

**Alachua County ARES**  
**Operation Steinhatchee Storm**  
**October 7, 2017**

**After Action**  
**Report/Improvement Plan**

**October 11, 2017**

**DRAFT**



*Volunteer Susan Halbert pounding out messages to transfer over the microwave link*

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The Alachua County ARES Steinhatchee Storm Volunteers



Comm Unit #2 at Hungry Howies

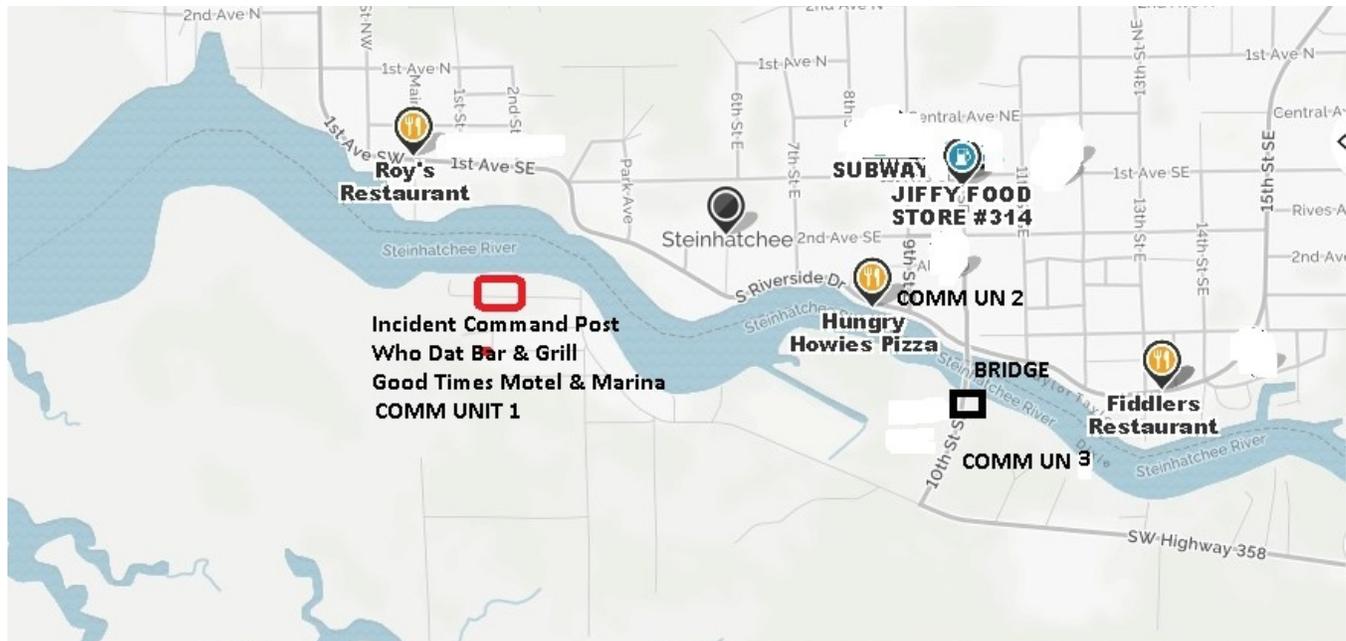
## ACKNOWLEDGMENTS

The Alachua County ARES group would like to acknowledge all the people who helped us make this growth possible, particularly all our own volunteers who worked so hard for so many months, and also the Alachua County EOC which has supported our efforts at backup emergency communications by purchasing multiple radios and large storage batteries. We would specifically like to acknowledge the gracious permission provided by The Crapps Family in allowing us to use the Jonesboro Lookout Tower.









Locations of COMM UNIT 1, 2, and 3



Comm Unit 3 just before teardown (Normally that door was closed!)

## SECTION 1: EXERCISE OVERVIEW

### Exercise Details

**Exercise Name**

2017 ARES Steinhatchee Storm (Simulated Emergency Test)

**Type of Exercise**

Full Scale Exercise

**Exercise Start Date**

October 7, 2017

**Exercise End Date**

October 7, 2017

**Duration**

6 Hours

**Location**

**4 locations: Steinhatchee Good Times Motel & Marina; Steinhatchee Hungry Howies; Bridge over Steinhatchee River and the Jonesboro Lookout Tower near Steinhatchee.--all 60 miles west of our County in a on-the-road deployment.**

**Sponsor**

Alachua County ARES, a component of the American Radio Relay League (ARRL)

**Program**

Amateur Radio Emergency Service

**Mission**

Communications Support

**Capabilities**

VHF local communications, analog voice and digital (AX.25 packet)

HF local and national communications, digital WINLINK.

Radio Email to anywhere, via WINLINK

Microwave digital communications including Voice Over Internet Protocol (VOIP) and WINLINK telnet.

### **Scenario Type**

Total Communications Failures

## **Exercise Planning Team**

Gordon L. Gibby MD KX4Z NCS521

Jeff Capehart W4UFL

## **Participating Organizations**

### **Alachua County, Florida**

Alachua County ARES

### **State**

Volunteers from Sarasota, N4SER

Volunteers from Marion County Hospital Emergency Communications

Volunteers from Ohio Black Swan.

### **Number of Participants**

- Players - 11
- Controllers - 0
- Evaluators – 0

*Amateur Radio Volunteers at the Gainesville Senior Center (a hurricane shelter)*



*ARES volunteer conducting voice and digital VHF communications from Good Times Motel & Marina*

## SECTION 2: EXERCISE DESIGN SUMMARY

### Exercise Purpose and Design

Although, this exercise was designed well before Hurricanes IRMA and MARIA devastated Puerto Rico, the skills we sought to develop, exercise and test are exactly those which 50 amateur radio volunteers for the American Red Cross are using to help Puerto Rico.

These same systems are actually in daily use by some of our volunteers, and one of our volunteers' stations is being used to assist as a WINLINK email relay station for Puerto Rico. So this exercise is very relevant to modern amateur radio emergency communications.

This exercise followed our May 2017 Hurricane Test, which was our first full scale exercise built on the Incident Command System procedures. In this exercise we wanted to further our training by

- deploying to a distant location
- setting up without any commercial power
- providing communications, both voice and digital back to the “uninvolved” Alachua County
- testing both HF and VHF long-distance communications
- testing microwave amateur radio communications, both digital and VOIP

Training for this type of scenario – total loss or overwhelming of local conventional communications systems (telephone/Internet) began 18 months before this exercise, as local skills, assets, and strategies began to be sharpened.

Development of this exercise began months before, with testing of communications from the Steinhatchee area, and the initial testing of the Ubiquiti microwave systems.

An Exercise Plan was created with full details for participants. All relevant ICS forms were created.

### Exercise Objectives

- **Objective 1:** Assess the capabilities of our group to work within the Incident Command System framework on a deployed mission outside of Alachua County.  
Capability: ICS FORMS
- **Objective 2:** Assess the capability of our group to provide a 60+ mile digital VHF communications link, and provide practice to our members in making multiple connections to reach a distant station.  
Capability: ANTENNA PLACEMENT, MOBILE DEPLOYMENT
- **Objective 3:** Provide practice for, and assess our capabilities at sending/receiving WINLINK email messages and attachments by VHF and/or HF and/or Microwave technologies.  
CAPABILITY: ANTENNA PLACEMENT, WINLINK COMMUNICATIONS, BACKUP POWER, MOBILE DEPLOYMENT

## Scenario Summary

*October 7, 2017*

Hurricane Thoughtless has been moving through the Gulf of Mexico for 2 days and finally settled in on a course that took it right to Steinhatchee, Florida, a sleepy fishing, tourist-scalloping town of about 1200 residents that has been flooded many times by hurricanes.

As the projected path of the Hurricane became more confident, about half the population of Steinhatchee voluntarily evacuated inland, remembering the recent flooding brought about by Hurricane Hermine that shut down large parts of the town for weeks and months. The Sheriff of Taylor County recognized the developing situation and activated the ICS system, becoming the Incident Commander, with careful communications to the Sheriff of Dixie County (beginning on the southern edge of the Steinhatchee River) as well as the town leadership of Steinhatchee, Keaton Beach (11 miles to the north) and Horseshoe Beach (to the south).

The Incident Commander took preparatory steps to have citizens prepare for the oncoming hurricane in the evening hours of October 6<sup>th</sup>, as winds were rising. Water was stored as much as possible, debris secured, boats secured as much as possible, and everyone battened down the hatches for the coming storm, which was strengthening into a Category II hurricane.

Unbeknownst to the Incident Commander, cruise ship PoorNavigator was being driven by the storm and moving in the direction of their area, driven with the storm surge that allowed its 19-foot draft to enter the relatively shallow waters of the northern Gulf of Mexico. A bit behind the curve, the Captain of the cruise ship did not recognize the full implications of his loss of control of his track; similar to the tragic course of the barge El Faro that intentionally held course right through a hurricane a few years back, with the sinking and loss of all the crew.

As the storm strengthened, the Incident Commander grew increasingly concerned about the possible damages, which might be greater than what had been experienced by Steinhatchee in 2016. When the storm made landfall at 0400, not only did all electrical power go out (quite as expected) but also within 30 minutes, normal telecommunications, including cell phone, landline, and Internet also quit. Communications were still possible for another half hour with the remotely operated Coast Guard Marine Radio tower in Horseshoe Beach, but by 0500 internet control of that radio failed and the Incident Commander realized that his communications extended only as far as his marine FM transceiver could reach --- not a happy feeling. He decided to send a courier inland to try and ask for assistance. At 0600 a courier was able to leave the area, making a circuitous route to avoid the peak intensity of the inland hurricane, and found working telephone service at Old Town, Florida, and contacted State of Florida Emergency Management in Tallahassee. A request for some form of "longer-distance communications support" was communicated since normally Steinhatchee residents simply endure hurricanes to the best of their ability, but the Incident Commander did want the ability to request additional resources quickly should something unexpected happen.

The State EOC was watching the storm now turn toward Tallahassee and quite concerned about communications losses in the capital city that would need large amounts of cellphone capacity, but he was aware of a volunteer communications ARES group in Alachua County and reached out to the Alachua County EOC to see if they would be able to reach the area before larger satellite trucks could move in from caches throughout the Southeast. The Alachua County emergency manager contacted Jeff Capehart of the Alachua County ARES group (a part of ESF#2) and Jeff's response was eager and enthusiastic. As winds were really not dangerous in Gainesville, he knew a good group of communicators would be having their traditional Saturday breakfast at 0730. He thought he could muster a significant set of resources by 0830 or earlier to head westward, as the storm was weakening and sharply turned toward Tallahassee.

Realizing that the Alachua County ARES group has specific digital capabilities involving email, the Alachua County EOC agreed to monitor a prescribed email address for communications, in addition to remaining available on the 146.82 repeater and 146.52 simplex. The State EOC also indicated that they would also monitor a prescribed email address, but that they currently did not have packet amateur radio access.

Thus, by 0830 a caravan of volunteers headed westward from Gainesville toward the Check-In station at Casey's Cove just outside Steinhatchee, with multiple VHF, HF and even microwave gear. Permission to use the antenna on top of the Jonesboro lookout tower had been graciously provided by its private owner, who had purchased the tower years ago from the Florida Forest Service. The team thought that not only were HF connections quite easily made with portable stations, but VHF digital packet communications could be achieved by placing a portable "node" station at the Jonesboro lookout tower, and another portable "node" station near the highest point in town --- the bridge over the Steinhatchee River.

Upon reaching the Casey's Cove check- in station (a gas station/deli/convenience store with a large parking lot) the Incident Commander at the Good Times Marina bar and grill ("WATS DAT") was notified by FM marine radio.

### **Participants will fill out the ICS – 211 Incident Check-In List**

**Teams were given copies of the 0900 ICS 201 Incident Briefing, and of the 0900 Incident Action Plan, including multiple forms.** Instructions (ICS form 204) were quickly given to emplace units at

- Incident Command Post, Good Times Marina
- Logistics station at Hungry Howies
- high ground at the FL-358 bridge over the Steinhatchee River
- Jonesboro lookout tower at the intersection of FL-358 and US-19

and the Communications Teams quickly formed up and deployed.

The Incident Commander now had a means of outside communications should he need it --- and indeed, he was about to need it.

An emergency message over FM Marine Channel 16 was received from the Captain of the cruise ship PoorNavigator indicating their 19-foot draft had finally grounded solidly about 4 miles SW of the outer marker of the dredged canal out of the Steinhatchee River. Worse, the grounding had significantly damaged onboard systems, so the ship was now without motive power and had only emergency electrical power and was losing potable water pressure. There were significant injuries sustained among the total 600 souls on board, and the ship came to rest in what are normally 10 foot waters, with a list of about 30 degrees port --- a very difficult situation. Starboard life boats were unable to be deployed, and winds and seas --- 10-12 foot waves were making it risky to deploy port life boats. The captain wanted to stay put for now but requested emergency help in evacuating injuries as soon as conditions permitted.

The 0900 ICS 201 Briefing and Incident Action Plan indicated that many boats had sunk in Steinhatchee River, creating submerged and sometimes unseen navigational hazards. Only a fraction of the available rental boats at the three local marinas were still floating and in recoverable condition. There is only one doctor in Steinhatchee, a pediatrician who normally is only available 4 days per week. The nearest hospital is 45 minutes away in normal times, in Perry, Florida. There are two police vehicles stationed in Steinhatchee Florida, and one of them was disabled by a fallen tree. There is one ambulance --- at Fire Station 51 – in Steinhatchee.

These resources aren't exactly what one would wish to evacuate a 600-person cruise ship in a precarious position 10 miles over water from the town, and with multiple injuries among the victim

Recognizing the significant worsening of his disaster, and the increased resources that would be required, the Incident Commander issued orders to request additional resources from inland:

- Triage medical team & equipment
- 6 total ambulances, split between Type I and Type II
- Water truck
- Helicopter Life Flight & crew on standby for possible Life flight rescues.

The Alachua County ARES volunteers went to work getting these messages out. With non-existent communications to the local counties, they took advantage of the monitoring being provided by Alachua County EOC as well as State of Florida EOC and sent requests to both those organizations (who still had normal communications) by any and all means possible, to allow them to work out the best response. Given the communications difficulties, this complied with the State Comprehensive Emergency Management Plan.

The Incident Commander also ordered Logistics to immediately start locating, acquiring, and staffing up to 20 small vessel rescue boats from the remaining floating stock of the local marinas, recognizing that larger resources were not within 100 miles and would not reach them for many hours at typical watercraft speeds. The three local marinas and many volunteers went into action, locating capable small craft operators, bailing out half-sunk boats, refueling them, equipping them and getting them ready within the protected waters of the Steinhatchee river. With seas still FAR beyond those boat's capabilities, it would be several hours before they would be able to assist in any rescue effort, however.



Some of the Comm Unit #4 volunteers getting a “consult” on reducing transmission line losses.

## SECTION 3: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the exercised capabilities, activities, and tasks. In this section, observations are organized by capability and associated activities. The capabilities linked to the exercise objectives of Operation Hurricane Test are listed below, followed by corresponding activities. Each activity is followed by related observations, which include references, analysis, and recommendations.

### **CAPABILITY 1: ANTENNA PLACEMENT**

**Capability Summary:** Fixed, pre-existing antennas should obviously perform for necessary communications. However, these may be damaged by high winds, and volunteers need to have the skills to efficiently replace them with ad-hoc created or installed antennas.



*HF Dipole Antenna between trees at Comm Unit #4*

**Activity 1.1:** Except for COMM UNIT #4 at the Jonesboro Lookout Tower, every unit had to establish their own antennas – particularly the Bridge COMM UNIT #3, which had to establish HF, VHF and Microwave antennas.

**Observation 1.1.1:** STRENGTH. COMM UNIT#1 utilized a mag mount VHF portable antenna with great success. COMM UNIT#2 used the built-in antennas of their microwave unit. COMM UNIT#3 put up a random-length HF dipole within 45 minutes using slingshots in dense brush leading to marsh, utilized a mag mount VHF antenna, and mounted an omnidirectional microwave 6 dBi antenna on a 6 foot realtor's sign tripod. COMM UNIT #4 moved a VHF voice antenna 40 feet up the lookout tower. Antennas were a strength of our volunteer group in this exercise and were all up within the first hour.

*Note: When Comm Unit #4 arrived at the Lookout Tower, the first thing that happened was a vagrant climbed down from the tower and left the scene!*

**Analysis:** The work we have done in building our own portable antennas and developing skills at antenna placement are paying off.

### **Recommendations:**

- **During this exercise, antennas were a strength. Continue the skill training and purchase additional VHF magnetic mount antennas as existing stock degrades.**

### **CAPABILITY 2: EMERGENCY SIMPLEX REPEATER**

**Capability Summary:** If existing duplex amateur voice repeaters are overwhelmed, or out of service, a portable simplex repeater (that acts like a digital voice recorder, and replays over the air, from a high location, messages received) can provide voice coverage to a devastated area.

This capability was not tested during this Full Scale Exercise

### **CAPABILITY 3: WINLINK COMMUNICATIONS**

**Capability Summary:** WINLINK provides a world-wide, radio-based email capability that has been leveraged by mariners, emergency communications personnel, missionaries, and the Federal Government. Allowing both email and attachments, it can speed digital messages toward areas where the Internet is still working, and then forward them by the far-faster internet email facilities, or in a complete national disaster, can slowly move email to “Message Pickup Stations” by radio alone. It is the premier HF radio-based email system in the world today.

**Activity 3.1** Generate, forward, and retrieve multiple emails and attachments via WINLINK, either using HF VHF or microwave capabilities.

**Observation 3.1.1: MIXED** Our volunteers were very capable at WINLINK communications during this Exercise --- COMM UNITS #1, #2 and #3 were vigorously sending and receiving WINLINK messages. This was happening on three different frequency bands --- HF, VHF, and even microwave. However, a WEAKNESS was observed in the SOFTWARE of the WINLINK system, and in our preparations to deal with such difficulties: The crucial RMS\_RELAY/RMS\_TRIMODE server system at COMM UNIT #3 failed to initialize properly at the beginning of the exercise. (Appendix A, Item #1) Repeated efforts to restart were unsuccessful. A WEAKNESS was that complete installation copies of all the software had not been brought to the Exercise. Attempts to install an older version of RMS\_TRIMODE brought the system up, but then connections resulted in “invalid password” failures.....very frustrating. Further, the older setup did not support automated forwarding of messages, so manual forwarding was attempted with limited success.

Finally, a complete installation set of software was downloaded over the Internet (using a cell phone as a hotspot) and installed – which then proceeded to work admirably. However, this was after more than 2 hours of work, putting the Exercise severely out of schedule, and the propagation to the pre-selected Target station (N5TW) was now marginal, resulting in the usage of other stations, particularly around northern Georgia.

**Analysis** Our local ARES group has developed a significant strength in this area, but we have not yet prepared adequately for failures of the system itself.

### **Recommendations:**

- **Continue WINLINK practice.**
- **ALWAYS equip every comm unit with complete re-installation package on a USB flash**

drive.

- **Train on peer-to-peer WINLINK skills.**
- **Work toward having alternatives to WINDOWS-based software.**

## **CAPABILITY 4: BACKUP POWER**

### **Capability Summary:**

Electrical Utility power loss is one of the most frequent occurrences in hurricanes, and is a major cause of loss of traditional communications. Amateur radio emergency volunteers need to have alternate power capabilities.

**Activity 4.1** ALL stations active in this Exercise operated out of battery or vehicle power throughout the entire exercise.

**Observation 4.1.1: Strength.** Simply put, it worked. Electrical backup power worked well throughout the exercise at all units.

**Analysis** Considerable effort into this strength has borne results. It was practiced at the table-top exercise conducted just a few weeks before the Full Scale Exercise; power connections directly to the battery system of the pickup truck for the Server were established and worked well, though it would be better to arrange for wiring that could be maintained during vehicle movement. A microwave station was built with battery power, and it worked well for this exercise.

### **Recommendation:**

- **Continue to develop strengths.**
- **Develop high amperage pickup truck power that can be maintained in motion.**

## **CAPABILITY 5: MOBILE DEPLOYMENT**

**Capability Summary:** In a true communications emergency, it is likely that there will be additional locations that suddenly develop an emergency need for communications. Amateur radio volunteers should maintain the ability to service those needs through mobile vehicles, possibly including dismountable VHF and HF gear that can be set up quickly at a new fixed site, including antennas.

**Activity 5.1** Our entire team traveled 60 miles to our simulation environment.

**Observation 5.1.1: Strength.** Our entire team deployed without incident and maintained VHF simplex communications on 146.55 MHz VHF FM throughout the move; some stations corrected settings on their radios to make this succeed. One vehicle installed mobile equipment for this exercise but seemed to have an intermittent mic connection.

**Analysis** Demonstrated the growing capabilities of our group – I am not aware of any similar 60 mile deployment of any other ARES group in Florida during the S.E.T.

**Recommendation:**

- **Encourage members to continue to obtain and install mobile vehicular systems**
- **Repair the microphone or power intermittency in the pickup truck system.**

## **CAPABILITY 6: MT63 SKILLS**

### **Capability Summary:**

MT63 is a fast digital keyboard-based and potentially file-based mechanism to send accurate broadcast (1-to-many) information that can be very effective in sending bullets and broadcast messages.

**This capability was not utilized during this Exercise.**

## **CAPABILITY 7: PACKET CHAT**

**Capability Summary:** Packet Chat skills were hoped to provide a way for participants to allow multi-party typed (digital) discussion similar to what can happen on a voice radio frequency. These skills were tested by a small number of participants in Thursday evening packet roundtables associated with other ARES training nets, and were easily acquired by participants. However, the function itself on the digital repeaters was found to be easily overloaded, so the utility of this skill without higher speed “mesh” communications networks is questionable.

**This capability was not utilized during this Exercise.**

## **CAPABILITY 8: LINBPQ CHAT FUNCTIONS**

**Capability Summary:** LINBPQ, the software employed in much of the digital infrastructure created in the amateur community locally in the last year, allows for a “roundtable” chat discussion, forwarding each person's typed comments to the others involved. Unfortunately, the limitations of 1200 Baud Packet AX.25 are that this is unwieldy for more than about 3 active participants. Although in the planning stages it was hoped to be a useful function, by the time the Exercise had arrived, it was already known that the technology has significant limitations and its use was not as strongly advocated, with alternatives over voice suggested.

**This capability was not utilized during this Exercise.**

## **CAPABILITY 9: ICS FORMS**

**Capability Summary:** ARES volunteers have been becoming more accustomed to standard FEMA/ICS forms through efforts of Jeff Capehart at previous simulation events. It is desirable that they be familiar with personnel log in forms, and essential that they be familiar with communications logs and message formats, particularly ICS-213 (“general message”).

**Activity 9.1** Utilize ICS-205 frequency chart, ICS personnel log in forms, ICS communications logs, and transfer ICS-213 record traffic.

**Observation 9.1.1:** Strength. For this Exercise, over a dozen ICS forms were filled out and utilized.

**Analysis** Our group is becoming quite accustomed to ICS forms.

**Observation 9.1.2: Weakness.** We were not uniform in using the Activity Form; personnel at COMM UNIT #3 were so preoccupied in repairing broken software that they were not able to fill in the Activity Form.

**Analysis** Now that we have become more familiar with these forms, have Operations section provide clipboards/Activity Form and emphasize keeping track of difficulties for better analysis afterwards.

**Recommendation:**

- Now that we have become more familiar with these forms, have Operations section provide clipboards/Activity Form and emphasize keeping track of difficulties for better analysis afterwards.

**ADDITIONAL ISSUES/RECOMMENDATIONS**

- A remarkably uniform difficulty experienced by all groups who were located out of doors, was difficulty in viewing computer screens. One volunteer strongly recommended that we be equipped with “photographer's capes” another wanted collapsable, foldable cardboard shields so that screens could be better seen. We will need to find either of both of those solutions for future service.

## SECTION 4: CONCLUSION

Operation ARES STEINHATCHEE STORM was conducted on October 7, 2017, to test Alachua County ARES capabilities to provide backup emergency communications to a simulated, hurricane-devastated community.

This was undoubtedly one of the most ambitious Full Scale Exercise ever carried out by Alachua County ARES, at least within known history. A very wide array of communications skills were put to the test, including simplex VHF voice, simplex VHF repeater, duplex VHF repeater, HF WINLINK, VHF WINLINK, microwave WINLINK, microwave VoIP.

These digital skills (WINLINK, packet, HF) are still new to our local volunteers, and this exercise solidified their usage of them. We added the new mode of Microwave for this Exercise --- and the deployment 60 miles out of our home town. Furthermore, we strenuously tested their abilities to emplace emergency antennas and provide alternative power --- all things that would be important in a real hurricane / communications emergency. Our group performed admirably at all these tasks. The real performance issues were external to our group – the WINLINK server software experienced difficulties perhaps related to a Microsoft Windows update, and our hoped-for VHF link from lookout towers 60 miles apart was not successful. We will need to have backup copies of all software for any deployments, and in order to reach Steinhatchee by VHF digital repeater we will need an intermediate station, perhaps at the Trenton look out tower. Over all, we discovered the HF system is more reliable and (once software works) easier to use than the multiple sequential connections required for VHF packet long distance connections. End-volunteers found the VHF-to-HF system very easy to use, and the Microwave-to-HF system also was easy to use. These were significant advancements for our group. This was the very first time that our group ever deployed a portable WINLINK RMS server system.

This exercise allowed us to begin to put together our own internal Incident Command System, which helped broaden our leadership involvement. For this exercise, message creation was moved to new leaders and worked well.

A weakness of our deployment was that we were unable to secure involvement by the Alachua County Emergency Operations Center; officials cited responsibilities still remaining from Hurricane Irma of just a few weeks previous. We were also unable to secure involvement by a nearby amateur club we have provided some training for. However, we were delighted to have volunteers from other groups including the Ocala Hospital Emergency Communications group, and the Black Swan organization attempt to assist us. Furthermore, we had cooperation from a newly-added WINLINK sysop, Ray Cook.

At our previous Full Scale Exercise, Larry Rovak commented that our top priority should be to keep “growing our infrastructure” --- and this Exercise did exactly that.

## APPENDIX A: ISSUES NOTED / IMPROVEMENT PLAN

(updates ongoing at: <http://qsl.net/nf4rc>)

Updated as of June 11 2017

No.	Issue	Suggestion	Actual Action Taken
1	<p><b>WINLINK RMS_RELAY could not connect to RMS_TRIMODE, fatally crippling the BRIDGE portal to automated HF forwarding.</b></p> <p>Not clear exactly why; a Microsoft Windows update may have been involved; a flaw in TRIMODE requiring internet access that was repaired contemporaneously by the Winlink Development Team may have been involved; the ARES volunteer did not bring backup installation software, so a new installation had to be downloaded over the Internet (violation of exercise plan) but the system then worked well.</p>	<ol style="list-style-type: none"> <li>1. NEVER DEPLOY WITHOUT FLASH DRIVES WITH RE-INSSTALLATION SOFTWARE.</li> <li>2. Investigate moving server software to linux-based bpq systems.</li> <li>3. When using microsoft-windows based software, sequester equipment from last testing to deployment time and prevent either Microsoft or Winlink upgrades.</li> </ol>	<p><b>Immediate problem RESOLVED</b></p> <p><b>1) re-installation during the exercise cured the immediate problem.</b></p> <p><b>2) Winlink upgrades are said to have removed the TRIMODE internet-absent startup-issue. (This needs to be tested.)</b></p> <p><b>Longer Term Solutions:</b></p> <p><b>1) Efforts underway to investigate moving to linux-based server platform.</b></p>
2	<p>VHF link from Jonesboro Lookout Tower to NEWB did not reliably connect.</p>	<ol style="list-style-type: none"> <li>1. We would need an intermediate link, possibly at Trenton tower, to make</li> </ol>	<p><b>UNRESOLVED</b></p>

	Furthermore, station LKCTY was not reachable on SEDAN frequency.	this work.  2. Unclear the status of LKCTY which had a very strong signal during pre-exercise testing.	
3	The only station with excellent VHF voice connection to the far TOWER comm unit #4, was the 40-watt GE transceiver utilized by Comm Unit #1.	Work toward putting 40-watt units in all deployed comm units.	UNRESOLVED
4	Outdoor units were unable to easily see their screens.	Find some form of shading – photographer's capes made from black fabric, or folding / collapsible cardboard or metal shields.	UNRESOLVED

## APPENDIX B: LESSONS LEARNED

While the After Action Report/Improvement Plan includes recommendations which support development of specific post-exercise corrective actions, exercises may also reveal lessons learned which can be shared with the broader homeland security audience. Federal Emergency Management Agency (FEMA) maintains the *Lessons Learned Information Sharing* (LLIS.gov) system as a means of sharing post-exercise lessons learned with the emergency response community. This appendix provides jurisdictions and organizations with an opportunity to nominate lessons learned from exercises for sharing on *LLIS.gov*.

For reference, the following are the categories and definitions used in LLIS.gov:

- **Lesson Learned:** Knowledge and experience, positive or negative, derived from actual incidents, such as the 9/11 attacks and Hurricane Katrina, as well as those derived from observations and historical study of operations, training, and exercises.
- **Best Practices:** Exemplary, peer-validated techniques, procedures, good ideas, or solutions that work and are solidly grounded in actual operations, training, and exercise experience.
- **Good Stories:** Exemplary, but non-peer-validated, initiatives (implemented by various jurisdictions) that have shown success in their specific environments and that may provide useful information to other communities and organizations.
- **Practice Note:** A brief description of innovative practices, procedures, methods, programs, or tactics that an organization uses to adapt to changing conditions or to overcome an obstacle or challenge.

### Exercise Lessons Learned

The following subject headings are lessons derived from the Alachua County, Florida FSE on May 6, 2017 that are proposed for inclusion in the Department of Homeland Security's Lessons Learned/Best Practices web portal, LLIS.gov:

- VHF and microwave communications worked well.

- THE ASSISTANCE OF STATE, LOCAL, AND PRIVATE ENTITIES CONTRIBUTED GREATLY TO THE LEARNING OPPORTUNITIES AFFORDED BY OUR EXERCISE.

## APPENDIX C: PARTICIPANT FEEDBACK SUMMARY

### PARTICIPANT FEEDBACK FORM

(SUGGESTED FOR USE IN SUBSEQUENT EXERCISES)

Exercise Name: \_\_\_\_\_ Exercise Date: \_\_\_\_\_

Participant Name: \_\_\_\_\_ Title: \_\_\_\_\_

Agency: \_\_\_\_\_

Role:  Player  Observer  Facilitator  Evaluator

### PART I: RECOMMENDATIONS AND CORRECTIVE ACTIONS

1. Based on the exercise today and the tasks identified, list the top 3 strengths and/or areas that need improvement.

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2. Is there anything you saw in the exercise that the evaluator(s) might not have been able to experience, observe, and record?

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3. Identify the corrective actions that should be taken to address the issues identified above. For each corrective action, indicate if it is a high, medium, or low priority.

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4. Describe the corrective actions that relate to your area of responsibility. Who should be assigned responsibility for each corrective action?

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5. List the applicable equipment, training, policies, plans, and procedures that should be reviewed, revised, or developed. Indicate the priority level for each.

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## PART II – EXERCISE DESIGN AND CONDUCT: ASSESSMENT

Please rate, on a scale of 1 to 5, your overall assessment of the exercise relative to the statements provided below, with **1** indicating **strong disagreement** with the statement and **5** indicating **strong agreement**.

**Table C.1: Participant Assessment**

Assessment Factor	Strongly Disagree				Strongly Agree
	1	2	3	4	5
a. The exercise was well structured and organized.	1	2	3	4	5
b. The exercise scenario was plausible and realistic.	1	2	3	4	5
c. The facilitator/controller(s) was knowledgeable about the area of play and kept the exercise on target.	1	2	3	4	5
d. The exercise documentation provided to assist in preparing for and participating in the exercise was useful.	1	2	3	4	5
e. Participation in the exercise was appropriate for someone in my position.	1	2	3	4	5
f. The participants included the right people in terms of level and mix of disciplines.	1	2	3	4	5
g. This exercise allowed my agency/jurisdiction to practice and improve priority capabilities.	1	2	3	4	5
h. After this exercise, I believe my agency/jurisdiction is better prepared to deal successfully with the scenario that was exercised.	1	2	3	4	5

**PART III – PARTICIPANT FEEDBACK**

Please provide any recommendations on how this exercise or future exercises could be improved or enhanced.

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## APPENDIX D: EXERCISE EVENTS SUMMARY TABLE

**Table D.1:** *Exercise Events Summary*

Date	Time	Scenario Event, Simulated Player Inject, Player Action	Event/Action
10/07/17	0700-0730	Participants gathered at County Foodly for Breakfast	Discussion.
10/07/17	800	Deploy caravan style to Stienhatchee using 146.55 Simplex.	Travel
10/07/17	1000	Check-In at Casey's Cove	ICS-211 checkin
10/107/17	1030	Deploy to locations, establish communications, begin transferring messages	Message were pre-developed by the Incident Commander and Logistics Chief.
10/07/17	1200	Move toward Lunch and demobilization procedures	Discussion and feedback

## APPENDIX E: ACRONYMS

Acronym	Meaning
AAR	After Action Report
ALS	Advanced life support
CDC	Centers for Disease Control and Prevention
DHS	Department of Homeland Security
EDS	Emergency Dispensing Site
EMA	Emergency Management Agency
EMS	Emergency Medical Services
FEMA	Federal Emergency Management Agency
FOUO	For Official Use Only
FPC	Final Planning Conference
HF	High Frequency (shortwave)
HSEEP	Homeland Security Exercise and Evaluation Program
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
IC/UC	Incident Command/Unified Command
IPC	Initial Planning Conference
LLIS	Lessons Learned Information Sharing
MDPH	Massachusetts Department of Public Health
MEMA	Massachusetts Emergency Management Agency
MPC	Midterm Planning Conference
MRC	Medical Reserve Corps
MSEL	Master Scenario Events List
NIMS	National Incident Management System
POC	Point of contact

BOOK TITLE

Acronym	Meaning
RSS	Receipt, Stage and Storage facility
SARNET	Statewide Amateur Radio Networking (a connected series of amateur radio repeaters)
SNS	Strategic National Stockpile
TCL	Target Capabilities List
UC	Unified Command
VHF	Very High Frequency (30-300 MHz)
WINLINK	A radio email system, see <a href="http://www.winlink.org">www.winlink.org</a>

