primary - SCG0, the Interop (5330.5) and Winlink. We received minimum traffic. Excluding ourselves, we had 7</p>

	<p>stations contact us. There was one request for traffic from Florida (no traffic was passed). Two stations contacted us on SCG0, one station contacted us on both SCG0 and the Interop and six stations contacted us on the Interop frequency. six messages were sent and acknowledged over Winlink. One station sent multiple messages by Winlink using forms that were responded back to with Winlink response forms. No messages were sent or received that event messages. All winlink messages were "real world" messages.</p> <p>Exposing Ham radio operators to HSEEP and ICS</p> <p>Demonstrating the capability of HAM radio to provide communications during a grid down emergency.</p>
Worst part of the Exercise	<p>I was an individual operator in Connecticut. I was unable to make contact on 40M or 80M voice although I could hear the net on 40M a bit.</p> <p>Having to participate as an individual.</p> <p>Not a lot of activity for stations outside of the disaster area. Most of the time was spent listening rather than participating.</p> <p>Can't say</p> <p>Not sure why yet, but one shelter transmitted nothing!</p> <p>As a new volunteer, I wanted a simple "you do this" instruction. "You tune in here and be prepared to take messages" (or whatever). The event was obviously well planned, but I sometimes my personal mission got lost in the massive planned-out details. I'm still not sure what my mission was, but I hope I was a help.</p> <p>Excessive noise levels on all voice frequencies,. Unable to check in on shares voice, probably should have tried interop channel. Lesson learned.</p> <p>My distance from FL. It would've been great to hear more of the action</p> <p>Sending traffic via voice</p> <p>I'm not sure many stations were aware of the out of state SHARES part of the event. I can not speak about what went on in Florida, but on the out of state SHARES side, we had not event messages and very limited communications. Most was multiple transmissions from the same stations.</p> <p>Command net was not really involved, need to have "big picture" section level ARES management issues to work on</p> <p>Nothing. Honestly, nothing. The entire exercise was extremely well developed. It was challenging but not impossible.</p>
Something you might change:	<p>As an individual operator I know the drill was not meant for me but a bit more clarity on what out of state single operators should do would have been good. I didn't know if I should create some survivor messages and send them to RDEM or not. (I decided they probably were getting enough traffic and just sent an inject 1 and an inject2 spotrep</p> <p>The exercise sponsors were well prepared and provided great documents. I</p>

	<p>would work harder to encourage local participation.</p> <p>Would like to have seen resource requests going out from the state EOC to counties in areas that weren't impacted. Would've given those outside the disaster area more to do. NCS was talking too quickly when passing traffic. Better coordination of traffic handling, out-of-region resources</p> <p>Each volunteer would have a specific mission, and would understand it. On the battlefield, for example, the General with years of military training understands the overall plan. The corporal can shoot, move, and communicate, and knows to "grab your rifle and go here." While an overall understanding of the overall plan might be helpful to the corporal, he can't deduce from that plan, his own personal mission. That must be spelled out directly. "Grab your rifle, and go north with your squad to the villages where we will engage the enemy." Assigned, well-defined missions would have been helpful.</p> <p>PSK modes for traffic. Very slow, not robust. FEC modes would probably be better. Possibly, THOR22 for net; MFSK32 for traffic. This is especially true for traffic sent to outside states</p> <p>N/A</p> <p>Excluding the SHARES side, I do not have enough information to comment on what transpired in Florida</p> <p>Command net should be working for the SEC, implementing the SEC's instructions, priorities, etc. i.e. the SEC delegates specific tasks to the command net. Add Resource Net tracking the movement of mutual aid individual assets from point A to point B.</p> <p>Nothing. This could easily become a template for an annual exercise.</p>
Something you might ADD to the exercise:	<p>20 meters. I know this was a Florida exercise but I think we had enough people further out to handle some traffic on 20M.</p> <p>More interaction with the SHARES team.</p> <p>List of peer-to-peer WinLink callsigns</p> <p>In the Army, each soldier has a Military Occupational Specialties (MOS). He is trained in that specialty. We could have those who train highly on specific tasks so they could be plugged into the proper command structure. Some might train as net controllers. Others as passing voice traffic by Radiograms. Others could train to pass Winlink emails. Others could train on Winlink P2P. Some could be PSK31 specialists, and so on. This doesn't mean we limit our training to our specialty. It DOES mean we develop a high degree of proficiency within our specialty. And there's nothing to say we can't each develop several specialties. Groups interested in any particular specialty could work together to increase the pool of knowledge within that specialty.</p> <p>Can't think of anything</p>

	<p>N/A</p> <p>If SHARES were to be used again in this type of exercise, I believe more information needs to be given to the local users about SHARES, what our mission is and how they would send event messages to SHARES along with the type of messages.</p> <p>Focus on ICS 213 for tactical messaging, no radiograms for tactical use</p> <p>Plan a pre-ex comm check with the players. I know each station should have made sure they worked from where they were. The question is if person A will be able to reach person B on SIMPLEX.</p>
Any other comments?	<p>Thank you! This was a very good exercise. - Chuck AB1CR</p> <p>Hope to participate in more.</p> <p>Looking forward to a future exercise!</p> <p>Since half of our operators had never done an exercise and one was a brand new ham, it was a great exposure for them. It also tested the ones that were not new. We were also able to get some involvement from our county EM</p> <p>This was amazing. Let's practice our skills regularly. Big thumbs up!</p> <p>THANK YOU Gordon and all the others for making this a successful learning experience.</p> <p>It was very informative/educational viewing the planning and execution, even from afar. Thanks for making the exercise available to outside states.</p> <p>73</p> <p>There was great feedback from people during the Zoom meeting after the exercise.</p> <p>On behalf of SHARES, I would like to thank you for inviting us into your event and look forward to participating again. Although a very small part, it helps the EOC's to better understand what part we play in disaster communications.</p> <p>The SEC might need to be a "trusted agent", both an exercise planner and exercise participant. SEC provides planners with "this is my philosophy, my doctrine" for managing the section response.</p> <p>BRAVO ZULU!</p>

KNOWN REAL WORLD PROBLEMS ENCOUNTERED

1	At least two participants were addressing very serious medical issues either of their own or a close family member. This prevented some participation.
2	HF Amateur Command Net transceiver stopped working the morning of the exercise, heroic efforts at replacement or repair resulted in a workable station but still a high noise level.
3	Florida Baptist Disaster Relief geosynchronous satellite did not capture satellite; concern that the positioning of the trailer had the focused beam going thru a VHF/UHF antenna mast; will have to work out the geometries better and know which trailer orientations to avoid, in addition to keeping western sky visible; there was also foliage thought to be below the line of sight but in the general aiming direction. Unclear which issue was the worst.
4	Florida Baptist Disaster Relief diesel generator inexplicably QUIT during the exercise despite recent maintenance; a replacement generator was difficult to start; radio communications continued because of backup batteries already provided and fully charged but LIGHTING was an issue in the enclosed trailer.
5	Alachua County discovered the recently installed backup HF antenna was a "non-performer" and employed a replacement quickly. They were determined to have TWO antennas available at the start of the Exercise plus batteries galore.
6	Exercise Director discovered a disadvantage of the long wire antenna draped OVER the monitoring RV trailer: every time significant power was utilized on 80 meters, the entire computer system locked up due to intense RF. This despite many 1:1 current Balun (chokes). Suggestion to move antenna AWAY from the top of the trailer.
7	Alachua County and Flagler County reported high noise levels; however in the monitoring trailer just south of Jacksonville in a rest area, the HF noise levels were QUITE LOW -- lower than I'm used to seeing at my house; this suggests there were no ionospheric issues, and any noise problems are likely LOCAL and need to be addressed locally.

COMPARISON TO TRAFFIC TOTALS OF PREVIOUS FLORIDA EMERGENCY CONFERENCE EXERCISES:

Comment: *The participation and message traffic achieved in this Exercise dwarfed that of our previous Alachua-County in-person Conference HSEEP-based exercises.* The distributed nature of the Exercise, and the involvement of local VHF-based nets apparently added significant communications to the Exercise.

2020 Conference Hot & Cold Exercise²⁹

UNIT	VHF		HF	
	Voice	WINLINK	VOICE	WINLINK
FLB-1	4	0	0	3
FLB-2	4	2	2	3
SH-1	?	1	3	4
SH-3	7(tactical)	0	1 (tactical)	4
SH-4	2	0	1	0
SH-5	5	0	0	6
EOC	13	3	?	2
TOTALS	28	6	7	22
Grand Total	63			

2019 EXERCISE VIRAL DUO TRAFFIC³⁰

2019 TRAFFIC COUNTS	INFORMAL	FORMAL	
VOICE	18	12*	Total Voice 30
DIGITAL	0	48	Total Digital 48
Total	18 Informal	60 Formal	78 Grand Total

29 See: <https://qsl.net/nf4rc/2020Conference/CreateSpaceHotColdAARIPBlackInk.pdf>

30 See: <https://qsl.net/nf4rc/2019Conference/CreateSpaceViralDuoAARIP1.2BlackInk.pdf>

6 EXERCISE CATEGORIZATION

EXERCISE OVERVIEW

Exercise Name	2021 Whirlwind Boom Exercise
Exercise Dates	Friday March 19, 2021 (7 PM-9PM EDT)
Scope	This exercise is a deployment, full scale exercise , planned for 2 hours at multiple locations throughout northern Florida and including participants throughout the southeastern United States. Exercise play is open to a very wide array of volunteers including: – NTS or other traffic net volunteers, --volunteers participating in the 2021 Florida Baptist Disaster Relief Jacksonville on-site training, – Florida state emergency personnel, – County personnel / volunteers, --ARES® volunteers, – SHARES personnel (federal, state, local, or volunteer), and any other interested amateur radio operators. ³¹ .
Mission Area(s)	RESPONSE
Core Capabilities	MASS CARE SERVICES OPERATIONAL COMMUNICATIONS

³¹ This exercise specifically includes a RESOURCE NET to assist unexpected volunteers with joining the exercise.

Exercise Name	2021 Whirlwind Boom Exercise
Objectives	<p>1.0 Antenna Deployment</p> <p>2.0 Emergency Power</p> <p>3.0 Communications Planning</p> <p>4.0 Voice Communications</p> <ul style="list-style-type: none"> 4.1 Command Net 4.2 Formal Status Report 4.3 Tactical Communications 4.4 (Optional) Survivor Messages <p>5.0 Data Communications</p> <ul style="list-style-type: none"> 5.1 Written/Status Reports 5.2 Resource Requests 5.3 Response Time 5.4 Survivor Messages <p>6.0 Interoperability</p> <p>7.0 Volunteer Handling</p>
Threat or Hazard	Extreme weather event complicated by human terrorist effort, resulting in Infrastructure failure, multiple types, leading to communications failures and risk to population
Scenario	Multiple tornadoes damaging a swath across the peninsular state of Roflida from one coast to the other as a result of fast moving cold front, with large number of displaced persons seeking shelter, large power outages and communications systems outages.
Sponsor	Florida Baptist Disaster Relief ³² , Communications & Technology Ministry

³² Florida Baptist Disaster Relief is a non-governmental served agency with an amateur radio communications team.

Exercise Name	2021 Whirlwind Boom Exercise
Participating Organizations	<p>SHARES SE Regional Coordinator / Net</p> <p>Florida Div. Em Mgt (Robert Little)³³</p> <p>Northern Florida ARES® Net (NFAN)</p> <p>Northern Florida Phone Net (NFPN)</p> <p>Alachua County Emergency Management³⁴</p> <p>Flagler County Emergency Management³⁵</p> <p>Columbia County Emergency Management³⁶</p> <p>Madison County Emergency Management³⁷</p> <p>Taylor County Emergency Management³⁸</p> <p>Alachua County ARES®</p> <p>Columbia County ARES®</p> <p>Flagler County ARES®</p> <p>Madison County ARES®</p> <p>Marion County EOC/ARES®</p> <p>Santa Rosa County ARES®</p> <p>Suwannee County ARES®</p> <p>Volusia County EOC/ARES®</p> <p>Distant Outlets: Multiple "individual resource units" in a considerable number of states. (See ICS-205 herein for current list) ³⁹</p>
Point of Contact	<p>Gordon L. Gibby MD, KX4Z, NCS521</p> <p>docvacuumtubes@gmail.com</p>

33 FDEM is a state-level served agency.

34 Alachua County Emergency Management is a county-level served agency.

35 Flagler County Emergency Management is a county-level served agency.

36 Columbia County Emergency Management is a county-level served agency.

37 Madison County emergency management is a county-level served agency; notified by Patrick Lightcap on March 13, 2021.

38 Taylor County Emergency Management is a county-level served agency -- their first participation in one of our Exercises!

39 I presume that other ARES(R) organizational leadership are in close communication with their local emergency management or other served agency, but I have tried only to list those served agencies where the approved or exercise participation, or actual input from the governmental or non-governmental agency has been made clear.

7 ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

Unfortunately, a weakness of the design of the Exercise was that insufficient information was requested from county participant groups to be certain of the outcome of some of the Objectives. This could be rectified in future Exercises by more careful construction of reporting forms.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
1.0 Antenna Deployment		P40			
2.0 Emergency Power		P41			
3.0 Communications Planning				M	
4.0 Voice Communications					
4.1 Command Net		P			
4.2 Formal Status Report		P			
4.3 Tactical Communications		not well measured			

- 40 Insufficient information requested to fully evaluate this Objective. The Alachua County and Florida Baptist Disaster central teams prepared with a minimum of two working antennas to be prepared for failures.
- 41 Insufficient information was requested to fully evaluate this Objective. The Alachua County EOC had a plethora of batteries at their disposal and emergency lighting. The Florida Baptist Disaster Relief group, deployed to Jacksonville and operating from a diesel generator, experienced ACTUAL generator failure but also had batteries. They did indicate that it gets VERY DARK in that comms trailer when the normal lights go out....

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
4.4 (Optional) Survivor Messages			S		
5.0 Data Communications					
5.1 Written/Status Reports		P			
5.2 Resource Requests			S		
5.3 Response Time			<i>not well measured</i>		
5.4 Survivor Messages		P			
6.0 Interoperability		P			
7.0 Volunteer Handling		P			

Table 1. Summary of Core Capability Performance**Ratings Definitions:**

Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.

Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.

Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.

Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

Objective 1.0 Antenna Deployment

Strengths

The successful capability level can be attributed to the following strengths:

Note: this could only be evaluated for the central groups of the Alachua County and Florida Baptist Disaster Relief groups. However, it appears that groups familiar with the emergency communications exercises performed in 2018, 2019 and 2020 in Alachua County, were familiar with radio exercises such as this, and knew that antennas might be failed and provided 2 antennas from the beginning; savvy groups even began on their *inferior* antenna in case it was "failed."

Areas for Improvement

The following areas require improvement to achieve the full capability level:

None noted.

Reference:

<https://qsl.net/nf4rc/2019Conference/CreateSpaceViralDuoAARIP1.2BlackInk.pdf>
<https://qsl.net/nf4rc/2020Conference/CreateSpaceHotColdAARIPBlackInk.pdf>

Analysis:

It appears the years of training conferences by Alachua County, the North Florida Section and others, are beginning to have an effect.

Objective 2.0 Emergency Power

Strengths

The successful capability level can be attributed to the following strengths:

Note: this could only be evaluated for the central groups of the Alachua County and Florida Baptist Disaster Relief groups. However it appears that groups familiar with the emergency communications conferences of the last few years knew to be prepared for this type of inject.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

None noted.

Reference:

 (After action reports of Objective 1.0)

Analysis:

It appears the years of training conferences by Alachua County, the North Florida Section and others, are beginning to have an effect.

Objective 3.0 Communications Planning

Strengths

The successful capability level can be attributed to the following strengths:

Flagler county had professional development of their Exercise Plan which was written in full HSEEP ExPlan format. Marion County while using somewhat non-standard formats, had the advantage of multiple previous incident efforts, and was the first group to file such a Plan.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1:

For multiple groups, the request to prepare a local communications plan for this sort of exercise involving large-area bad weather was a surprisingly difficult task, based on the delays in preparation and comments received. It appears that ICS documentation is less

familiar to those county groups, which may utilize other non-ICS documentation for their typical responses. More training and actual utilization of ICS-based forms in the Section is recommended.

Reference: One possible example of a local communications plan:
<https://www.providenceri.gov/wp-content/uploads/2017/05/Special-Event-Incident-Action-Plan-Template-with-Example.pdf> Also see the local plans created for this exercise by various counties.

Analysis:

Work is needed in some counties to become more familiar with ICS planning and documentation.

Objective 4.0 Voice Communications

Objective 4.1 Command Net

Strengths

The successful capability level can be attributed to the following strengths:

Years of practice holding voice nets morning and evening in our Section have given significant practice to many participants.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

There appeared to be significant hesitancy to take the Command Net control position; however, a relative newcomer, Sandy Allison found it actually pretty easy and did a great job.

Reference:

Analysis:

Great experience was gained and will likely encourage many others to participate as voice net controls. The traffic moved on this net was far less than anticipated. I speculate that this is due to two factors:

- Increasing and now significant familiarity on the part of at least key members of local county-level volunteer groups of how to file their own reports and forms via radio WINLINK.
- Decreasing familiarity of some groups with formal voice-message passing techniques, and the exercise's encouragement to make direct connections to out-of-state volunteers (to allow for immediate delivery to the RDEM@WINLINK.ORG, important in fast-paced disaster response) rather than moving traffic through the slower but significant NTS system. **The importance of retaining skill at moving formal message traffic via voice channels (or suitable peer-to-peer digital connections) cannot be overemphasized since these systems can gracefully expand, while mechanized systems may have more difficulty expanding to meet a large need.** Each has its place.

Objective 4.2 Formal Status Report

Strengths

The successful capability level can be attributed to the following strengths:

Strength:

Note: this appeared to be proceeding with little difficulty based on the ICS-309 reports received. In particular at Alachua County blank spot-report forms were simply filled in as reports came in. Reports to the State appeared to be moving very smoothly through the Winlink system, with far more reporting than expected.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement : None

Reference:

Analysis:

A very impressive number of formal reports were moved at the local level to their respective EOCs. This demonstrates a very healthy and important service that amateur radio operators can provide for local situational awareness.

Objective 4.3 Tactical Communications

Strengths

The successful capability level can be attributed to the following strengths:

Strength:

My observation of the HF Command net suggested there were little problems with tactical communications, which is exercised often in many nets in the NFL Section. However, I don't have enough information to make a 100% positive assessment.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: None

Reference:

Analysis:

Better analysis of this would require more Evaluators in future Exercises.

Objective 4.4 (Optional) Survivor Messages

Strengths

The successful capability level can be attributed to the following strengths:

Strength:

A very small number of survivor messages moved through the voice nets, much smaller than I had expected. However I was able to listen to one complete survivor message move off-net-frequency in a very nice transaction with a relatively new emergency communications volunteer, K9RFT, to a receiver volunteer in Georgia. Excellent job on both end of this transaction.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement : None

Reference:

Analysis:

This technique needs further practice and education.

Objective 5.0 Data Communications

Objective 5.1 Written/Status Reports

Strengths

The successful capability level can be attributed to the following strengths:

Strength 1:

Far greater utilization of WINLINK communications to the State EOC occurred directly from affected county groups than I had expected. This suggests that a significant

penetration of these skills has happened throughout the NFL Section.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement:

Unfortunately, there were several out-of-state stations that submitted status reports to the Florida State EOC; this reflects a misunderstanding and Exercise documentation needs to be improved to more clearly state the goals for out-of-state stations. This contributed to some overload of the State volunteer.

Reference:

Analysis:

Objective 5.2 Resource Requests

Strengths

The successful capability level can be attributed to the following strengths:

Strength:

Note: I can count only ONE ICS-213RR transferred to the State.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement:

The exercise design would need to improve to better test the transfer of ICS-213RR's. This weakness was brought up distinctly in the zoom conference "hotwash" as an area of weakness in the exercise. Involving EM resources to create these resource requests properly would add a real strength.

Reference: <https://rtlt.preptoolkit.fema.gov/public>

Analysis:

Objective 5.3 Response Time

Strengths

The successful capability level can be attributed to the following strengths:

Strength: Not well measured in this Exercise.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement:

The Exercise was not written in such a way to allow adequate measurement, and far more evaluators than the ONE involved would need to be found.

Reference:

Analysis:

More Evaluators needed in future Exercises.

Objective 5.4 Survivor Messages

Strengths

The successful capability level can be attributed to the following strengths:

Strength:

There is a significant undercurrent of amateur radio operators who instinctively understand the value of this public service. Six-thousand such messages were moved out of Puerto Rico and many amateurs are proud of that service.⁴²

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement:

ARES(R) communications plans need to be altered to proactively plan and practice to serve the public in this way.

Reference:

Analysis:

Amateur Radio health-and-welfare traffic meets a distinct and pressing human need to let loved ones know how survivors are faring. The value to the society is quite significant and amateur radio organizations might be well-served to further this training and practice.

Objective 6.0 Interoperability

Strengths

The successful capability level can be attributed to the following strengths:

Strength:

Very significant interoperability gains were achieved with Emergency Managers bringing together REACT groups, GMRS users, amateur radio users, professional employees. The SHARES group provided excellent coverage, including the 60-meter Interoperability frequency, and the SHARES manager provided excellent support for interoperability.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement :

More practice!

Reference:

Analysis:

Objective 7.0 Volunteer Handling

Strengths

The successful capability level can be attributed to the following strengths:

Strength :

Excellent service by two Resource Net Control Stations, who apparently operated nets on TWO amateur radio bands, understood the available "mission statements" and forwarded persons to the Command Net efficiently.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

42 The ARRL reported <http://www.arrl.org/news/amateur-radio-volunteers-aiding-storm-ravaged-puerto-rico-us-virgin-islands> "Radio amateurs in Puerto Rico have been operating a brisk and busy ad hoc health-and-welfare traffic nets on 7.175 and 14.270 MHz, as has the Salvation Army Team Emergency Network (SATERN) on 14.265 MHz. Nets are handling only outgoing traffic. Resto said checking on individuals' welfare typically requires attempting to visit them in person, since telecommunications are down nearly everywhere. "

Area for Improvement: None

Reference:

Analysis:

8 IMPROVEMENT PLAN

Note: Improvement are not detailed for many items that were Performed without challenges, or items that were basically due to exercise planners not explaining the desired survivor messaging clearly enough; this has been discussed above.

Item	Core Capability	Area For Improvement	Corrective Action	Suggested Primary Organization	Outcome (FILL IN AS REPORTED)
1	Mass Care Services; Operational Communications	<u>Exercise Planning</u> Frequent requests from prospective participants "What do I do?" (having already been given access to exercise documents)	1. Volunteers please READ exercise documents carefully. 2. Improve the conciseness and readability of exercise documentation; make specific sections next time for DISASTER versus ELSEWHERE regions.	Exercise Creator	
2	Mass Care Services; Operational Communications	<u>Exercise Planning</u> Early difficulty FINDING documents	Provide single point of URL entry at the very beginning.	Exercise Creator	
3	Mass Care Services; Operational Communications	<u>Exercise Planning</u> Failure-prone early registration (via email)	Utilize Google Forms or equivalent from the beginning to register participants	Exercise Creator	
4	Mass Care Services; Operational	<u>Exercise Planning</u> Span of control was badly exceeded; few persons engaged	Work to broaden leadership of exercises; not just ONE person	Exercise Creator and possible	

Item	Core Capability	Area For Improvement	Corrective Action	Suggested Primary Organization	Outcome (FILL IN AS REPORTED)
	Communications	to help		volunteers, including Section Leadership where available.	
5	Mass Care Services; Operational Communications	<u>Exercise Planning</u> Better capture of outcome of Exercise Objectives (Objectives, 1.0, 2.0, 5.2, 5.3 could not be fully evaluated due to failure of exercise to request DATA on execution.)	(1) Better outcome capture documents to be created by Exercise Creator (2) Better adherence to instructions by County volunteer leaders	Exercise Creator and County volunteer leaders	
6	Mass Care Services; Operational Communications	<u>1.0 Antenna Deployment</u> Florida Baptist unable to make geosynchronous satellite antenna connect.	Test mast interference to satellite antenna theory and fix connection	FBDR (Florida Baptist Disaster Relief)	
7	Mass Care Services; Operational Communications	<u>1.0 Antenna Deployment</u> Various counties and stations reporting excessive noise, likely local.	Affected counties to study noise sources and reduce noise or find alternative antennas.. Utilize better low-noise techniques	Affected counties	
7	Mass Care Services; Operational Communications	<u>2.0 Emergency Power</u> FBDR generator quit; lack of internal lighting	Check generator fuel supply issues; wire internal LED lighting from battery	FBDR	
8	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> Improved buy-in from ARRL field leadership	Work further to improve interoperability	All	
9	Mass Care Services; Operational	<u>3.0 Communications Planning</u> Lack of county-level experience with writing local comms plans,	Have experienced leadership (e.g. Flagler County E M) contribute to	NFL Section leadership and county	

Item	Core Capability	Area For Improvement	Corrective Action	Suggested Primary Organization	Outcome (FILL IN AS REPORT-ED)
	al Communications	including ICS-205, 205A, 201	Section training efforts to spread their expertise	leadership	
10	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> Out of disaster area sending forms to Florida agency	Exercise creator to write better instructions to make external participant duties clearer Participants read instructions more carefully.	Exercise Creator	
11	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> Difficulty finding volunteer HF voice net controls	Section leadership to enhance training for NCS ⁴³	Section leadership	
12	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> Noise experienced at some locations (1)	Local efforts to discover noise sources and create mitigation strategies, including distant, remote controlled receivers (e.g. Part 15 microwave tcp/ip control) as one option.	Local volunteer and EM staff	
13	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> Noise experienced at some locations (2)	Increased utilization of the unique low-signal digital techniques developed in the past decade [e.g. PACTOR, VARA, JS8, & similar]	Increased Section leadership / net leadership emphasis	
14	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> Malicious and inadvertent interference on ham bands	Increased utilization of SHARES frequencies (for agency-related communications)	Increased Section and volunteer education and emphasis on these options ⁴⁴	

43 Dave Davis WA4WES has been providing an admirable service with Saturday morning on-the-air continual training just before a scheduled net. Great job!

44 Despite years of service and encouragement from the Florida Div of Emergency Management, understanding by county-based amateur radio emergency leadership about SHARES is still limited -- as shown by the MADISON COUNTY AAR/IP, indicating they didn't know what it was. This in spite of a descriptive article "SHARES: An opportunity for Amateur

Item	Core Capability	Area For Improvement	Corrective Action	Suggested Primary Organization	Outcome (FILL IN AS REPORTED)
15	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> SHARES Office needs notification start/end & channels usage during incidents / exercises for better coordination. I goofed at that.	Notify the SHARES HQ (or have them notified) at beginning of incident or Exercise, the event and the channels in use and estimated time frame; at end of incident or exercise notify them again. This will help them answer questions from SHARES members.	Exercise Director of their designee	
16	Mass Care Services; Operational Communications	<u>3.0 Communications Planning</u> We missed a chance to exercise the SHARES HF Alert system designed to provide Alerting even if there is NO INTERNET.	Well in advance of planned event, <u>ask for HF Alert messages to be broadcast for 24 hours announcing the event for better notification -- or have your Regional Coordinator do so.</u>	Exercise Director or their designee or the RCS for the affected region..	
17	Mass Care Services; Operational Communications	<u>4.1 Voice Command Net</u> Difficulty finding and keeping voice net control stations, lack of alternate.	Section leadership to hold more large scale exercises and develop more experienced NCS	Section leadership	
18	Mass Care Services; Operational Communications	<u>5.0 Data Communications</u> Largely busy WINLINK RMS stations, such that users forced to wait in line	Since spectrum changes are unlikely, recommend trying more diverse RMS stations, and add SHARES capability. ⁴⁵	Local counties and Section Leadership to emphasize SHARES option.	
19	Mass Care Services; Operation	<u>5.0 Data Communications</u> Often busy WINLINK RMS	Develop increased peer-to-peer data techniques such	Section Leadership to	

"Radio to Service Communities" specifically about SHARES in the February NFL Section Newsletter (see pp2-3, <https://arrl-nfl.org/wp-content/uploads/2021/01/QST-NFL-February-2021-2.pdf>) Section EC's and leadership would do well to promulgate more information about this valuable asset to county agencies.

- 45 With the support and approval of your local Emergency Manager, a simple one page form and two signatures will get your local EOC their own SHARES license. Contact Doug Lynch or Gordon Gibby for more information. Robert Little of the Florida Division of Emergency Management heartily encourages SHARES licensure for EOCs. SHARES licenses are a STATION LICENSE and allow any individual (ham or not) approved by the governmental authority to utilize the communication, but in practice agencies heavily depend on ham radio volunteers for technical expertise.

Item	Core Capability	Area For Improvement	Corrective Action	Suggested Primary Organization	Outcome (FILL IN AS REPORT-ED)
	al Communications	stations.	as peer-to-peer WINLINK, FEC-broadcast techniques, and JS8	teach and champion. Add suggested frequencies to ICS-205 plans	
20	Mass Care Services; Operational Communications	<u>5.1 Written/Status Reports</u> Better understanding of information desires of FDEM	Discussions of desired information for situational awareness	Exercise creator, Section Staff, FDEM staff	
21	Mass Care Services; Operational Communications	<u>5.2 Resource Requests</u> Lack of specificity in resource requests	(1) Enlarge exercise creation staff (2) Enlist local EM staff to handle creation of ICS-213RR	Exercise Creator, Section, and County EM staffs	

APPENDIX: GLOSSARY

TERM	EXPLANATION
Area Command	An Area Command is an organization established to: <ul style="list-style-type: none"> • Oversee the management of multiple incidents that are each being managed by an ICS organization. • Oversee the management of large incidents that cross jurisdictional boundaries.
Command Net	A directed meeting of radio communicators to allow for movement of important tactical or formal messages or traffic.
Core Capability	32 Important Capabilities considered essential in the national preparedness for incidents. The core capabilities, established in the National Preparedness Goal , are referenced in many national preparedness efforts, including the National Planning Frameworks . The Goal groups the capabilities across the relevant five mission areas. Some core capabilities fall within a single mission area, while others apply to multiple or all mission areas.
Data Traffic	Traffic that is conveyed by some digital technique such as any of the WINLINK modulations, PSK31, Olivia, Packet, MT63, PACTOR, or similar.
EM	Emergency Manager, the person responsible for emergency management in a governmental structure.
EOC	Emergency Operations Center, typically the hub of the support system for a County response, supporting the Incident Command that is in tactical control of the situation in the field.
Exercise Plan	In the HSEEP system, a detailed structured document that gives instructions to exercise participants including the goals and background of the exercise as well as instructions for participation.
FBDR	My acronym for the Florida Baptist Disaster Relief organization, an NGO.
Formal Traffic	Traffic that is intended to be conveyed and delivered with word-perfect accuracy, if not letter-perfect accuracy.
Gateway	In the context of WINLINK, a dedicated station that typically transfers emails from the radio sphere to the Internet sphere; however, "hybrid" gateways have the ability to autonomously (97.221b) relay traffic toward an intended recipient even in the complete absence of the Internet, even worldwide.
Group Leader	In this document, refers to the county- or local-leader of a volunteer communications group, which might be a professional or a volunteer,

	potentially the ARRL Emergency Coordinator or their designee. Responsible for coordinating the local portion of the Exercise.
HSEEP	Homeland Security Exercise Evaluation Program -- a set of doctrine and documents designed to bring about drills and exercises that build on each other to move groups to ever more competent status.
Hotwash	A meeting immediately following an Exercise where participants and exercise leaders can discuss the events, successes, and problems from which they can all learn.
IAP	In the Incident command System, one or more documents that comprises a Plan for how resources will be acting during the next operational period addressing an incident.
Individual Resource	A radio communicator who is unaligned with a trained group of volunteers for the purposes of the Incident or Exercise.
Inject	A change or new assignment, which can be used to "un-stick" a group that has gotten off track in an Exercise, but more commonly to inject unexpected events or requests to increase more realism into the Exercise.
ICS	Incident Command System, the organizational structure that address a disaster or incident.
ICS-205	A structured listing of frequencies that will be available for communications.
ICS-205A	A listing of significant personnel and how they may be contacted.
.ODT	The file suffix denoting a word-processor file for the word processing component of the free office productivity suite Libre Office.
Mass Care Services	Mass Care is the capability to provide immediate shelter, feeding centers, basic first aid, bulk distribution of needed items , and related services to persons affected by a large-scale incident.
NGO	Non-governmental organization or agency
Resource Net	A directed meeting of radio communicators designed to accommodate "walk-on" volunteers who are not well known to the established incident or exercise response. Education, evaluation, and assignment to missions can occur within this Net.
Resource Requests	In ICS, a formal technique or form for requesting equipment, personnel or other assets needed to address a facet of an incident.
SHARES	A program of the Department of Homeland Security designed to provide high frequency radio communications resources for government use at several levels. Not designed for use to directly serve the citizenry.
Survivor Message	A message from an incident survivor, typically outbound from the disaster area, typically to friends or family in non-involved areas, informing them of personal status.
Tactical Address	Used two ways: Over voice, an identifier such as "SHELTER ONE" that gives special meaning to the position of the communicator; Over WINLINK, a separate email address that can be utilized by one or

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	more persons as an abstraction, so that all messages to an office or position can be mailed to a static email address, which may be actually received by various persons at various times.
URL	Universal Resource Locator -- the "web address" of a page or resource. An example is: https://www.fema.gov/

APPENDIX:
SUGGESTED FORM TO COLLECT
SURVIVOR MESSAGES

*This is NOT a radio form -- this is a **blank form to set up appropriately for your volunteer group** and then xerox and hand out to the public to capture messages they wish to send; your group then sends them in any technique you prefer-- Radiogram, Winlink, whatever you please.*

OUTGOING MESSAGE TO LOVED ONES	
VIA _____	46
MESSAGES MUST HAVE AT LEAST EMAIL ADDRESS -or- PHONE NUMBER FOR DELIVERY	
FROM:	PRINT YOUR FIRST NAME LAST NAME
DATE:	MONTH DAY, YEAR
INCIDENT:	GENERAL NAME OF INCIDENT
TO:	PRINT PERSON ADDRESSED TO
	PRINT EMAIL ADDRESS
	REPEAT PRINT EMAIL ADDRESS
	PRINT PHONE NUMBER INCLUDING AREA CODE ()
MESSAGE	PRINT MESSAGE TO SEND (MAX 100 WORDS ⁴⁷) IN LINES BELOW:
MESSAGE CREATOR ACKNOWLEDGES THAT ACCURACY OR EVEN DELIVERY IS NOT GUARANTEED THERE IS NO CHARGE FOR THIS SERVICE DONE BY VOLUNTEERS. DO NOT PUT EMBARRASSING OR PRIVATE DETAILS AS THIS MESSAGE WILL NOT BE ABLE TO BE KEPT CONFIDENTIAL.	

46 FILL THIS LINE IN before you xerox the forms to hand out to the public - put in the NAME of the group that is providing the public service. E.G. might be the Florida Baptist Disaster Relief, might be the ARES(R) of Alachua County; might be the Alachua County EOC (if they are the sponsoring organization) or your local NET if you are sponsoring the message capture..

47 ADJUST THIS LIMIT to fit whatever suits your preferred means of transmitting out of the disaster area; if voice, you might want to reduce to 25-40 for example.

The process of taking messages from disaster survivors and speeding them on to loved ones has a rich history of amateur radio, but the mechanics are not often reviewed. Of course, the general public has no idea of the limitations of amateur radio systems, including voice nets, WINLINK, traffic systems, etc. The Red Cross's Safe and Well system is an admirable attempt to meet this need when messages can be inserted into the system.

Amateur radio volunteers best work within some organized group to provide an organized service to send outbound messages from a communications disaster area. Inbound communications are much more difficult because finding displaced persons is a difficult task. But outbound communications via any of multiple amateur radio systems are not that difficult and provide a very public "face" for amateur radio and a great service to the public. The form on the proceeding page is an attempt to create a capture form that can be adapted to any particular group and their available techniques and strategies (whether CW, ad hoc, organized traffic nets, WINLINK, SHARES, etc) and then mass-copied. Volunteers may need to provide tables, writing instruments, and volunteers to help explain this service and its capabilities and limitations to survivors. Appropriate signage would likely be beneficial. In some cases, translators may need to be employed. Amateurs are often unfamiliar with processing messages in a different language, but there is no fundamental reason this cannot be handled, provided a means for delivery is apparent. For WINLINK this is best a working email address. For other systems, a working telephone number may be essential.

Emergency communications groups would be wise to develop and practice techniques for this service. One fun example of just such a process is the handling of "Santa-grams" by actual or simulated ancient CW telegraphy. See: <https://www.youtube.com/watch?v=4sXLODLvIJc> and <https://www.youtube.com/watch?v=mAUOK45qfEM&feature=youtu.be>

APPENDIX: WRITTEN INJECT TABLE (MSEL)



INJECTS ready for mailing in groups of three for each physical location, in packages for each County.

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
	BEFORE EXERCISE	Ex Plan	ALL UNITS	ExPlan	<p><u>ANTENNA</u></p> <p>Each group is encouraged to begin the exercise with any suitable antennas normally present at their location, but if in a deployed position, to have already erected suitable antennas.</p> <p>ALL groups are warned to be ready to erect replacement antennas as Injects are likely to indicate that existing antennas are unusable.</p>	Follow directions	
	Before Exercise	ExPlan	All Units	Ex Plan	<p><u>EMERGENCY POWER</u></p> <p>Each group is encouraged to begin the exercise either on emergency power (including lighting) or to be ready to move expeditiously to emergency power if Injects down their existing power.</p> <p><u>Note: participants working from their home locations should be ON or prepared to go to full EMERGENCY POWER for all radio communications including lighting.</u></p>	Follow directions	
1	1900	ICS-201	ALL UNITS	ICS-201	Deployment Per the ICS-201 and local county or NGO plans	Deploy	
2	1900	ICS-201	All units		All units join command net as applicable (local or state)	Locate and join command net--stay there!	
	Before Exercise	ExPlan / IAP	All Units	ExPlan/ IAP	<p><u>Collect Survivor Messaging</u></p> <p>Each group capable of data communications and assigned to a location facing the public, will begin to capture in written form, multiple simulated survivor messages from friends, family, or participants themselves, to be delivered to known relatives.</p>	Follow directions	
		FLORIDA BAPTIST DISASTER RELIEF					

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
3			FBDR	Envelope	<p>Satellite non functional.</p> <p>There is NO utility power. The radios, lighting and any climate control must be provided by alternative power source.</p> <p>FBDR has been asked to cook 10,000 meals tomorrow. The Blue Hat asks that you Order applicable supplies + a replacement forklift. and a propane delivery, send request to RDEM + Brad Gwartney by winlink EMAIL. On Command net, briefly notify NCS t--hat your satellite is down.</p>	Follow directions	
ALACHUA COUNTY ("Gator County")							
4			Alachua EOC		<p>Your county heavy equipment is in VERY short supply for extricating trapped persons and one utility yard is blocked by fallen trees.</p> <p>Your county's stored potable water cache was destroyed by a building collapse</p> <p>Your county Search and Rescue teams are also in very very short supply and you're having problems reaching them.</p> <p>Your EM Bob Alpha requests that you request deployable water for 5,000 persons ASAP, 3 excavators and 4 search and rescue teams from State using an ICS-213RR form over his signature</p>	Follow directions	
5			Alachua #1		<p>You have power, but your original VHF antenna has failed. If you don't have a replacement, you're off the air with no notice until Session two.</p> <p>Whenever you're able to transmit: Shelter manager requests that you notify EOC that Power is out, but your shelter has a working generator and you have running water. Unable to hear any broadcast stations. Cell and Internet are not working.</p>	Follow directions	

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
6		Exercise Director	Alachua #2	envelope Session One	<p>Power is out, shelter generator non functional; no power or lighting, you must be on battery & flashlight or other alternate power.</p> <p>Shelter manager requests that you notify EOC of the above (power out, landline out, cell out.) and that one resident is violently ill, and request ambulance Remember EXERCISE MESSAGE</p>	Follow directions	
7		Exercise Director	Alachua #3	envelope Session One	<p>Shelter manager requests that you report apartment bldg at 12345 Main St has collapsed with trapped persons. Request emergent aid. Remember EXERCISE MESSAGE.</p>	Follow directions	
8		Exercise Director	Alachua #4	envelope Session One	<p>Your antenna blew over. Must be on backup antenna to operate during this Session.</p> <p>Shelter manager requests that you report gas line leak, explosion and fire at 23456 W Univ Ave, request emergent aid power out, broadcast out, cell out, landline out; remember EXERCISE MESSAGE</p>	Follow directions	
9		Exercise Director	Alachua #5	envelope Session One	<p>Power is out, must be on backup power including lighting. Shelter manager requests that you report power, cell, landline out, only hearing 97.3 FM, with static, gunshots heard nearby.; EXERCISE MESSAGE</p>	Follow directions	
10		Exercise Director	Alachua #6	envelope Session One	<p>Power is out, must be on backup power including lighting.</p> <p>Shelter manager requests that you report power loss, cell, landline also out, two houses on your street destroyed, residents' whereabouts unknown. EXERCISE MESSAGE</p>	Follow directions	
11		All Units Except EOC	Alachua #7	envelope Session One	<p>Power is out, landline out, cell out, no broadcast radio available, a crazy person in your shelter went wild and had to be restrained, Shelter Manager requests that you report the above and t assistance EXERCISE MESSAGE</p>	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
12		Exercise Director	Alachua #8		Power is flickering, water smells very funny, like it has methane or a gas in it, one house down the street just burst into flames Shelter manager requests that you report the above. EXERCISE MESSAGE	Follow directions	
		MARION COUNTY					
13		Exercise Director	Marion County EOC	envelope Session One	Your county heavy equipment is in VERY short supply for extricating trapped persons and one utility yard is blocked by fallen trees. Your county Search and Rescue teams are also in very very short supply and you're having problems reaching them. Your EM Bob Mary requests that you ask for 2 excavators and 3 search and rescue teams from State, if possible by an ICS213RR but any method is OK with the EM. EXERCISE MESSAGE.	Follow directions	
14		Exercise Director	Marion county Command Net NCS	envelope Session One	An authority requests that you report an apartment bldg at 12345 Main St has collapsed with trapped persons, and Request emergent aid. EXERCISE MESSAGE.	Follow directions	
15		All SH-Units	Marion County Data Net NCS	envelope Session One	Power is out (you must be on batteries including lighting)), landline out, cell out, no broadcast radio available, a crazy ⁴⁸ person in your shelter went wild and had to be restrained; an authority requests that you report the above and request assistance EXERCISE MESSAGE	Follow directions	
15		Exercise Director	RESOURC E NET ROGER ACKLEY WA2CZR	envelope Session One	Power is flickering, water smells very funny, like it has methane or a gas in it, one house down the street just burst into flames An authority requests that you report the above. EXERCISE MESSAGE	Follow directions	

48 "Crazy" might not be the best word; "violent" might be better for future exercises.

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
16		Exercise Director	SHELTER PAUL BLYSTONE WB4QQN	envelope Session One	Power out, shelter generator non functional; no power or lighting, you must be on battery & flashlight; landline is out, cell is out; Shelter Manager requests that you report the above and report one shelter resident violently ill, request ambulance. EXERCISE MESSAGE	Follow directions	
17		Exercise Director	SHELTER LEON JURCZY SZYN K8ZAG	envelope Session One	Power is out, must be on backup power including lighting. The shelter manager requests that your report power, cell, landline out, only hearing one weak FM station, with static, gunshots heard nearby, and screams, request police investigate EXERCISE MESSAGE	Follow directions	
18		Exercise Director	Additional Shelter	envelope Session One	Power is out, you must be on backup power including lighting. The Shelter manager requests that you report also that your shelter's roof is leaking badly in torrential rains but a team is working to start the shelter generator. Everything else is calm. EXERCISE MESSAGE	Follow directions	
		COLUMBIA COUNTY ("COLUMBINE")					

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
19			Columbia County EOC	envelope Session One	<p>Your county heavy equipment is in VERY short supply for extricating trapped persons and one utility yard is blocked by fallen trees.</p> <p>Your county's water-based search and rescue team hasn't been located.</p> <p>Your county land Search and Rescue teams are also in very very short supply and you're having problems reaching them.</p> <p>You're worried that major roads will become impassable due to flooding</p> <p>Your EM Bob Charlie requests TEST MESSAGE that you ask for 2 excavators and 2 water based rescue teams, 3 land based search and rescue teams from State, and four heavy duty sump pumping equipment capable of evacuating water from flooded buildings. He wants you to send this BOTH by voice and by digital ICS-213RR to make sure it gets to RDEM@winlink.org</p>	Follow directions	
20		Exercise Director	Columbia County Shelter Mike Harding	envelope Session One	<p>Power out, shelter generator non functional; no power or lighting, you must be on battery & flashlight; report one shelter resident violently ill, your shelter manager is hysterical and not able to deal with the situation, power out, landline out -- but the cell phone is working. Decision time: what should you do about the violently ill patient?</p> <p>Notify the EOC of your situation and what you chose to do. [Note: this inject was requested by the Columbia County EM]</p>	Call 911!	

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
21		Exercise Director	Combine County Shelter Marcus Perry	envelope Session One	Power is out, you must be on backup power including lighting. Report TEST MESSAGE that your shelter's roof is leaking badly in torrential rains but a team is working to start the shelter generator. Everything else is calm.	(Discuss with shelter manager, should have been mentioned in inject) Follow directions	
22			Columbine County Shelter Gary Byelery	envelope Session One	Power is out, must be on backup power including lighting. Report TEST MESSAGE power, cell, landline out, only hearing one weak FM station, with static, gunshots heard nearby, and screams, request police investigate	(Discuss with shelter manager, should have been mentioned, inject) Follow directions	
SANTA ROSA COUNTY							
23			Alt. EOC-Thames		There is a power issue with the Grid in Florida. You are experiencing rolling brown/black outs. Go to emergency power. Notify the State of the issue with one of the two prescribed forms. Furthermore, there seems to be an issue with the trunking system software and email software in your county -- fire and police are having problems communicating. Your EM Bob Sierra is requesting you explain what is known about the problem to the State -- and not by email -- he requests you send this message out by Radio to be sure it bypasses possible hacking of the email system. He wants you to ask for an acknowledgment back to be certain the State knows of the suspected hacking of trunking and email system.	Follow directions	
24			Relay 1 Dan L		Your primary antenna has failed. Please put up or switch to a replacement antenna or you can't transmit in this Session. Once transmitting again, Notify your EOC of the equipment issue	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
24			Relay 2 Doug L		Your electrical utility power is very unreliable. Notify your EOC and go to emergency power.	Follow directions	
25			Relay 3 Jack H		You are hearing EXERCISE EXERCISE gunshots in the neighborhood and your telephone seems to have quit. Notify the EOC.	Follow directions	
26			Relay 4 Larry T		Your landline and cell phone and electrical power have all seemed to have quit and you have no idea why -- you hear nothing explaining this yet on the TV. Report the issue to the EOC.	Follow directions	
FLAGLER COUNTY							
27			EOC		Your county heavy equipment is in VERY short supply for extricating trapped persons and one utility yard is blocked by fallen trees. Your county Search and Rescue teams are also in very very short supply and you're having problems reaching them. Your EM Bob FOXTROT requests that you ask for 2 excavators and 3 search and rescue teams from State, if possible by an ICS213RR but any method is OK with the EM. EXERCISE MESSAGE	Follow directions	
28			2 - Matanzas High School Shelter		Power is out, shelter generator non functional; no power or lighting, you must be on battery & flashlight or other alternate power. Shelter manager requests that you notify EOC of the above (power out, landline out, cell out.) and that one resident is violently ill, and request ambulance Remember EXERCISE MESSAGE	Follow directions	

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
29			3 - F.C. Fire Dept Mass Casualty Incident Trailer forward deployed aid to St. Johns		<p>Power is out, your generator has inexplicably quit and you're on whatever is left -- for lighting also!</p> <p>You're hearing nearby gunshots and a building down the street just exploded. There is no cellphone and no landline and no broadcast.</p> <p>Your commander requests that you emergently notify your EOC of the need for police and fire rescue by any means possible and to be certain that it is also additionally delivered as a written message.</p> <p>EXERCISE MESSAGE!!</p>	Follow directions	
30			4 ARES TACNET NCS, Survivor Messaging		<p>Your primary antenna fell over. If you don't have a replacement, go to 20% of your normal power.</p> <p>Electrical power is out, cell phone is out, landline is out and your mission is to communicate all that to the EOC at the request of your authority, and to write 2 Survivor Messages.</p>	Follow directions	
31			5 - Advent Health Palm Coast H Hospital		Everything is FINE at your location. Your supervisor requests that you notify the EOC that absolutely EVERYTHING is working at your location.	Follow directions	
	Suwannee COUNTY						
	Out of State Volunteers						
32					<p>Last names beginning with G or earlier:</p> <p>You are hearing scattered reports of email failing but yours is still working. Check into the RESOURCE NET</p>	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
33					Last names beginning with H thru Q -- Your primary HF antenna has failed. If you do not have a replacement, reduce power to 1/4 of your normal power, and proceed to join the Resource Net.	Follow directions	
34					Last names beginning with R through remainder of alphabet: Your microphone has failed. If you can't find a replacement, you're limited to data methods of communicating until Session Two.	Follow directions	
					SESSION TWO		
35	EXPlan/IAP	All Units	Ex Plan/IAP		Open Session Two sealed envelope to learn INJECT(s) for Session Two and take appropriate action.	Follow directions	
36	ExPlan/IAP	All Units	ExPlan/IAP		<p>Groups or participants who have accumulated Survivor Messaging Forms should begin to forward those messages for delivery by any useful combination of data and (optionally) voice techniques. Record transmissions on ICS-309 form.</p> <p><i>NOTE: These should be transmitted using AMATEUR RADIO transmission channels, rather than SHARES except in extreme extenuating circumstances.</i></p>	Follow directions	
37					Remain alert for possible additional INJECTS delivered by voice or data; remain available as much as possible on Command or Resource Net, and check any incoming data communications systems listed for your group on the Exercise ICS-205A. You will want to check any Winlink address at least every 30 minutes.	Follow directions	

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
		FLORIDA BAPTIST DISASTER RELIEF					
38			FBDR	Envelope	<p>The generator has failed and you have to go on backup batteries for everything -- including lighting.</p> <p>Your satellite is repaired!! Blue Hat asks that you notify both the SHARES net control and the Amateur net control that you have working satellite and can forward emails out the Internet if needed -- offer to accept winlink peer to peer traffic if needed.</p>	Follow directions	
		ALACHUA COUNTY					
39			Alachua EOC	Envelope Session 2	<p>Don't forget to be looking for replies from RDEM.</p> <p>Your main HF antenna has failed....do you have a backup? Time to try it!! The power AND generator have failed at the EOC -- hope you have battery power and a FLASHLIGHT!!</p> <p>Notify the net control of the SHARES net that you have experienced these failures (tactical message)</p>	Follow directions	
40			Alachua #1	Envelope Session 2	You're back on the air and time to send out some SURVIVOR MESSAGES if you haven't already!	Follow directions	
41		Exercise Director	Alachua #2	Envelope Session 2	The violently ill patient has been taken care of. Now, you need to see if you can send out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work! You're still on battery and flashlight.	Follow directions	
42		Exercise Director	Alachua #3	Envelope Session 2	If you were able to get your request for assistance out, there are now crews on site extricating survivors from the collapsed building. Time for you to get out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work!	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
43		Exercise Director	Alachua #4	Envelope Session 2	You got your antennas solved and are back on the air. Time for you to get out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work!	Follow directions	
44		Exercise Director	Alachua #5	Envelope Session 2	Power is still out, must be on backup power including lighting. Time for you to get out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work!	Follow directions	
45		Exercise Director	Alachua #6	Envelope Session 2	Power is out, must be on backup power including lighting. Time for you to get out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work!	Follow directions	
46		All Units Except EOC	Alachua #7	Envelope Session 2	The authorities have dealt with the crazy ⁴⁹ person. Time for you to get out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work!	Follow directions	
47		Exercise Director	Alachua #8	Envelope Session 2	If you were able to get the message out, the fire dept is now working the fire down the street. Don't light matches near the water! Time for you to get out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work!	Follow directions	
		MARION COUNTY					

⁴⁹ "Crazy" might not be the best word. Perhaps better to use "violent."

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
48		Exercise Director	Marion County EOC	Envelope Session 2	Remember to look for return message from RDEM@WINLINK.ORG by any means you have available Try to send at least 1 Survivor Message from your EOC volunteer staff.	Follow directions	
49		Exercise Director	Marion county Command Net NCS	Envelope Session 2	Take a roll call of all your deployed stations.	Follow directions	
50		Exercise Director	Marion County Data Net NCS	Envelope Session 2	Help out people who are trying to send Survivor Messages.	Follow directions	
51		Exercise Director	RESOURCE NET ROGER ACKLEY WA2CZR	Envelope Session 2	If you got your message out last session, the fire dept is working on the fire. Try to send at least 1 survivor message by any means you can.	Follow directions	
52		Exercise Director	SHELTER PAUL BLYSTONE WB4QQN	Envelope Session 2	Disappear without any warning, keep radio silence unless the EOC or Net control works for at least 3 tries to reach you. After that you can return indicating the INJECT had you simulate someone cutting your transmission line	Follow directions EOC or NCS should be conducting periodic roll calls and quickly detect missing station.	
53		Exercise Director	SHELTER LEON JURCZY SZYN K8ZAG	Envelope Session 2	.Ask via a tactical voice message what the police found out about the gunshots. Try to send at least 1 Survivor Message.	Follow directions	
54		Exercise Director	Additional Shelter	Envelope Session 2	Shelter manager requests that you Report to your EOC that part of your shelter is now flooded and the staff there are requesting help to EVACUATE the shelter. EXERCISE MESSAGE	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
		COLUMBINE COUNTY					
55			Columbine County EOC	Envelope Session 2	Don't forget to check for replies from RDEM You're worried that major roads will become impassable due to flooding	Follow directions	
56		Exercise Director	Columbine County Shelter Mike Harding	Envelope Session 2	The ill resident has been attended to successfully, but now there is a Fire in a very nearby building and embers are blowing toward your Shelter. It is raining hard. Notify your EOC of your situation.	Follow directions	
57		Exercise Director	Combine County Shelter Marcus Perry	Envelope Session 2	The team got the generator started, but now the roof has caved in next to the generator and water is pouring on the generator. Notify the EOC of your situation and discuss any action to take.	Follow directions	
58			Columbine County Shelter Gary Byelery	Envelope Session 2	Power out, shelter generator non functional; no power or lighting, you must be on battery & flashlight; report one shelter resident violently ill, your shelter manager is hysterical and not able to deal with the situation, power out, landline out, cell out, but there is a fire crew there with a radio that can reach the ambulance service. What should you do? Notify the EOC by voice of what you chose to do or any requests you have. [Note: this inject was specifically requested by the Columbia County EM]	Follow directions	
		SANTA ROSA COUNTY					

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
59			Alt. EOC-Thames		<p>Your EOC is hearing rumors that the Chinese are hacking the email systems all across the USA. Residents are concerned that the banks will fail. Your EM Bob Sierra requests that you Generate a formal message to RDEM with this report of rumors.</p> <p>Choose what to report to your deployed persons, if possible after discussions with your EM.</p> <p>Your county's police and fire trunking systems have completely failed and simplex backups are in use. Discuss the difficulties that will ensue with your EM.</p>	Follow directions	
60			Relay 1 Dan L		Your antenna issues have disappeared, but now your power has failed; you must now be on battery or other alternative power. Notify the EOC of your situation.	Follow directions	
61			Relay 2 Doug L		Disappear completely from the net without any warning and see if anyone notices. If they NOTICE, wait ten minutes and return to the net indicating someone "cut your transmission line"	Follow directions EOC or NCS should be taking periodic roll call and should quickly discover the missing station and attempt alternative methods to contact.	
62			Relay 3 Jack H		Notify the EOC that the Shelter Manager wants you to know there is a pitched gun battle between police and a gunman down the street. Ask them if the radios are working for the police to get backup? EXERCISE MESSAGE	Follow directions	

Whirlwind Boom 2021

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
63			Relay 4 Larry T		Try to send out 2 Survivor Messages	Follow directions	
		FLAGLER COUNTY					
64			EOC		Remember to look for return message from RDEM@WINLINK.ORG by any means you have available	Follow directions	
65			2		The violently ill patient has been taken care of. Now, you need to see if you can send out at least two SURVIVOR MESSAGES by any technique or techniques you can get to work! You're still on battery and flashlight.	Follow directions	
66			3		If you were able to get through, help is now arrived, but someone has cut your transmission lines so you disappear without any notice at all for 20 minutes of this session and then pop back up explaining you simulated a transmission line cut.	Follow directions	
67			4		You have solved your antenna issues are are back to full power. Continue to transmit any messages you still need to get out.	Follow directions	

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
68			5		<p>A massive oak tree has just fallen over onto the Emergency Room extension of your hospital and there are multiple trapped persons and an unknown number of injured and fatalities. Cell phone and landline service in the hospital failed at the same time and your emergency generator and power switch over circuitry arc'ed and caught fire so the entire hospital is without power and telecommunications. Your supervisor BOB FULLSOME requests that you make an emergency notification to the EOC and request:</p> <ul style="list-style-type: none"> a) heavy equipment b) fire department c) cache of walkie talkies d) find another hospital to take critically ill patients e) send police assistance <p>EXERCISE MESSAGES</p>	Follow directions	
	Suwannee COUNTY						
	Out of State Volunteers						
69					<p>Last names beginning with G or earlier: Your email has just failed -- notify whatever net control you are able to reach, that your email has failed, and you don't know why.</p>	Follow directions	
70					<p>Last names beginning with H thru Q -- Your antenna or power issue has resolved. Offer to handle outgoing Survivor Messaging or other traffic needs.</p>	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
71					<p>Last names beginning with R through remainder of alphabet:</p> <p>You have resolved your microphone issue. Try to send a Survivor Message now, just a friendly test message to a friend or family. You can use any radio technique you wish, even a local ham radio net.</p>	Follow directions	
SESSION THREE							
72					Open Session Three sealed envelope to learn INJECT(s) for Session Three and take appropriate action.	Follow directions	
73					Remain alert for possible additional INJECTS delivered by voice or data; remain available as much as possible on Command or Resource Net, and check any incoming data communications systems listed for your group on the Exercise ICS-205A	Follow directions	
		FLORIDA BAPTIST DISASTER RELIEF					
74			FBDR	Envelope Session 3	<p>Satellite has failed again. Send a brief radio email to the email addresses of the top leadership of Florida Disaster Relief advising them that you completed your First HSEEP Exercise. Notify them how many messages you SENT, and how many you RECEIVED, and by what techniques, in two categories: VOICE versus DATA.</p> <p>Please copy docvacuumtubes@gmail.com with the same details.</p>	Follow directions	
		ALACHUA COUNTY					

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
75			Alachua EOC	Envelope Session 3	(Main HF Antenna still failed.) Obtain a count from all your county volunteers to find out the total number of formal traffic either sent or received, in the categories voice, and digital and fill out this table and send to docvacuumtubes@gmail.com Total sent or received by Voice: Total sent or received by any form of digital: _____	Follow directions	
76		Exercise Director	Alachua #1	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
77		Exercise Director	Alachua #2	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
78		Exercise Director	Alachua #3	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
79		Exercise Director	Alachua #4	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
80		Exercise Director	Alachua #5	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
81		Exercise Director	Alachua #6	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
82		Exercise Director	Alachua #7	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
83		Exercise Director	Alachua #8	Envelope Session 3	Report your traffic totals by technique to the EOC	Follow directions	
		MARION COUNTY					
84		Exercise Director	Marion County EOC	Envelope Session 3	Obtain a count from all your county volunteers to find out the total number of formal traffic either sent or received and fill out this table and send to docvacuumtubes@gmail.com Total sent or received by Voice: Total sent or received by any form of digital: _____	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
85		Exercise Director	Marion county Command Net NCS	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
86		All SH-Units	Marion County Data Net NCS	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
87		Exercise Director	RESOURC E NET ROGER ACKLEY WA2CZR	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
88		Exercise Director	SHELTER PAUL BLYSTONE WB4QQ N	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
89		Exercise Director	SHELTER LEON JURCZY SZYN K8ZAG	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
90		Exercise Director	Additional Shelter	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
		COLUMBINE COUNTY					
91			Columbia County EOC	Envelope Session 3	Combine reports from all shelters plus yourself for your county: Total sent or received by Voice: Total sent or received by any form of digital: _____	Follow directions	

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
92		Exercise Director	Columbine County Shelter Mike Harding	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
93		Exercise Director	Combine County Shelter Marcus Perry	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
94			Columbine County Shelter Gary Byelery	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
		SANTA ROSA COUNTY					
95			Alt. EOC-Thames	Envelope Session 3	Combine reports from all shelters plus yourself for your county: Total sent or received by Voice: Total sent or received by any digital technique: : _____ Send report to docvacuumtubes@gmail.com	Follow directions	
96			Relay 1 Dan L	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
97			Relay 2 Doug L	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
98			Relay 3 Jack H	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	

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Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
99			Relay 4 Larry T	Envelope Session 3	Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
		FLAGLER COUNTY					
100			EOC		Combine reports from all shelters plus yourself for your county: Total sent or received by Voice: Total sent or received by any digital means: Send reports to docvacuumtubes@gmail.com	Follow directions	
101			2		Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
102			3		Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
103			4		Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
104			5		Compile the number of formal traffic sent or receive by voice, and the number of traffic sent or received by any form of data modulation, and report those two numbers to the EOC.	Follow directions	
		Suwannee COUNTY					
		Out of State Volunteers					

Inject No.	Delivery Time	From	To	Means Inject Method	Description	Expected Player Action	Threads
105				Email	Count up the total number of messages SENT and RECEIVED and report the total of each to docvacuumtubes@gmail.com	Follow directions	
POST-EXERCISE							
106					Participate if possible in brief post-Exercise Hotwash.	Follow directions	
107					Google Form to give your evaluation of the Exercise: https://docs.google.com/forms/d/e/1FAIpQLScl3FE2IKs52uFN_C5Z2q-LpdQecUg_Te9LU82WQsqadW5AWg/viewform?vc=0&c=0&w=1&flr=0&usp=mail_form_link	Follow directions	

APPENDIX: WRITTEN EVALUATION DOCUMENT



Whirlwind Boom 2021 Evaluation Form

Use this form for an anonymous and confidential comment about the Barrels and your impressions after having participated in the Barrels. This information is very important for improving our Barrels.

Overall Experience – How would you rate the barrels as a whole on a scale from 1-BAD to 5-GOOD and 6-Very Good

1-BAD
 2-Bad/OK
 3-Medium
 4-Good
 5-Very good

What was the BEST part or thing about the Barrels?

Long answer field

What was the WORST part or thing about the Barrels?

Long answer field

What could CHANGEGE concerning about the Barrels - what would you change and why?

Long answer field

What could ADD concerning to the Barrels - what would you add and

Long answer field

Any other comment? THANK YOU for your participation in the 2021 Whirlwind Boom Barrels!

Long answer field

ABOUT THE FLORIDA BAPTIST DISASTER RELIEF COMMUNICATIONS TEAM



A friendly group of volunteers who have worked for the past couple years -- and two deployments -- to develop better disaster communications tools for disaster ministry support.

Introductory (Level One) Training / Exam: <https://forms.gle/PREMqjGHBTXaHwMV8>

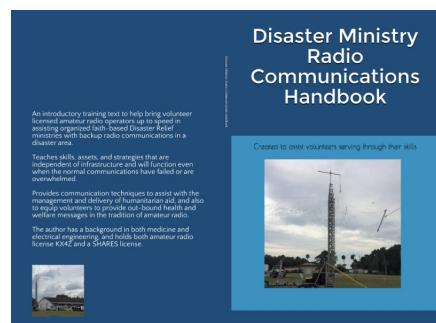
Level Two Training / Exam: <https://forms.gle/qxhNLNpo2XeUAEFq9>

Comms Trailer Standard Operating Manual: [https://qsl.net/nf4rc/FBDR/2020/CommTrailerSOP\(nopasswords\).pdf](https://qsl.net/nf4rc/FBDR/2020/CommTrailerSOP(nopasswords).pdf)

Business Band Repeater License: <https://qsl.net/nf4rc/FBDR/2021/WNUF645ReferenceCopy.pdf>

Related Educational Text:

<https://www.amazon.com/Disaster-Ministry-Radio-Communications-Handbook/dp/170152760X>



Also available on KINDLE.