Communications Threat - Risk Assessment Integrated Preparedness Plan / Radio Volunteers

Developed by Amateur Radio Emergency Service of Alachua County, Florida

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Calendar Years 2021-2023
May 2021

Integrated Preparedness Planning Team

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Applicability & Governance

Volunteerism is INclusive, not EXclusive. Authorities Having Jurisdiction (e.g. Alachua County Emergency Management, Alachua County) and non-governmental organizations (e.g., American Red Cross, Florida Baptist Disaster Relief) will generally accept and appreciate service offered by any otherwise qualified volunteer.

The Amateur Radio Emergency Service (R) is a program of the American Radio Relay League, not a club. Controlled by the parent organization, the ARRL, this program has authority to set standards for its recognized leadership, including field leadership. Those standards have been set forth within a written document.[1] ARES(R) is open to ANY licensed amateur for participation, regardless of club membership, ARRL membership or no membership whatever. ARES(R) is not limited to members of this or that club.

Local Authorities Having Jurisdiction, and NGOs of course, have their own qualifications for volunteers and for volunteer service. Those typically include some form of background checking for liability and safety purposes, as well as some list of required training and/or performance. Locally the Alachua County Emergency Management department has established requirements for badging for possible volunteer service, and maintains ultimate control over both badging, service, and assignments. While many local volunteers have been extensively trained within one or more local clubs and as a part of the formal field program ARES(R), we do not typical represent ourselves as "agents of ARES(R)" of of any particular club or group, when serving the local Emergency Management at their direction. Rather, we are volunteers under their direction. Volunteers serve voluntarily. Similarly our volunteers are free to serve other worthy groups, of which there are several.

The goal of this document is to set longer-term goals, informed by a THIRA analysis, so as to best steward the time and assets that our volunteers voluntarily contribute to these worthy efforts.

Free Usage by Any Group
While this report was suggested/requested by personnel from the Alachua County Emergency Management, and created by volunteers involved with Alachua County ARES(R) as well as many other local groups and clubs, and is expected to be discussed, amended, and adopted by participants with North Florida Amateur Radio Club (NF4RC) and the Alachua County EOC Radio Club (NF4AC), **it is intended to be INclusive rather than EXclusive** -- *any local volunteer group, club, or even volunteers who aren't part of any club or group, are welcome to adopt, improve, modify, and carry out or support any or all of this expansive set of goals for the next three years*. **For example, a club or group or individual(s) might volunteer and notify others that they intend to pursue one or more goals listed below and report at timely intervals their progress, issues, and updates.** Any group or individual who for this purpose requests, can receive a word-processing version of the document to assist them in such an endeavor.

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1 See particularly the section Qualifying, Certifying, and Credentialing ARES Personnel , and the section ARES Staff Positions of the document obtained here: http://www.arrl.org/files/file/Public Service/ARES/ARES Plan - rev 01-30 - 19.pdf

This report is not binding on other such groups. Volunteerism is *voluntary*, not *exacted*.   County citizens would likely be grateful for any such group or individuals who choose to further the goals listed in this document.   We encourage other groups to carefully review, and put forth their own written commitments to any or all of this document.

PURPOSE

The City of Gainesville and Alachua County ARES(R)/NFARC Integrated Preparedness Plan (IPP) contains preparedness priorities, outlining steps designed to build and sustain capabilities appropriate for our potential volunteer communications missions, while tailoring them to our community's unique needs.   The plan provides our group with additional direction, accountability and coordination.   The plan's priorities encompass goals and objectives for our volunteer membership to address our responsibility to prepare, protect, support and assist local governments and community.

This IPP lays out the threats, hazards and risks we believe are of priority in our mission area, communications, to Alachua County, which influence the preparedness priorities for CY 2021-2023. The preparedness priorities, corresponding capabilities, and rationale are included in the IPP with multi-year calendars outlining all preparedness activities.

This document is designed to be a living document that will be updated and refined annually or as needed to inform the continuous improvement of our volunteer communications community's ability to build, sustain, and deliver capabilities.

Preparedness Activity Considerations

Threats, Hazards, and Risks

Our group utilizes the Threat and Hazard Identification and Risk Assessment (THIRA) process to identity the most likely (or more impactful) hazards that may affect our county.   These are by no means the only possible incidents that could occur in the county. We take note of THIRA information made available by state and other planners.

Planning begins with events that are expected to challenge current County capabilities the most, while also taking into account those that occur often and have potentially high impacts on life and property, followed by those with moderate probabilities or moderate impacts.

In 2021, our group carried out a Threat and Hazard Identification and Risk Assessment (THIRA) to examine:

- What threats and hazards can affect the communications needs of our community?
- What are the possible impacts of those threats and hazards on our community?
- What capabilities should our volunteer group have, based on those impacts and our role as volunteers?
- What capabilities are needed?

The threats, hazards and risks identified in this process for Alachua County and local jurisdictions as having the greatest impact or challenging capabilities the most are (generally ranked from most likely to least likely):

No.	Item
1	Hurricane
2	Wildfire
3	Cyber Attack: Infrastructure
4	Mass Civil Unrest
5	Electromagnetic Pulse / Coronal Mass Eruption

General Comment: Discussion suggested that a major need in a massive communication failure would be the ability to communicate with state or other possible sources of help, and to maintain situational awareness by contacting surrounding Counties.   One participant emphasized the importance of being able to efficiently create such communications to state or federal resources.   Our current best infrastructure-independent technique for this is SHARES digital radio email direct to the Radio Message Server at the State EOC.   A point point of difficulty is that the State itself is on a learning

curve of some of these techniques.   The participant noted that a considerable volume of communications over an extended period of time might be required.   Communications to surrounding counties is limited by relative weakness of their volunteer radio systems development.

Capability Assessment, Corrective Actions and Improvement Plans

Utilizing our THIRA results, our group has performed a capabilities assessment to assess current volunteer capabilities against THIRA targets.   Results from the SPR estimated current capabilities and needed capabilities as follows:

Note: The communications function is a skilled function, not one that can be taught in just a few minutes, as some skills such as #10 can safe-opening can be taught. There are certain baseline maintenance and growth efforts that have to be maintained merely to continue development and training of the baseline reservoir of potential volunteers.   As such, these missions are continually being performed and are considered to be a bedrock of the response to each of the Threat/Hazards listed below. These include:

1. FCC License Training & Testing[2]
2. Voice Message Transaction[3]
3. Data Message Transaction[4]
4. Electronics Training[5]
5. Propagation Training[6]
6. Antenna Training[7]

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2   NFARC/ARES typically sponsors one or more Technician license classes per year, and attempts to hold either a General or Amateur Extra Class each year.   Volunteers particularly from the Gainesville Amateur Radio Society fulfill Volunteer Examiner positions every other month or more, giving exams.   See: http://gars.club/Testing.html

3   Voice message transaction is a specifically listed skill in the ARRL ARES(R) Strategic Plan, and the Emergency Coordinator has a specific responsibility to arrange coordination with traffic nets, see: http://www.arrl.org/files/file/Public Service/ARES/ARES Plan - rev 01-30 -19.pdf

4   Most useful for logistical or complicated messaging, the ARRL ARES(R) Stratetic plan specifically places the requirement that ARES(R) members be skilled and practiced in various forms of data message transaction; see page 4 of http://www.arrl.org/files/file/Public Service/ARES/ARES Plan - rev 01-30 -19.pdf   While the current "flavor" most used in our area is WINLINK (a radio email service that can function independently of the Internet, and is also a part of the SHARES system), we cannot limit ourselves merely to this protocol but must also be conversant with broadcast protocols (e.g. PSK31, MT63 and others) as well as low-signal protocols being developed as innovation proceeds in amateur radio, exactly as designed in Part 97.1

5   Our volunteers are likely to see unusual circumstances during disasters where unexpected problems and scarce sources of advice are concurrent.   As such, we provide extensive local electronics training in power supply systems, connections, soldering, diagnostics, simple circuit understanding, often through our LabNLunch series which has been very popular and has provided many volunteers with both knowledge and very inexpensive radio asseets.

6   While VHF/UHF communications tend to be "point-to-point" space wave for the most part (although occasional significant alternatives arrive), the use of HF communications for distant connecteions as well as nearby connections is an important skill in view of the VHF/UHF losses of foliage/buildings, and the need to provide situational awareness to State and other County officials.   Therefore our group provides multiple HF experiences including many exercises, WINLINK opportunities, and lately, an "NVIS Net" that demonstrates HF simplex communications routinely that are very difficult to match with VHF/UHF techniques.

7   As physical structures, antennas are frequently one of the most vulnerable portions of the communications continuum in a weather event. Our volunteers may frequently need to repair or emplace an HF / VHF or UHF antenna at an existing

No.	Item		
	Capability	**Current**	**Needed**
1	**Hurricane**[8] The traditional usage of volunteer radio operators has been to provide backup radio communications to the principal outlying locations operated ad-hoc by the County -- that being the Community Shelters. Problems have included lack of fuel for coordination and movement of our volunteers, as fuel was sucked up by fleeing Floridians, and limited ability to sustain in the face of power outages, limited ability to provide situational awareness connections to State EOC if public switched systems failed completely. In this Planning, we're assuming a BIG event, which is uncommon in our case.		
	A. Volunteers. Trained, Badged volunteers who will volunteer & deploy	6-10	22
	B. Shelters. Shelters equipped with fixed antennas	14	Maintain the existing shelters with working antennas; increase the number so equipped to 22
	C. Shelter Radio Go-box	14	22
	D. HF Radios HF Equipment Deployable to shelters	2[9]	8
	E. Solar. Number of local ham clubs using significant Solar power during Field day (a marker for equipment capabilities)	1-2	2+

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or deployed location.   As a result, our group provides extensive training, beginning even at the lowest (Technician License Class) level, including vertical, horizontal, end-fed, center-fed, off-center-fed antennas, directional antennas, and baluns, including both choke baluns and transformer baluns.   These provide inexpensive and easily re-constituted antenna systems knowledge to our volunteers.

8   Assuming a Cat 3/Cat 4 moving over Gainesville. Several thousand needing shelter, several thousand needing water, food. Large number of structures flooded, potential for significant disruption in communications, due to power losses and tall structure losses, and fiber cuts; inaccessibility for refueling.

9   Privately owned

	F. Transportation. Number of volunteers with fuel capability to travel 100 miles despite lack of local fuel.	Estimated 5	15+
	G. Typing. Typed classifications of volunteers	Non existent[10]	Completed[11]
	H. Alerting Ability to be reached by, or to reach significant EM personnel/ESF2 when normal communications are down, for alerting, situational awareness.	Presently dependent on public switched telephone/cell	Add 24/7 radio technique
2	**Wildfire**[12] Alachua County has had significant wildfire events that kept the county shrouded in smoke for significant periods of time, but in this scenario we're attempting to plan for an even larger event, after the experiences of Western states where fires destroyed very significant populated areas and destroyed remote communications equipment such as towers, fiber, power. The scenario has us both staffing shelters and also assisting outlying locations with ad-hoc replacements for public service or other communications.		
	A. Volunteers. Badged, trained, deployable volunteers	6-10	22
	B. Shelters. Shelters with fixed antennas	14	21

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10 Amateur radio leaders have been pointing out the lack of FEMA TYPING for radio volunteers beyond very simple items, for some years now.

12 Large scale wildfire: Burning of towers, cell fiber interconnections similar to effects on the west coast. >10 fatalities; more than 100 structure fires.   Possibility of 1000 persons needing long-term housing, food water. Five - 10 shelters opened. Outlying towns with no communications, potentially with no public service communications.

11 Volunteer Brett Wallace has significant professional experience with Navy Medical exercises and believes with our local expertise we could make a good beginning on Typing for radio volunteers.

C. Shelter Radio Go-Box	14	21	
D. HF Radios. Deployable HF capabilities/ digital to assist distant towns / EOCs	2	6	
I. Repeater Survey Local amateur repeaters **survey** [13]for possible public service usage	Not well characterized	Characterize for suitability for ad hoc public service usage.	
L. MARC. Assistance to MARC unit with deployed replacement repeaters & cached radios for public service.[14]	2 MARC-trained volunteers	10	
M Portable EOC Comms.. Ability to move EOC communications	No portable go-box for most of station	Make majority of equipment portable. Discern comms needs that ESF2 would serve and how we could be of service; plan appropriately	
N. Tall Places. Locations where emergency antennas can be emplaced.[15]	Unknown	Identify and arrange 5.	

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13 Taking a very limited goal here to simply SURVEY and begin to plan for methods by which we might assist the MARC unit and other already-extant backup systems for public-service communications.

15 Recent experimental and theoretical investigations indicate the utility of short temporary towers <100 feet is quite limited thus interest shifts to existing tall structures on which antennas may be emplaced.

14 The State of Florida maintains six significant backup powertable towers, and very significant backup handheld radio caches and occasionally provides training on these systems, including for citizen volunteers.   Part of this goal is to increased the number of our volunteers who are trained to assist in this already existing State resource, with which we have been involved in multiple exercises.

3	**Cyber-attack on INFRASTRUCTURE**[16] Dozens of cities and states have already been attacked in one or another ways via cyber-threats. In one Florida case, an attempt was made to poison the city water supplies. In an attack on Infrastructure, a devious attacker might damage the major public service communications of Gainesville/Alachua County, as either their main or a subsidiary target. Our group wrestled with what ways we might be able to help if called upon in such an event. Bringing up alternate communications systems as a "crutch" until the proper systems are repaired was our major discussion.		
	J. Repeaters Ad-hoc repeater systems that can be deployed	1	3
	K. Transceivers. Transceivers that can be put into hands of public service users, beyond those of governmental caches	Estimate 10	Quantify possible cached radios and develop lists of 50+ transceivers. [17]
	O. SHARES VHF. SHARES VHF repeater network, allowing encryption.[18]	0	1

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16 Cyberattack: With potential damage to communications systems, including the public service radio trunking via GRUCOM; disruption of natural gas and electricity services. If at a temperature extreme, > 20 fatalities due to temperature extremes either cold or hot, carbon monoxide pointing from home generators   Potential for 2000 + persons needing sheltering, food, water.   Potential for significant civil unrest with thousands of assaults/robberies/burglaries. If those occur, potential for > 100 fatalities, > 500 injuries.

18 This resource has recently become known and would allow for more confidential information flow from Shelters back to the EOC, using the highly placed antennas at the EOC for direct connections to at least some of the shelters.   Relays might allow reaching all the shelters. We have no current expertise in this system locally.

17 Some of our volunteers have significant numbers of radios which they may be willing to loan to public service to assist.

	P. Encrypted. Transceivers available for loan with possible encryption[19]	0	50
	Q. Lockout. Mechanisms to detect and address malicious interference with methods to lockout specific transceivers	0	Provide for capability
	R. State Data Comms. Volunteers who can provide data delivery to state EOC for situational awareness or resource request	1-2	5-10
	S. Resilient Homes. Volunteers whose homes are able to provide continued electrical service for required temperature control	Unknown, estimate 5	Quantify and raise to 10-20

#4 Significant Civil Unrest[20]

While not seen so far in instances of Civil Unrest in the United States, there could easily be more targeted attacks on the trunking system connections of the public service system in Alachua County.   In this scenario, we attempt to begin the effort to determine what assets we might contribute to the options available to the Authorities in responding to such an event. We aren't in "charge" -- we are simply trying to create additional options that may be considered in such an unexpected event.

	J. Ad-Hoc Repeaters. Ability to deploy backup repeaters[21]	1	5
	K. Cache Transceivers. Ability to provide ad-hoc transceivers for public service usage.	5-10	Quantify possible cached radios and develop lists of 50+ transceivers.
	T. Neighborhood Vol. Hardening. Hardening of communications neighborhood volunteers to protect their own	Limited	25+ volunteers with local stores of food/water capability, power capability > 4 weeks; capable of providing structured reports

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19 Some commercial business band-intended hand held VHF/UHF transceivers include some form of encryption. While likely primitive, this might be a better choice for radios loaned out to public service personnel.

20 In a highly educated town, may include targeted attacks on soft communications targets such as GRUCOM fiber. Resulting disruption of public switched telephone and public service communications systems. > 10 or more fatalities directly, possibility of >100 if policing degrades due to lack of communications; drive-by shootings, snipings, mob actions, unsafe city for public or volunteer travel.   Inability of local government to maintain safe neighborhoods and shelters. Significantly reduced commerce due to lack of communications systems for billing payment, ordering.

21 Recent real experimentation has demonstrated that obtaining significant RANGE for an ad-hoc repeater is not such an easy thing -- this would require significant pre-planning to take advantage of tower climbers, existing towers, and/or the limited number of "high places"" in our Florida county.

	safety in neighborhoods, able to provide structured situational awareness reports to law enforcement, creating a force multiplier for scarce remaining public service units.		
#5	**EMP (man-made) / CME (natural)[22]** We are not aware of very detailed planning for this apocalyptic type event, and in this portion we propose to at least begin some form of planning for the most important forms of communication that would be important to maintaining some semblance of order within some stretches of the County. Central to our thinking is to provide some form of safety-communications for public service personnel that might be sufficient to avoid the well-documented deficiencies that occurred during Hurricane Katrina when New Orleans public service personnel were left with very little communications. Contrary to some dooms-day visionaries, actual Congressional research[23] and publications on these scenarios indicates that handheld radios will easily survive (but central systems may not), an unknown percent of vehicles will survive, so we concentrate on leveraging what is known to be useful. [24] The Department of Homeland Security has published recommendations for hardening communications systems[25], which we can further employ, and there are well-known published studies of various types of radio systems that are expected to survive completely intact. [26] Our goal is to leverage those known solutions.		
	H. Alerting. Ability to reach EM personnel without normal telecommunications	None	Provide for 24/7 ability of EM personnel to contact local command net via EMP-invulnerable radios to allow situational awareness and direction of continuity of government.
	J. Ad Hoc Repeaters.[27] Replacement repeaters	1	5

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22 Both impact local power likely removing public utility electrical power.   EMP additional damages most electronics and most fixed radio systems -- but not the hand held transceivers / cell phones. Gateways, trunking systems likely out of service.   Unknown destruction of vehicles. Damage to traffic management systems.   Loss of public a availability of banking services, food delivery, liquid fuels and lubricants.   Major economic disruption.

23 http://www.empcommission.org/

24 See: http://www.empcommission.org/docs/empc_exec_rpt.pdf, http://www.empcommission.org/docs/A2473-EMP_Commission-7MB.pdf

25 See: https://www.omnithreatstructures.com/downloads/files/1_electromagnetic-pulse-emp-protection-and-restoration-guidelines-for-equipme_845121.pdf

26 See: https://qsl.net/kx4z/QST-Electromagnetic_Pulse_and_the_Radio_Amateur.pdf

27 Recall the previous footnote documenting that without VERY highly placed antennas, the range of ad-hoc repeaters may be very limited -- low single-digit miles.

K. Cache Transceivers. Replacement transceivers to keep law enforcement / fire able to communicate	Estimate 10-20	Quantify and track 50
R. State. Data Comms Communications with State EOC	Currently via SHARES but not understood by EOC staff.	Develop easy to implement system for EOC personnel to reach State EOC
U. Space Weather Awareness. Awareness of space weather	No monitoring known at present in local volunteer group	1. Add to local emergency training nets. 2. Develop an alerting system in volunteer group
V. Banking. Ability to assist banking system	None	Characterize any possible techniques for assistance.[28]
W. Simplex Plan. Local net plan for repeaters being down.	Limited simplex testing	Develop and test protocols for creating local alerting/response for situational awareness
X. Sustainability. Sustainability of volunteers	Limited	Goal to have all badged volunteers' families with 2 weeks of food/water/power availability at survivable levels.[29]
Y. Vol Family Safety. Safety of volunteer families	No known provisions	Identify and pursue techniques for safety for family members of volunteers, similar to those of public safety. This might include plans for grouping volunteers, assistance from family/friends, but some actual planning.
Z. Broadcast. Broadcast techniques to the community	No known EMP-hardened systems	Identify and quantify possible techniques for broadcasting to citizenry, whose transistor radios are expected to survive without any issue. The ability to provide public information and squelch rumors may be extremely important.

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28 Taking a very conservative goal here. We have almost no expertise onthe specialized security communications of the banking system and therefore don't know if providing SOME form of TCP/IP connectivity would be beneficial. The goal of this portion of the effort is not to create solutions, but at least to understand what might be a solution.

29 That is a fairly easily met goal. One paper-box full of well-chosen canned goods can provide sufficient nutrition for 7 days for two persons. 2-5 gallons of water is needed per day per person, or an alternative source. In Alachua County the water table is very easily reached, and quite a few volunteers have wells that can be powered for the limited time needed to provide useful water.

Preparedness Priorities

Based on the above-mentioned considerations, Alachua County ARES(R)/NFARC determined that the following priorities will be the focus for the multi-year cycle of preparedness for CY 2021-2023

No.	Item
1	Hurricane -- communications related
2	Wildfire -- communications related
3	Cyber-attack Infrastructure -- communications related
4	Civil Unrest -- communications related
5	EMP/CME -- communications related

More detailed information our Preparedness Planning for each of these identified areas:

Priority: Hurricane/Typhoon

Description: Alachua County is frequently in the cone of uncertainty for hurricanes. This is one of the most frequent events with significant possibility of communications failure in our county, and affects a large number of persons.

Corresponding Capabilities:	• Public information and Warning • Mass Care Services • Mass Search and Rescue Operations • Operational Communications • Housing
Rationale:	Experience has shown that cell and other infrastructure can be more fragile than is generally recognized. Our group's active participants change over time as members age, change interests, or move away. Providing for continuous growth in capabilities for this threat is therefore important.
Planning Factors:	Uncertainty regarding the funding and equipment utilized for trunked public service communications complicates

	communications planning for Alachua County.
Organization and Equipment Factors	Changes in leadership in various County/City agencies require new relationships to be formed. Newly placed antennas at 14 shelters, and newly created 14 go-boxes provide significant opportunities for more uniform volunteer response, but need additional testing and operator experience.
Supporting Training Courses:	FCC License Courses -- Technician, General, Amateur Extra sponsored by NFARC ICS 100/200/300/700/800 -- available online/in-person ARRL EC 001 - available online and occasionally in person Emergency Communications Conference(s) -- typically annually[30] ARRL Forum: Emergency Communications Training Multiple hands-on learning opportunities: Polarity Protection LabNLunch Antenna/Balun Development LabNLunch
Supporting Exercises:	Ongoing Net Drills: • VHF ARES(R) Net. • Alternate Weekend HF NVIS Net • Winlink Check-In Florida Net Recent annual Spring HSEEP Exercises[31] Annual Fall Simulated Emergency Test American Red Cross Exercises
Applicable Schedule Items	A. Badged EM Volunteers B. Shelters C. Shelter Radio Go-Box D. HF Radio O. SHARES VHF

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30 Training Manuals from our Conferences are published in Paperback and Kindle Format. For Example:
https://www.amazon.com/2020-Amateur-Radio-Communications-Conference/dp/B083XX3SZR

31 AAR/IPs published: 2021: https://qsl.net/nf4rc/FBDR/2021/WhirlwindBoomAARIP.pdf   2020:
https://qsl.net/nf4rc/2020Conference/CreateSpaceHotColdAARIPBlackInk.pdf   2019:
https://qsl.net/nf4rc/2019Conference/CreateSpaceViralDuoAARIP1.2BlackInk.pdf   2018:
https://www.qsl.net/nf4rc/2018/2018 AlachuaCounty Waccasassa Wildfire Excersize.pdf   2017:
https://qsl.net/nf4rc/2017AlachuaCountyCreateSpaceSteinhatcheeAAR.pdf

	1. FCC Licensure Training and Testing 2. Voice message transaction 3. Data message transaction 4. Electronics Training 5. Propagation Training 6. Antenna Training

Priority: WILDFIRE

Description: A significant conflagration moving through large portions of the county and potentially damaging many communications structures.

Corresponding Capabilities:	• Fire Management and Suppression • Mass Search and Rescue Operations • Public Information and Warning • Operational Communications • Mass Care Services • Housing
Rationale:	Alachua County is a known risk for wildfire, which has demonstrated ability to take down wired, fiber, and microwave communications, leaving smaller communities with zero communications and damaging comms in and out of even larger communities. Important to have volunteer capabilities to surge additional communications to assist the authorities in providing communications to communities and neighborhoods.
Planning Factors:	Paucity of relationships to outlying communities and lower density of volunteer members.
Organization and Equipment Factors	Current inability of EOC backup communications to easily move from location. Lack of knowledge about possible tall assets within the county.
Supporting Training Courses:	FCC License Courses ICS 100/200/300/700/800 ARRL EC 001 Emergency Communications Conference(s) ARRL Forum: Emergency Communications Training Polarity Protection LabNLunch Antenna/Balun Development Courses Florida Baptist Disaster Relief Training Courses
Supporting Exercises:	Recent annual Spring HSEEP Exercises Annual Fall Simulated Emergency Test NVIS HF Net

	Thursday Evening ARES(R) Net Winlink Check-In Florida Net American Red Cross Exercises
Applicable Schedule Items	A. Badged EM Volunteers D. HF Radio E. Solar F. Transportation G. Typing J. Ad-Hoc Repeaters K. Cache Transceivers L. MARC M. Portable EOC Comms N. Tall Places R. State Data Comms 1. FCC Licensure Training and Testing 2. Voice message transaction 3. Data message transaction 4. Electronics Training 5. Propagation Training 6. Antenna Training (A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)

Priority: #3 Cyber Attack on Infrastructure	
Description: Multiple vulnerabilities exist in the communications, natural gas delivery, transport, banking, administration, of modern society.	
Corresponding Capabilities:	• Intelligence and Information Sharing • Fire Management and Suppression • Public Information and Warning • CyberSecurity • Infrastructure Systems • Situational Assessment • Operational Communications • Forensics and Attribution • Mass Care Services
Rationale:	Dozens of cities and states have already been attacked in one or another ways via cyber-threats. In one Florida case, an attempt was made to poison the city water supplies. In an attack on Infrastructure, a devious attacker might damage the major public service communications of Gainesville/Alachua County, as either their main or a subsidiary target. Our group wrestled with what

	ways we might be able to help if called upon in such an event. Bringing up alternate communications systems as a "crutch" until the proper systems are repaired was our major discussion.
Planning Factors:	Lack of group knowledge on infrastructure
Organization and Equipment Factors	Lack of knowledge of available volunteer infrastructure.
Supporting Training Courses:	FCC License Courses ICS 100/200/300/700/800 ARRL EC 001 Emergency Communications Conference(s) ARRL Forum: Emergency Communications Training Polarity Protection LabNLunch Antenna/Balun Development Courses Florida Baptist Disaster Relief Training Courses
Supporting Exercises:	Recent annual Spring HSEEP Exercises Annual Fall Simulated Emergency Test NVIS HF Net Thursday Evening ARES(R) Net Winlink Check-In Florida Net American Red Cross Exercises
Applicable Schedule Items	A. Badged EM Volunteers D. HF Radio E. Solar F. Transportation G. Typing I. Repeater Survey J. Ad-hoc repeaters K. Cache transceivers L. MARC M. Portable EOC Comms N Tall Places O. SHARES VHF P. Encryption Q. Lockout R. State Data Comms S. Resilient Homes T. Neighborhood Vol. Hardening V. Banking X. Sustainability Y. Volunteer Family Safety Z. Broadcast 1. FCC Licensure Training and Testing 2. Voice message transaction 3. Data message transaction

	4. Electronics Training 5. Propagation Training 6. Antenna Training (A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)

Priority: #4 Civil Unrest Description: For whatever reason, the arising of a significant mass event of lawlessness which in an advanced society could involve persons with specific knowledge to attack vulnerable communications systems.	
Corresponding Capabilities:	Fire Management and Suppression Public Information and Warning Infrastructure Systems On Scene Security Protection and Law Enforcement Operational Communications
Rationale:	If insurgents were able to damage critical communications infrastructure, there would be potential for mass loss of fire and law enforcement, banking, commerce and other services important to modern society.
Planning Factors:	Lack of sensitive information about vulnerable systems.
Organization and Equipment Factors	Volunteers have significant equipment and expertise that may assist in providing backup systems.
Supporting Training Courses:	FCC License Courses ICS 100/200/300/700/800 ARRL EC 001 Emergency Communications Conference(s) ARRL Forum: Emergency Communications Training Polarity Protection LabNLunch Antenna/Balun Development Courses Florida Baptist Disaster Relief Training Courses
Supporting Exercises:	Recent annual Spring HSEEP Exercises Annual Fall Simulated Emergency Test NVIS HF Net Thursday Evening ARES(R) Net Winlink Check-In Florida Net American Red Cross Exercises
Applicable Schedule items	A. Badged EM Volunteers D. HF Radio

	I. Repeater Survey J. Ad-hoc repeaters K. Cache transceivers L. MARC M. Portable EOC Comms N Tall Places O. SHARES VHF P. Encryption Q. Lockout R. State Data Comms S. Resilient Homes T. Neighborhood Vol. Hardening V. Banking X. Sustainability Y. Volunteer Family Safety Z. Broadcast 1. FCC Licensure Training and Testing 2. Voice message transaction 3. Data message transaction 4. Electronics Training 5. Propagation Training (A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)

Priority: #5 EMP/CME

Description: An EMP attack resulting in loss of many different types of communications, banking, commerce, transportation systems; a CME natural event with extensive damage to unprotected systems connected to the grid, with resulting loss of grid power, affecting communications, banking, commerce, transportation systems.

Corresponding Capabilities:	• Fire Management and Suppression • Health and Social Services • Public Information and Warning • Critical Transportation • Infrastructure Systems • On-Scene Security Protection and Law Enforcement • Economic Recovery • Supply Chain Integrity and Security • Operational Communications • Mass Care Services • Public Health, Healthcare and Emergency Medical Services • Housing
Rationale:	An EMP or CME could devastate almost all existing modern

	systems and potentially result in complete loss of fire and police services, with resultant mass chaos, starvation, armed mobs.
Planning Factors:	Many organizations simply give up when faced with the enormity of the EMP/CME hazard. However this doesn't help with addressing the threat.
Organization and Equipment Factors	Unknown hardening of existing communications infrastructure Unsurveyed sustainability of volunteers
Supporting Training Courses:	FCC License Courses ICS 100/200/300/700/800 ARRL EC 001 Emergency Communications Conference(s) ARRL Forum: Emergency Communications Training Polarity Protection LabNLunch Antenna/Balun Development Courses Florida Baptist Disaster Relief Training Courses DHS Available Resources on EMP Hardening
Supporting Exercises:	Recent annual Spring HSEEP Exercises Annual Fall Simulated Emergency Test NVIS HF Net Thursday Evening ARES(R) Net Winlink Check-In Florida Net American Red Cross Exercises
Applicable Schedule Items	A. Badged EM Volunteers D. HF Radio E. Solar F. Transportation G. Typing H. Alerting I. Repeater Survey J. Ad-hoc repeaters K. Cache transceivers L. MARC M. Portable EOC Comms N Tall Places O. SHARES VHF R. State Data Comms S. Resilient Homes T. Neighborhood Vol. Hardening U. Space WX Awareness V. Banking W. Simplex Plan X. Sustainability Y. Volunteer Family Safety Z. Broadcast

	1. FCC Licensure Training and Testing 2. Voice message transaction 3. Data message transaction 4. Electronics Training 5. Propagation Training (A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)

Multi-Year Integrated Preparedness Schedule

Item	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A. Badged EM Volunteers	Train / Encourage				Badge New Group				Badge New Group			
B. Shelters	Advocate				Install				Test			
C. Shelter Radio Go-box	Advocate				Purchase / Complete				Test			
D. HF Radio	Add 1				Add 2 more				Add 2 more			
E. Solar	Advocate / Educate											
F. Transportation					Encourage Fuel Avail.	Survey Group						
G. Typing	Write suggested typing			Advocate for its adoption locally / state		Review feedback						
H. Alerting			Provide Local EOC Training		Test Local Alerting							
I. Repeater Survey	Explain concept of assisting authorities				Compile survey of possible useful repeaters							
J. Ad-Hoc Repeaters					Develop general design, estimate costs.				Encourage / Advocate for creation			
K. Cache Transceivers			Survey existing private caches		Develop unified listing, assess suitability.							
L. MARC			Advocate for training course		Encourage volunteers to take training							
M Portable EOC Comms			Develop physical structures (go-boxes) to hold radios			Test moving equipment to back loading dock.						
N Tall Places			Ask members to report possible locations.			List possibilities and investigate the most promising						
O. SHARES VHF		Gain more Information			Acquire Licensure	Begin implementation						
P. Encryption		Evaluate market options			Notify members of commercial offerings		Compile listings.					
Q. Lockout					Investigate possibility		Implement Trial Solution		Evaluate			
R. State Data Comms			Training Program for Local Members			Local Drills, Exercises						
S. Resilient Homes			Survey	Discuss, Encourage		Implement		Evaluate				
T. Neigh. Vol. Hardening					Survey	Discuss, Encourage		Implement		Evaluate		

U. Space WX Awareness		Add link to web page		Incorporate in training programs								
V. Banking				Investigate banking systems								
W. Simplex Plan				Develop plan		Test initial plan						
X. Sustainability		Encourage growth in membership in sustainability.			Survey membership to assess successful impact							
Y. Vol. Fam. Safety			Discuss topic, seek suggestions	Develop initial response plan.	Test initial response plan							
Z. Broadcast				Investigate national efforts			Propose solutions.					
Baseline Volunteer Preparation												
1 FCC License Training & Testing	<----Ongoing Training---->
2 Voice message transaction	<----Ongoing Training---->
3. Data message transaction	<----Ongoing Training---->
4. Electronics training	<----Ongoing Training---->
5. Propagation training	<----Ongoing Training---->
6. Antenna Training	<----Ongoing Training---->

QUARTERLY PLANNING TABLES

- NOT SHOWN: "Meetings" -- Occur every month, and include Voice Message Transaction Training/Evaluation; Electronics Training, Propagation Training.

- LabNLunches variably include Electronics Training or Antenna Training

QTR	Q3 2021				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan	-	Write Typing Survey Caches Find tall places	Exp Rptr Assist Survey Caches Find tall places Rsch SHARES VHF Rsch encrypt Survey Homes Rsch vol fam safety	Exp Rptr Assist Survey Caches Find tall places Rsch SHARES VHF Rsch encrypt Survey Homes Rsch vol fam safety	Write Typing Exp Rptr Assist Survey Caches Find tall places Rsch SHARES VHF Survey Homes Rsch vol fam safety
Organize	Encourage Level 2/3 Advocate Shelters Advocate Go-Box	Encourage Level 2/3 Ask for MARC	Encourage Level 2/3 Ask for MARC Enc sustainability	Encourage Level 2/3 Ask for MARC Enc sustainability	Encourage Level 2/3 Ask for MARC Enc sustainability
Equip		Dev EOC go box	Dev EOC go box	Dev EOC go box	Dev EOC go box Provide EOC Alert Tng Add S Wx Link
Train	Add 1 HF this year Adv License Class	Add 1 HF this year State Data Comm Adv License Class	Add 1 HF this year State Data Comm Adv License Class	Add 1 HF this year State Data Comm Adv License Class	Add 1 HF this year Adv License Class Provide EOC Alert Training
Exercise	S.E.T. VHF NET SHARES NET	S.E.T. VHF NET SHARES NET	S.E.T. VHF NET SHARES NET	S.E.T. VHF NET SHARES NET	S.E.T. VHF NET SHARES NET

QTR	Q4 2021				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan		Survey Caches Find tall places	Exp Rptr Assist Survey Caches Find tall places Rsch SHARES VHF Rsch encrypt Rsch vol fam safety	Exp Rptr Assist Survey Caches Find tall places Rsch SHARES VHF Rsch encrypt Rsch vol fam safety	Exp Rptr Assist Survey Caches Find tall places Rsch SHARES VHF Dev Smplx Plan Rsch vol fam safety
Organize	Encourage Level 2/3 Advocate Shelters Advocate GoBox	Encourage Level 2/3 Advocate Solar Advocate Typing Ask for MARC	Encourage Level 2/3 Advocate Solar Ask for MARC Enc sustainability	Encourage Level 2/3 Ask for MARC Enc sustainability	Encourage Level 2/3 Advocate Solar Advocate Typing Ask for MARC Enc sustainability
Equip		Dev EOC gobox	Dev EOC gobox Enc Res Homes	Dev EOC gobox Enc Res Homes	Provide EOC Alert Training Dev EOC gobox Enc Res Homes
Train	Add 1 HF this year LabNLunch	Add 1 HF this year State Data Comm LabNLunch	Add 1 HF this year State Data Comm LabNLunch	Add 1 HF this yea State Data Comms LabNLunch	Add 1 HF this year Provide EOC Alert Training LabNLunch
Exercise	VHF NET SHARES NET	VHF NET SHARES NET	VHF NET SHARES NET	VHF NET SHARES NET	VHF NET SHARES NET

QTR	Q1 2022				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan		List/Assess Cache Find tall places	Survey poss rptrs Design adhoc rptr List/Assess Cache Find tall places Rsch lockout Rsch banking	Survey poss rptrs Design adhoc rptr List/Assess Cache Find tall places Rsch lockout Rsch banking	Survey poss rptrs Design adhoc rptr List/Assess Cache Find tall places Rsch banking Dev Smplx Plan
Organize	Badge New Group	Badge New Group Advocate Solar Advocate Typing Enc MARC Tng	Badge New Group Advocate Solar Advocate Typing Enc MARC Tng Get VHF Lic Enc sustainability Dev vol fam sfty	Badge New Group Enc MARC Tng Get VHF Lic Enc sustainability Dev vol fam sfty	Badge New Group Advocate Solar Advocate Typing Enc MARC Tng Get VHF Lic Enc sustainability Dev vol fam sfty
Equip	Install Shelters Purch GoBox	Enc. Fuel Avail. Dev EOC gobox	Enc. Fuel Avail. Dev EOC gobox Enc Res Homes	Dev EOC gobox Enc Res Homes	Enc. Fuel Avail. Dev EOC gobox Enc Res Homes
Train	Add 2 HF this year Entry Lic Class Emerg conf LabNLunch	Add 2 HF this year State Data Comm Entry Lic Class Emg Conf LabNLunch	Add 2 HF this year Train Encryp State Data Comm Entry Lic Class Emerg conf LabNLunch	Add 2 HF this year Train Encryp State Data Comm Entry Lic Class Emerg conf LabNLunch	Add 2 HF this year Add S WX Tng Entry Lic Class Emerg conf LabNLunch
Exercise	HSEEP Ex VHF Net SHARES NET	HSEEP Ex VHF Net SHARES NET	HSEEP Ex VHF Net SHARES NET	HSEEP Ex VHF NET SHARES NET	HSEEP Ex VHF NET SHARES NET

QTR	Q2 2022				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan	 Field Day	List/Assess Cache Find tall places F Field Day	Survey poss rptrs Design adhoc rptr List/Assess Cache Find tall places Rsch lockout Survey N V Hard Rsch banking Field Day	Survey poss rptrs Design adhoc rptr List/Assess Cache Find tall places Rsch lockout Survey N V Hard Rsch banking Field Day	Survey poss rptrs Design adhoc rptr List/Assess Cache Find tall places Survey N V Hard Rsch banking Field Day
Organize	Badge New Group Field Day	Badge New Group Advocate Typing Enc MARC Tng Field Day	Badge New Group Advocate Typing Enc MARC Tng Get VHF Lic Dev vol fam sfty Field Day	Badge New Group Enc MARC Tng Get VHF Lic Dev vol fam sfty Field Day	Badge New Group Advocate Typing Enc MARC Tng Get VHF Lic Dev vol fam sfty Field Day
Equip	Install Shelters Purch GoBox	 Enc. Fuel Avail. Dev EOC gobox	 Enc. Fuel Avail. Dev EOC gobox Enc Res Homes	 Dev EOC gobox Enc Res Homes	 Enc.. Fuel Avail. Dev EOC gobox Enc Res Homes
Train	Add 2 HF this year	Add 2 HF this year State Data Comm	Add 2 HF this year Train Encryp State Data Comm	Add 2 HF this year Train Encryp State Data Comm	Add 2 HF this year Add S WX Tng
Exercise	 VHF NET SHARES NET Field Day	 VHF NET SHARES NET Field Day	Survey sustainab. VHF NET SHARES NET Field Day	Survey sustainab. VHF NET SHARES NET Field Day	Test Local Alerting Test Smplx Plan Survey sustainab. VHF NET SHARES NET Field Day

QTR	Q3 2022				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan		List/Assess Cache	Survey poss rptrs Design adhoc rptr List/Assess Cache Rsch lockout Rsch banking Rsch broadcast	Survey poss rptrs Design adhoc rptr List/Assess Cache Rsch lockout Rsch banking Rsch broadcast	Survey poss rptrs Design adhoc rptr List/Assess Cache Rsch banking Rsch broadcast
Organize	Badge New Group	Badge New Group Review Feedbck Enc MARC Tng Dev. Tall Places	Badge New Group Review Feedback Enc MARC Tng Dev. Tall Places Enc NV Hardening	Badge New Group Enc MARC Tng Dev. Tall Places Enc NV Hardening	Badge New Group Review Feedback Enc MARC Tng Dev. Tall Places Enc NV Hardening
Equip	Install Shelters Purch GoBox	Survey Fuel	I install VHF SH	Survey Fuel Install VHF SH	Survey Fuel Install VHF SH
Train	Add 2 HF this year Adv License Class	Add 2 HF this year Adv License Class	Add 2 HF this year Train Encryp Adv License Class	Add 2 HF this year Train Encryp Adv License Class	Add 2 HF this year Adv License Class
Exercise	S.E.T. VHF NET SHARES NET	Test EOC Gobox Test State Data S.E.T. VHF NET SHARES NET	Test EOC Gobox Test State Data Eval Resil. Homes Survey sustainab. Test vol fam safety S.E.T. VHF NET SHARES NET	Test EOC Gobox Test State Data Eval Resil. Homes Survey sustainab. Test vol fam safety S.E.T. VHF NET SHARES NET	Test Local Alerting Test EOC Gobox Eval Resil. Homes Test Smplx Plan Survey sustainab. Test vol fam safety S.E.T.- VHF NET SHARES NET

QTR	Q4 2022				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan		List/Assess Caches	Survey poss rptrs Design adhoc rptr List/Assess Caches Rsch banking Propose broadcast	Survey poss rptrs Design adhoc rptr List/Assess Caches Rsch banking Propose broadcast	Survey poss rptrs Design adhoc rptr List/Assess Caches Rsch banking Propose broadcast
Organize	Badge New Group Install Shelters	Badge New Group Review Feedback Enc MARC Tng Dev. Tall Places	Badge New Group Review Feedback Enc MARC Tng Dev. Tall Places Enc NV Hardening	Badge New Group Enc MARC Tng Dev. Tall Places Enc NV Hardening	Badge New Group Review Feedback Enc MARC Tng Dev. Tall Places Enc NV Hardening
Equip		Survey Fuel	Survey Fuel Install VHF SH	Install VHF SH	Survey Fuel Install VHF SH
Train	Add 2 HF this year LabNLunch	Add 2 HF this year LabNLunch	Add 2 HF this year Compile Encrp LabNLunch	Add 2 HF this year Compile Encrp LabNLunch	Add 2 HF this year LabNLunch
Exercise	VHF NET SHARES NET	Test EOC Gobox Test State Data VHF NET SHARES NET	Test EOC Gobox Test lockout Test State Data Eval Resil. Homes Survey sustainab. Test vol fam safety VHF NET SHARES NET	Test EOC Gobox Test lockout Test State Data Eval Resil. Homes Survey sustainab. Test vol fam safety VHF NET SHARES NET	Test EOC Gobox Eval Resil. Homes Survey sustainab. Test vol fam safety VNF NET SHARES NET

QTR	Q1 2023				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan			Propose broadcast	Propose broadcast	Propose broadcast
Organize	Badge New Group	Badge New Group Review Feedback Dev. Tall Places	Badge New Group Review Feedback Advoc adhoc rptr Dev. Tall Places	Badge New Group Advoc adhoc rptr Dev. Tall Places	Badge New Group Review Feedback Advoc adhoc rptr Dev. Tall Places
Equip	Test Shelters Test GoBox		Install VHF SH Impl NV Hardeng	Install VHF SH mpl NV Hardeng	Install VHF SH mpl NV Hardeng
Train	Add 2 HF this year Entry Lic Class Emerg Conf LabNLunch	Add 2 HF this year Entry Lic Class Emrg Conf LabNLunch	Add 2 HF this year Compile Encrp Entry Lic Class Emerg Conf LabNLunch	Add 2 HF this year Compile Encrp Entry Lic Class Emerg Conf LabNLunch	Add 2 HF this year Entry Lic Class Emerg Conf LabNLunch
Exercise	 HSEEP Exercise VHF NET SHARES NET	Test EOC Gobox Test State Data HSEEP Exercise VNF NET SHARES NET	Test EOC Gobox Test lockout Test State Data Survey sustainab. HSEEP Exe rcise VNF HET SHARES NET	Test EOC Gobox Test lockout Test State Data Survey sustainab. HSEEP Exercise V NFHET SHARES NET	Test EOC Gobox Survey sustainab. HSEEP Exerecise VNFHET SHARES NET

QTR	Q2 2023				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan	Field Day	F ield Day	Propose broadcast Field Day	Propose broadcast Field Day	Propose broadcast Field Day
Organize	Badge New Group Field Day	Badge New Group Dev. Tall Places Field Day	Badge New Group Advoc adhoc rptr Dev. Tall Places Field Day	Badge New Group Advoc adhoc rptr Dev. Tall Places Field Day	Badge New Group Advoc adhoc rptr Dev. Tall Places Field Day
Equip	Test Shelters Test GoBox		Install VHF SH Impl NV Hardeng	Install VHF SH Impl NV Hardeng	nstall VHF SH Impl NV Hardeng
Train	Add 2 HF this year	Add 2 HF this year	Add 2 HF this year Compile Encrp	Add 2 HF this year Compile Encrp	Add 2 HF this year
Exercise	VHF NET SHARES NET Field Day	Test EOC Gobox VNF HET SHARES NET Field Day	Test EOC Gobox Test lockout VHF NET SHARES NET Field Day	Test EOC Gobox Test lockout VHF NET SHARES NET Field Day	Test EOC Gobox VHF NET SHARES NET Field Day

QTR	Q3 2023				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan			Propose broadcast	Propose broadcast	Propose Broadcast
Organize	Badge New Group	Badge New Group	Badge New Group Advoc adhoc rptr	Badge New Group Advoc adhoc rptr	Badge New Group Advoc adhoc rptr
Equip					
Train	Add 2 HF this year Adv License Class	Add 2 HF this year Adv License Class	Add 2 HF this year Adv License Class	Add 2 HF this year Adv License Class	Add 2 HF this year Adv License Class
Exercise	S.E.T. SHARES NET	S.E.T. SHARES NET	Eval NV Hardeng S.E.T. SHARES NET	Eval NV Hardeng S.E.T. SHARES NET	Eval NV Hardeng S.E.T. SHARES NET

QTR	Q4 2023				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan					
Organize	Badge New Group	Badge New Group	Badge New Group Advoc adhoc rptr	Badge New Group Advoc adhoc rptr	Badge New Group Advoc adhoc rptr
Equip	Test Shelters Test GoBox				
Train	Add 2 HF this year LabNLunch	Add 2 HF this year' LabNLunch	Add 2 HF this year LabNLunch	Add 2 HF this year LabNLunch	Add 2 HF this year LabNLunch
Exercise	VHF NET SHARES NET	VNF HET SHARES NET	Eval NV Hardeng VHF NET SHARES NET	Eval NV Hardeng VHF NET SHARES NET	Eval NV Hardeng VHF NET SHARES NET

QTR	Q1 2024				
Activity	#1 Hurricane	#2 Wildfire	#3 CyberSecurity	#4 Civil Unrest	#5 EMP/CME
Applicable Schedule Items	A, B, C, D, O, 1, 2, 3, 4, 5, 6	(A, D, E, F, G, J, K, L, M, N, R, 1, 2,3,4,5,6)	(A, D, E, F, G, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1, 2, 3, 4, 5, 6)	(A, D, I, J, K, L, M, N, O, P, Q, R, S, T, V, X, Y, Z, 1,2,3,4,5)	(A, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, W, X, Y, Z, 1,2,3,4,5)
Plan					
Organize	Badge New Group	Badge New Group	Badge New Group	Badge New Group	Badge New Group
Equip					
Train	Emerg Conf LabNLunch	Emerg Conf LabNLunch	Emerg Conf LabNLunch	Emerg Conf LabNLunch	Emerg Conf LabNLunch
Exercise	HSEEP Exercise VHF NET SHARES NET	HSEEP Exercise VHF NET SHARES NET	HSEEP Exercise VNF HET SHARES NET	HSEEP Exercise VHF NET SHARES NET	HSEEP Exercise VHF NET SHARES NET

Rsch = research
fam = family
sfty = safety