



Alachua County ARES Volunteers (ACAV) Emergency Operations Plan (EOP)

Basic Plan

Promulgation Document/Signature Page

This document/page is a signed statement formally recognizing and adopting the plan as the jurisdiction's all-hazards EOP.

- Include a Promulgation Statement signed by the jurisdiction’s senior elected or appointed official(s). (Note: This statement must be updated each time a new senior elected or appointed official takes office.)

Approval and Implementation

This page introduces the plan, outlines its applicability, and indicates that it supersedes all previous plans.

- Include a delegation of authority for specific modifications that can be made to the plan and by whom they can be made without the senior official’s signature.
- Include a date and ensure that the page is signed by the senior official(s) (e.g., governor, tribal leader[s], mayor, county judge, commissioner[s]).

Record of Changes

The record of changes, usually in table format, contains, at a minimum, a change number, the date of the change, the name of the person who made the change, and a summary of the change. Other relevant information could be considered.

Record of Distribution

The record of distribution is usually a table with fields that indicate the title and the name of the person receiving the plan, the agency to which the receiver belongs, the date of delivery, and the number of copies delivered.

Table of Contents

- 1. Purpose, Scope, Situation, Assumptions**
- 2. Hazard and Threat Summary**
- 3. Mission Essential Functions**
- 4. Concept of Operations**
- 5. Annexes**

Purpose, Scope, Situation, Assumptions

Purpose

This Emergency Operations Plan (EOP) is designed to provide guidance for the Alachua County ARES Volunteers (ACAV) during an emergency activation.

Scope

This EOP discusses the contingencies that ARES Volunteers may be called to assist.

Situation Overview

There are many situations that may cause a communications black-out; intentional or accidental, human or natural caused scenarios. The ACAV is manned, trained, and equipped to augment an organization with digital and voice communications during any emergency maintain continuity of government (COG) or continuity of operations (COOP) of the supported entity.

Assumptions

1. Alachua County EOC has requested support from the badged Alachua County ARES volunteers.
2. The environment may be generally unsafe, but inhabitable. For example, the roads may be damaged, city power may not be available, but no chemical, biological, radiological or nuclear (CBRN) hazard is present.
3. The emergency or disaster has not affected the Alachua County ARES Volunteers to an extent that no members are able to respond.

Hazard and Threat Analysis Summary

The Alachua County ARES Volunteers (ACAV) conducted a threat hazard identification and risk assessment (THIRA) in May 2021 and will perform an annual review thereafter.

The ACAV reviews the results of the most recent Florida State and Alachua County assessments to determine how the hazards and threats will affect the ACAV's ability to lend support during an emergency as well as identifying the most likely scenarios that the Volunteers would be requested to support. The outcome of the THIRA does not emulate the state or county's results; the focus is specific to those hazards most likely to cause a need for emergency or auxiliary communications.

Florida has a long recorded history of hurricanes, sinkholes, **fill in more historical data including when the GARS members were sent to the fire stations.....**

No.	Hazard or Threat
1	Hurricane/ Tropical Cyclone
2	Wildfire
3	Cyber/ Infrastructure Attack
4	Mass Civil Unrest
5	Electromagnetic Pulse (EMP)/ Coronal Mass Ejection (CME)

Fig 1. ACAV THIRA Top 5 Results

Mission Essential Functions (MEF)

The primary purpose of the Alachua County ARES Volunteers, when serving as volunteers to the Emergency Management Department of Alachua County, is to serve as directed to augment communications that need backup or assistance. This assists with continuity of governance and continuity of operations.

The following mission essential functions (MEF) are listed in priority with number one being the most important mission to fulfill.

1. Alachua County EOC Augmentation
2. Fire/LE Augmentation
3. Shelter Augmentation
4. Augmentation to other agencies as requested by Alachua EOC

Concept of Operations (CONOPs)

The concept of operations for the Alachua County ARES Volunteers (ACAV) is simple yet broad; to assist the Alachua County Government when other forms of communication are not available.

Training

The individual members of ACAV are trained and equipped to support as requested by the Alachua County emergency operations center (EOC). The ARES(R) program of the American Radio League provides certification standards¹ for holding volunteer and leadership positions within the ARES(R) program, and encourages extensive training and exercising of volunteers. Our local ARES(R) group, in conjunction with multiple local clubs, has tackled these challenges with enthusiasm, holding regional Conferences, HSEEP-exercises, and publishing over a dozen texts in paperback/Kindle format. Our local group sports three Level III ARES(R)-Taskbook trained volunteers, all of who are admitted by the North Florida ARRL Section to be Evaluators.

Deployments

1. Emergency Operations Center

The first location the Emergency Manager is likely to request to be staffed is the EOC radio room. After years of cooperative growth between local volunteers, the Alachua County Emergency Management Department and the Alachua County Sheriff, this is a very capable backup communications facility with:

- 3 tower-mounted VHF/UHF communications antennas
- 4 VHF/UHF transceivers, two set for voice communications, and two set for data communications
- 3 different HF transceivers, to provide backup and to provide one transceiver which is expected to be fully EMP-invulnerable (based on U.S. government testing documented in the 1980's). All three transceivers are capable of voice or data communications, in either the amateur radio (FCC-controlled) spectrum under Part 97, or within the DHS Federal SHARES program, using frequencies approved by the DHS/NTIA.
- Multiple HF antennas.

1 See : [http://www.arrl.org/files/file/Public Service/ARES/ARES Strategic Plan - final - PSC.pdf](http://www.arrl.org/files/file/Public%20Service/ARES/ARES%20Strategic%20Plan%20-%20final%20-%20PSC.pdf), page 6 and following. Also see the Florida-specific Taskbook, <https://arrl-nfl.org/wp-content/uploads/2020/01/Florida-ARES-Training-Task-Book-2020-R1.pdf>

- Significant capability to operate without any utility or even generator power, tested during the annual Field Day event participation by local clubs, sponsored by the ARRL.

2. County Shelters

At the discretion of the Emergency Manager, badged volunteers may be deployed to one or more County Shelters, to provide backup communications capabilities between the Shelters and the EOC, and also to assist public service personnel when so requested. In the 2019-2021 period, the County, has provided 14 Shelters with fixed communications antennas allowing VHF/UHF communications, and also 800 MHz public service communications, as well as providing a pass-thru to allow a possible local- or longer-distance HF communication capability, should the normal repeaters be out of service and simplex communications be inadequate. Additionally, the County has provided 14 ruggedized "go-boxes" with uniform VHF/UHF amateur radio type transceivers, and 800-MHz public service transceivers. A small number of the amateur radio transceivers have been further equipped for data communications in addition to voice communications, since our volunteers are often trained in data communications.

The EOC maintains a stock of storage batteries to provide power for these backup communications go-boxes even if the Shelter utility power and generator power systems fail.

3. Assistance with other County Communications

With the equipment provided by the County, the trained and badged volunteers can also be deployed if requested to assist fire or law enforcement facilities' communications. Our volunteers and surrounding amateur radio community have significant expertise in both local NVIS HF communications, and also with the emplacement of VHF/UHF repeaters, and if necessary can be tasked with efforts to assist with last-ditch communications systems in the event that the commercial trunking system is severely damaged by physical or cyber-attack, or EMP. This area of potential service has not been significantly explored or exercised in our local area, however, past history includes the stationing of amateur radio operators at fire stations during extreme communications difficulties in Alachua County. Additionally, some of our volunteers have participated in MARC Unit training, and can assist with deploying the significant capabilities of the Region 3 MARC unit. Our group has exercised with the MARC unit on at least two occasions, and has also exercised with the Forestry Division Tower.

4. Other Facilities as Directed

The fourth MEF is to support another agency as requested by the EOC. This may be a hospital, a utility plant, or even a location outside of Alachua County.

The ACAV located at the EOC serves as the hub at the Operational level. The individual ACAV members are at what is known as the Tactical level.



Fig 2. Strategic, Operational, Tactical Level Diagram

This CONOP borrows from the military parlance; Operational Control (OPCON) and (Tactical Control (TACON). The Alachua County EOC maintains Operational Control over the individual ACAV radio operator by placing them where they will be most effective for the Strategic (state and national) plan. The agency the individual volunteer is assigned to (e.g. ESF 6) now has tactical control of the radio operator. For example, the EOC will not tell the agency where the radio operator is to set up their station. The EOC may determine that the radio operator will be better utilized at a different location and move the individual. This concept is asset allocation.

The Emergency Manager, in conjunction with Alachua County ARES(R) leadership, chooses which individuals are assigned to which locations and functions. Training and qualification must be taken into account. Another very important consideration is aligned with the American Disabilities Act (ADA). Individual volunteers with conditions that fall under ADA must be accommodated properly. For example; a volunteer with a mobility challenge should not be assigned to support a plane crash in the Everglades; rather, this volunteer may be better suited to support EOC operations.

Note: Include ADA compliance. For example, volunteers with service animals.

Organization and Assignment of Responsibilities

This section provides an overview of the key functions that state or local agencies will accomplish during an emergency, including the roles that Federal, state, territorial, tribal, local, regional, and private sector agencies will take to support local operations.

Alachua County volunteer communications may, at the discretion of the Emergency Manager, be assigned to:

- Provide backup communications to the State EOC, over voice or data, using Amateur or DHS/SHARES frequencies
- Submit ICS forms, such as ICS-213 / ICS-213RR etc, or other forms, to the State or other designated recipients.
- Gather information from public and radio sources to assist with situational awareness.
- Provide backup communications to local shelters.
- Assist with any other public service communications needs as directed.
- Assist with providing humanitarian communications from the public to loved ones when normal communications systems are non-function or overloaded, and at a lower priority than official communications.²
- As directed by the Emergency Manager, maintain tactical or logistical communications with surrounding counties via backup communications systems.

Credentialing

Alachua County volunteer communicators are credentialed after having the appropriate background checks performed³, and the required training completed.⁴

Notification

ESF2 maintains communications systems and is kept apprised of current leadership within the volunteer organization. Additionally, EMP-resistant communications systems are being developed to allow communications with some volunteers in the event the normal telecommunications systems are inoperative.

2 DHS/SHARES has requested that these "health and welfare" communications not move across the DHS/SHARES network.

3 For further information, see: <https://qsl.net/nf4rc/StateVolunteerRequirements.pdf>

4 Established training requirements can be found here: <https://qsl.net/nf4rc/2021/Welcome-ARESRequirements2020.pdf>

Direction, Control, and Coordination

Our communications volunteers serve at the direction, control and coordination of the Emergency Manager, who may delegate portions of responsibilities to suitably credentialed and trained assistants or volunteers.

Information Collection, Analysis, and Dissemination

This section describes the required critical or essential information common to all operations identified during the planning process.

Communications

Our volunteer communicators are trained and skilled in providing voice communications. We also have a significant number who are trained and skilled at data communications including, but not limited to:

- Winlink radio email communications
- NBEMS (FLDGI) point-to-point communications
- JS8 and other low-signal communications.

Our volunteer communicators are trained to participate in established amateur radio and SHARES voice tactical and traffic network operations.

Administration, Finance, and Logistics

Administration

This section describes administrative protocols used during an emergency operation.

Documentation is an administrative process used by a jurisdiction to document the response to and recovery from a disaster. Note: This information can also be discussed for each emergency response function or for the specific hazards.

During activations, credentialed volunteers will keep records of activities on ICS forms including the ICS-214 and if appropriate, the ICS-309. These will be turned into the Emergency Manager following the activation.

The **after-action report (AAR)** results from an administrative process used by the jurisdiction to review and discuss the response in order to identify strengths and weaknesses in the emergency management and response program. The local volunteer group may, at its discretion, create its own AAR/IP of its communications efforts in order to improve them.

Examples of After Action Reports created by this volunteer group include:

<https://qsl.net/nf4rc/FBDR/2021/WhirlwindBoomAARIP.pdf>

<https://qsl.net/nf4rc/2020/AlachuaCountyARES2020FIELD DAYAfterActionReport.pdf>

<https://qsl.net/nf4rc/2020/FormattedCombinedPowerOutAARIP.pdf>

<https://qsl.net/nf4rc/2018/FinalVersion2.pdf>

<https://qsl.net/nf4rc/2018/FinalVersion2.pdf>

<https://www.qsl.net/nf4rc/2018/2018%20AlachuaCounty%20Waccasassa%20Wildfire%20Excercise.pdf>

<http://qsl.net/nf4rc/2017AlachuaCountyCreateSpaceAfterActionReport.pdf>

<http://qsl.net/nf4rc/2017AlachuaCountyCreateSpaceSteinhatcheeAAR.pdf>

Finance

This section describes finance protocols used to recover the costs incurred during an emergency operation.

Alachua County badged volunteers will generally have very few expenses. If there are significant items that need to be purchase, the purchases will be discussed with the chain of command; appropriate receipts etc. will be handled.

Logistics

This section describes the logistics and resource management mechanisms used to identify and acquire resources in advance of and during emergency operations, especially to overcome gaps possibly identified in a capability assessment.

The major logistical challenge expected in most activations is transport of the bulky and heavy go-boxes to assigned shelters. The Alachua County Sheriff's office and Emergency Manager's office will arrange for transport where possible. Additionally, volunteers are encouraged to bring their own backup equipment provided that it will not be in the way or create a safety hazard at the assigned location.

Plan Development and Maintenance

This section describes the process used to regularly review and update the EOP.

This plan will be reviewed annually by the local ARES(R) group in the setting of an open North Florida Amateur Radio Club meeting where any ARES(R) member is invited to attend. Once amended, it will be re-submitted to the Emergency Manager for discussions/approval. A copy will be maintained on the NFARC web site.

Authorities and References

This section provides the legal basis for emergency operations and activities.

Important legal and other references include:

<https://qsl.net/nf4rc/StateVolunteerRequirements.pdf>

<https://www.fdle.state.fl.us/Background-Checks/VECHS-FAQs/Definitions.aspx>

<https://www.myflfamilies.com/service-programs/background-screening/docs/SCREENINGbyCHAPTER.pdf>

https://ahca.myflorida.com/Executive/Inspector_General/Internal_Audit/docs/FY2017-2018/AHCA-1617-02-AEmployeeBackgroundScreeningProcess.pdf

http://leg.state.fl.us/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=110-1127&URL=0100-0199/0110/Sections/0110.1127.html

http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0400-0499/0435/0435.html

Confidentiality requirements of SHARES:

See: <https://www.cisa.gov/sites/default/files/publications/SHARES%20Form%201.pdf>

The ARRL ARES(R) Strategic Plan: <http://www.arrl.org/files/file/Public%20Service/ARES/ARES%20Strategic%20Plan%20-%20final%20-%20PSC.pdf>

oi

Functional Annex A

Warning

Alerting and warning to our volunteers include notification by the leadership of ESF2 of formal plans, as well as informal information sharing via our web site and email and local VHF nets.

In the event of an EMP or similar situation that renders normal telecommunications warning unavailable, a designated frequency for voice or data alerting will be monitored by participants for situational awareness information emanating from the EOC, where a specific transceiver will be maintained at the ready for such transmissions and training will be provided to the EOC personnel as to how to activate it in such an emergency.

Local volunteers are encouraged to use good judgment and remain in their local homes in general, without specific guidance from the normal chain of command.

Functional Annex B

Financial Management

- Identify and describe the actions that will be taken to ensure that funds are provided expeditiously and that financial operations are conducted in accordance with established law, policies, regulations, and standards.

Functional Annex C

Mutual Aid/Multi jurisdictional Coordination

- Describe the processes to establish and execute mutual aid agreements and multi jurisdictional coordination in support of incident response.

Functional Annex D

Worker Safety and Health

- Describe the processes to ensure response and recovery worker safety and health during incident response and recovery.

Functional Annex E

Training and Exercise

Alachua County ARES(R) and local clubs typically hold one HSEEP-based exercise every spring, and often a regional Emergency Conference; participation by badged volunteers is expected other than extenuating circumstances. A Fall Exercise is typically created by the Section Emergency Coordinator and again, participation by badged volunteers is expected in general. On-going training occurs monthly in highly informative meetings that are well announced with written agenda and multiple speakers. A pattern of lack of involvement in such training will be possible grounds for adjustment in the approval of badged volunteers. Volunteers are expected to achieve Florida ARES(R) Taskbook Level I within 6 month of joining, and Level II prior to deployment. Leadership, according to the ARRL, are required to achieve Level III.⁵

5 See the requirements listed within this document: [http://www.arrl.org/files/file/Public Service/ARES/ARES Strategic Plan - final - PSC.pdf](http://www.arrl.org/files/file/Public%20Service/ARES/ARES%20Strategic%20Plan%20-%20final%20-%20PSC.pdf)

Support Annex A

EOC Augmentation

Background

The Emergency Operational Center requires backup communications capabilities to further insure communications both to local shelters and to the State Emergency Operations Center.

County-approved volunteer communicators have the skills and strategies available to maintain voice and/or data connections from the EOC to Shelters and to the State Emergency Operations Center via amateur radio frequencies and/or SHARES or other frequencies so directed to utilize by the Emergency Operations Center. A combination of radios and antennas provided by the County and by volunteers provides the Emergency Operations Center with multiple transceivers on high frequency (HF), very high frequency (VHF) and ultra high frequency (UHF) bands, including capabilities for Morse code, voice, and data communications of many types, including WINLINK and other communications, and including licensed operation as part of the Department of Homeland Security (DHS) SHARES high frequency system. Multiple suitable antennas and feedlines have been provided by coordinated efforts by the County and volunteers.

Concept of Operations.

When requested by the Emergency Manager or their designee, local approved and badged volunteers may staff the "radio room" of the Emergency Operations Center and attempt to provide any communications requested by the Emergency Manager, as well as performing routine monitoring of available information sources from a variety of systems.

Communications may include voice, Morse code, or data communications and will always present the exact information requested by the Emergency Manager. At the request of the Emergency Manager, desktop applications may be provided so that the Emergency Management Staff may more easily send or receive such messages with minimal interruption of their work flow.

Assumptions.

The Emergency Operations Center maintains control of all volunteers working in its communications capacity unless those volunteers are assigned to other Agencies by arrangements agreeable to all involved.

Activation.

- a. Authority to Activate. Activated on request by the Emergency Manager or their designate.
- b. Occasions for Activation. At the discretion of the Emergency Manager.

Implementation.

Volunteers will arrange their own travel to the EOC unless such travel is deemed dangerous in which case public service conveyance may be arranged or the volunteers may attempt to serve the communications needs of the EOC from alternate locations.

Volunteers will conduct themselves to their assigned location (chosen by the Emergency Manager or their designate, who may be a member of the volunteer group, such as an ARRL Emergency Coordinator, for example) by their own private means, unless the situation is so dire or dangerous that assistance from public service is necessary.

Command and Control (C2).

Volunteers will conduct themselves at the direction of the Emergency Manager or their designate, which may be a Unit Leader or other such ICS designate by the Emergency Manager.

Authorization to Secure. At the request of the Emergency Manager or their designate.

Redeployment/Recovery.

Training and Exercise.

Training and Exercise will be conducted on a continual basis, as directed or assisted by the Emergency Manager or their designate, or by any local ARES(R) group or any other club or group of volunteers who wish to make themselves better prepared to serve as volunteers under the direction of the Emergency Manager.

Support Annex B

Fire/LE Augmentation

Background.

Amateur radio operators often have specific skills, radio assets, and strategic experience that might be of service in assisting the augmentation or reconstitution of public service communications in the event of disaster damage to such facilities.

Concept of Operations.

In the case of disastrous damage to public service repeater or other communications, the Emergency Manager may request advice and/or assistance from trained and credentialed volunteers in reconstituting or ad-hoc repairing of such facilities. These may include, but are not limited to, assistance providing replacement repeater systems on other frequencies or bands; replacement antenna or feedline systems, patching systems, provision of cached transceivers that may substitute for previous equipment; assistance to MARC units in providing replacement repeaters or tower facilities, or cached transceivers and patching systems. The assistance offered may include unconventional methods of providing suitable antenna heights to obtain sufficient performance as to increase public safety.

Assumptions.

The assumption is made that these activities would be at the direction of the Emergency Manager or their designee, and in the setting of actual disaster or emergency, with the significant risk of imminent loss of property, life, or limb, such that the Emergency Manager is well within reason to exercise the emergency communications clauses of Federal Communications Communications regulations, present in all known Radio Services.

Activation.

- a. Authority to Activate. The Emergency Manager or their Designate.
- b. Occasions for Activation. Disaster or Emergency situations during which normal public service communications are severely degraded.

Implementation.

Volunteers, working in coordination with remaining professionals in the disaster or emergency setting, would endeavor to provide backup repeater systems or any required portion of such systems, and assist in providing suitable transceivers.

Command and Control (C2). At the direction of the Emergency Manager or their designee.

Authorization to Secure. From the Emergency Manager or their designee.

Redeployment/Recovery.

Training and Exercise.

Training and Exercise will be conducted on a continual basis, as directed or assisted by the Emergency Manager or their designate, or by any local ARES(R) group or any other club or group of volunteers who wish to make themselves better prepared to serve as volunteers under

the direction of the Emergency Manager. Such training and exercise would NOT include operation in unlicensed manners or by unlicensed operators since no emergency would exist, but might well include deployment of suitable radio assets in safe manners and with permission from applicable property owners or authorities. An example might be to deploy a portable amateur radio repeater to the rooftop of a tall building, with the permission of the management of the building, as a part of a training, measurement effort, or Exercise.

Support Annex C

Shelter Augmentation

Background.

The Florida State Comprehensive Emergency Management Plan requires that County emergency plans provide for backup methods of reaching shelters. Historically, trained volunteers with amateur radio equipment have been utilized to provide such backup communications from the Emergency Operations Center to/from the Shelters. Recently, this process has been further structured to better comply with State statutes, with background-check and vetted volunteers who have completed a course of study prescribed by the ARRL Amateur Radio Emergency Service (ARES(R)).

The County has provided a number of radio "go-boxes" as well as fixed antennas for multiple frequency bands. Volunteers are also expected to be knowledgeable and innovative to provide replacement or additional equipment and/or antennas as needed to accomplish the communications directed by the Emergency Operations Center.

Concept of Operations.

When directed by the Emergency Manager or their designee, approved volunteers will be assigned to the desired Shelters as requested by the Emergency Manager, who may designate a local volunteer coordinator to assign volunteers if they do not wish to direct that themselves.

These volunteers will attempt to maintain continual radio connection to the Emergency Operations Center, except for such breaks as required for required rest, etc.

Assumptions. The volunteers serve under the direction of the Emergency Manager.

Activation.

- a. Authority to Activate. Via the Emergency Manager.
- b. Occasions for Activation. Times when the shelters will be implemented.

Implementation.

The County currently has 14 go-boxes with VHF/UHF amateur radio transceivers as well as 800 MHz public service transceivers. These go-boxes are heavy and bulky and the plan is to have the delivered to the appropriate locations at shelters for us. Our volunteer assigned to the shelter will unpack the go-box and connect up the various radios. We will maintain a VHF tactical shelter net and command net on an announced frequency (see the ICS-205 for the incident) when shelters are in operation. When requested by Alachua County Sheriff authorities (dispatch or an officer emplaced at the Shelter) provide common-sense relaying of information as instructed using the public service radio. Most shelters have an additional coax pass-through with SO-239 connectors which can also be utilized to provide HF communications if the volunteer brings a suitable HF radio and suitable HF antenna.

Command and Control (C2).

This will be by the Emergency Manager and as delegated to badged volunteers serving at the EOC and/or as net control station.

Authorization to Secure.

As directed by the Emergency Manager.

Redeployment/Recovery.

Training and Exercise.

Our local ARES(R) and other groups make continual practice of these deployment skills, particularly during annual Emergency Conferences and in a spring deployment HSEEP-based exercise and often via a Simulated Emergency Test during the Fall. All volunteers are expected to maintain active participation with the training made available and advance through the ARES(R) Taskbook, created for this purpose, and to additionally take ICS courses as directed by the Emergency Manager.

Functional Annex I

Augmentation to other agencies, or as requested by Alachua EOC

Background.

Alachua County ARES(R) and NFARC volunteers have a rich history over the last half decade of developing innovative training programs and techniques to provide potentially better emergency communications service to Floridians. We have sponsored Emergency Symposium or Conferences in 2017, 2018, 2019 and 2020. Our input has been extremely helpful to the ARRL Hamcation Emergency Forum Track for the 2021 Hamcation (canceled) and now the 2022 Hamcation. We have developed HSEEP-based deployment exercises, HF and VHF voice and data message transaction training, and multiple assets to complement the wealth of voice repeaters that the Gainesville Amateur Radio Society has richly supplied the Alachua County area. We have published multiple texts, including:

2018 Conference <https://www.amazon.com/Amateur-Radio-Emergency-Communications-Symposium/dp/1983678805>

2019 Conference <https://www.amazon.com/Amateur-Radio-Emergency-Communications-Conference/dp/1791865941>

2020 Conference: <https://www.amazon.com/2020-Amateur-Radio-Communications-Conference/dp/B083XX3SZR>

Additionally we have published multiple After Action Reports/Improvement Plans.

From this experience, we have gained some hard-won knowledge that has been helpful to another NGO, the Florida Baptist Disaster Relief organization, and resulted in the publication of an online training series for their communications volunteers and a written text as well.

It is therefore possible that volunteers from our group may be called upon to serve in other groups or other capacities. In addition, the Emergency Manager may wish for members of our group to assist in other areas of communications, such as any of the vast array of important communications that would be damaged in the event of an EMP/CME, such as banking transactions.

Concept of Operations.

In the catch-all grouping of volunteer efforts, trained volunteers who are approved and accepted by whichever group may be called upon to assist with NGO agency communications via voice or data, via amateur or via SHARES, via UHF/VHF or HF as appropriate. Repeater communications, assistance with tcp/ip microwave networking, power generation systems are also areas where several volunteers have experience.

Assumptions.

Volunteers will make voluntary choices where best to serve, taking all factors into consideration, and governmental agencies or NGO agencies will make their own voluntary choices of whether to involve volunteers.

Activation.

- a. Authority to Activate. Via the authority in charge of the involved group.
- b. Occasions for Activation. As per the involved group.

Implementation.

Command and Control (C2).

Authorization to Secure.

Redeployment/Recovery.

Training and Exercise.

The training and exercises provided within the Alachua County ARES(R) and NFARC environments are designed to be wide ranging to cover a number of areas such as, but not limited to, FCC licensure advancement, electronics understanding, diagnostics, and repair; power systems for radios and emergency power; voice and data communications; HF, VHF, UHF and microwave communications; tcp/ip networking; microcomputers such as Arduino & Raspberry Pi; antennas and feedline; governmental communications systems at the local, state and federal level; NTS / RRI nets; Winlink and NBEMS systems; low signal systems such as FT8 and JS8; deployment considerations such as personal care, safety, water, food, fuel and transportation. Our Field Day experiences are a part as well as our LabNLunch sessions where hands-on building experiences are gained. Our Emergency Conferences provide opportunities for teaching and gaining experience. Our training and exercises are purposely wide-ranging.

Hazard Specific Annex A

Hurricanes/Severe Storms

Our group has significant experience with hurricanes and severe storms, and has been deployed in multiple instances due to expected damage to at-risk structures leading to opening of multiple shelters. As our County is located at a convenient "stopping point" for fleeing Floridians, and liquid fuels can become in short supply, we have occasionally experienced significant fuel shortages leading to the need to open a large number of shelters to accommodate stranded motorists.

It is uncommon for Alachua County to experience very strong hurricane winds -- but not unknown at all!

The 1896 Cedar Keys Hurricane is one such example. Wikipedia reports:⁶

The **1896 Cedar Keys hurricane** was a powerful and destructive [tropical cyclone](#) that devastated much of the [East Coast of the United States](#), starting with [Florida's Cedar Keys](#), near the end of September 1896. The storm's rapid movement allowed it to maintain much of its intensity after [landfall](#) and cause significant damage over a broad area; as a result, it became one of the costliest United States hurricanes at the time. The fourth tropical cyclone of the [1896 Atlantic hurricane season](#), it formed by September 22, likely from a [tropical wave](#), before crossing the Caribbean Sea just south of the [Greater Antilles](#). It entered the [Gulf of Mexico](#) as the equivalent of a major hurricane on the [Saffir–Simpson scale](#), and struck the Cedar Keys—an offshore island chain that includes the island and city of Cedar Key—early on the morning of September 29 with [winds](#) of 125 mph (205 km/h). The area was inundated by a devastating 10.5 ft (3.2 m) [storm surge](#) that undermined buildings, washed out the connecting railroad to the mainland, and submerged the smaller, outlying islands, where 31 people were killed. Strong winds also destroyed many of the [red cedar trees](#) that played an important role in the economy of the region.

....

By several days after the hurricane, 12 people were reported dead across Alachua County. [10] Five of them were in [High Springs](#), [58] including two seeking shelter in a [box car](#) that was blown off the tracks. [12] Four turpentine workers in [LaCrosse](#) were crushed to death when a fallen tree landed on their cabin, and three others in the town were killed. In [Newberry](#), which was "totally wrecked", [12] three people died. [58] About 20 homes and businesses in [Gainesville](#) were ravaged, [12] as were a sawmill, church, and warehouse. [59]

In the realm of communications, our group anticipates that a Cat III level storm crossing our area would have very severe effects, possibly removing or completely overwhelming normal telecommunications, and very possibly damaging public service trunked communications, all power availability, and avenues for broadcast to the public.

Hazard Specific Annex B

Wildfire

Wildfire is a common issue in heavily forested northern Florida. Thankfully we have not seen the vast devastation of lands and communications facilities (towers, microwave, fiber, etc) that has happened in

6 See: https://en.wikipedia.org/wiki/1896_Cedar_Keys_hurricane

western states. However, given the right circumstances, this is indeed possible in our State as well and could significant damage communications systems. Therefore our group has come up with some potential methods by which we can assist, at the direction of the Emergency Manager.

Hazard Specific Annex C

Cyber /Infrastructure Attack

At the time of this writing, the eastern seaboard of the United States of America has had 45% of its fuel transport capacity damaged by a cyber attack on the Colonial pipeline. At this time, already 26 cities, counties or states have had significant cyber attacks; hospitals are increasingly attacked as well. Cyberthreats can arise from state-supported or individual terrorist groups.

Our local telecommunications could be severely affected including the fiber systems that provide much of the public service trunking systems.

Therefore our group has worked to provide response strategies to all of these anticipated losses.

Hazard Specific Annex D

Civil Unrest

Civil unrest is particularly strong at the time of this writing, with multiple cities convulsed by ongoing violence including riots, arson and homicide. Shootings and homicides are up double to triple digits in many cities. As we have a highly educated population, it is possible that civil unrest could involve targeted attacks on communications infrastructure, some of which we judge is quite vulnerable. As a result our group has formulated some strategies that volunteers could assist authorities in response.

Hazard Specific Annex E

EMP/CME

The risk of EMP/CME has been known to USA leaders since World War II and military systems are largely hardened, while civilian communications much less so. Several of our members have significant knowledge in this area from extensive reading, planning, and writing. It is known that older technologies for communication are relatively hardened against EMP, and CME power losses can be planned for.

In the event of a CME it is expected that there would be widespread power losses in Alachua County, leading to telecommunications failures, and failures of delivery of food, water, fuel and lubricants. Much of this is beyond the scope of our communications group, but we can assist with providing or reconstituting backup communications to shelters, and potentially to public service systems.

In the event of an EMP attack, more extensive damage from the E1 and E2 components are expected. Congressional research has suggested that much of the telecommunications system could be destroyed, much of the power system irrevocably destroyed, and widespread societal dissolution might occur. Our communication group focuses on sustainability of our members and possible methods by which we can provide or assist with maintaining some form of public service communications in order to maintain civil order in the streets.

Appendix A

Authorities and References

https://www.fema.gov/sites/default/files/2020-07/fema_ESF_2_Communications.pdf

https://www.fema.gov/sites/default/files/2020-07/fema_ESF_13_Public-Safety-Security.pdf

<https://www.floridadisaster.org/globalassets/cemp/2020-cemp/2020-state-cemp.pdf>

<https://www.floridadisaster.org/globalassets/importedpdfs/state-logistics-plan---cover-preface-and-exec-summary-2015.pdf>

<https://www.qsl.net/nf4rc/>

<https://www.cisa.gov/publication/fog-documents>

https://www.cisa.gov/sites/default/files/publications/PTE%20FOG%20Best%20Practices_Draft_FINAL.pdf

<https://www.qsl.net/ws1sm/AUXFOG.pdf>

https://www.fema.gov/sites/default/files/2020-05/CPG_101_V2_30NOV2010_FINAL_508.pdf

https://www.dms.myflorida.com/business_operations/telecommunications/suncom2/emergency_support_function_communications_esf_2

<https://www.floridadisaster.org/sert/esf/>

https://members.tripod.com/florida_state_dcat/

https://www.cisa.gov/sites/default/files/publications/CISA%20SCSI%20101%20Factsheet_10.22.19%20-%20FINAL%20%28508c%20%2B%20OGC%29.pdf

<http://www.osceolacountyares.org>

Appendix B

List of Acronyms and Glossary

