

Standing Up Incident Command VHF Net in an Emergency *Harder Than It Seems*

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INTRODUCTION

At the 2018 Emergency Symposium hosted by Alachua ARES and the Santa Fe Amateur Radio Society, a short full scale exercise was held in which volunteer teams were challenged to complete a number of tasks in (simulated) support of local Emergency Management. The setting of the Exercise was a confusing and poorly-understood emergency in which local broadcast as well as public service communications had been severely damaged. These tasks as listed in the Table below and touch on a wide variety of radio skills and assets. The purpose of this article is to explain how to carry out Task #1 --- **establishing and maintaining a Command Net to allow Incident Command leaders and Chiefs to communicate**. Sounds easy, right? Just like hundreds of ARES VHF nets that meet weekly across America, right? Ah, but the devil is in the details! Our experience in our simulated Exercise demonstrated that this isn't always quite as easy as it seems!

No.	Task	Usefulness
1	Establish and maintain a Command Net	Allows tactical communication between teams.
2	Monitor frequencies for reports from fire / police / utilities / hospitals	Scanning or other techniques to “pick up” volunteers and others desiring radio connections to local emergency efforts. Also – <i>always hunt for amateurs who are on some other frequency and haven't found your operation yet.</i>
3	Create broadcasting ability at bottom end of 160 m band, or top end of AM Broadcast band, for the EOC	Allows public safety officials to have a means of reaching the general population in the absence of working broadcasting stations.
4	Digital email to State EOC	Notification and connection to state emergency authorities who need situational awareness and may be able to give you the wider picture also.
5	Create a repeater for Interoperability Channel NC1	An example of assisting to create repeater facilities where requested for interoperability between different emergency services.
6	Survey/test all known amateur communication assets	Develop situational awareness of available assets which can be leveraged to serve the community.

7	Establish contact with any ARES or other amateur emergency net	Establish connections.
8	Creating broadcasting ability over local NWS (“weather radio”) frequencies for the EOC	Allows public safety officials to have a means of reaching the general population in the absence of working broadcasting stations.
9	Utilize Message Pick Up stations to create digital connections in the absence of Internet functionality	Allows digital email connections between WINLINK-enabled communicators even without regional, national, or even international Internet functionality.
10	Maintain Activity Log and Communications Log for all actions	Keep a record of actions for both practical and legal purposes.

HOW OUR COMM TEAMS ATTEMPTED THE NET AND WHAT WENT WRONG

One of the first jobs typically assigned to Communications Units during an Incident is to establish a common frequency and get everyone in communication with each other – what hams call a “net.” In our Exercise, we first created a frequency list in the form of an ICS-205 --- a nationally recognized standard way to list frequencies. You can see it below:

INCIDENT RADIO COMMUNICATIONS PLAN ICS-205					Incident Name	Date/Time Prepared	Operational Period Date/Time				
					2018 Em Comm Symposium	02/11/18	2/24/2018 all day				
Line	Ch #	Zone	Function	Channel Name/TG Name	Assignment	RX FREQ N / W / SSB	RX Tone/ NAC	TX Freq N or W	Tx Tone/ NAC	Mode A, D or M	Remarks
1			Tactical	Alachua820Rpt	Amateur	146.8200 W	123	146.2200 W	123	A	Primary / Command net
2				Alachua985Rpt		146.9850 W	123	146.3850 W	123	A	Secondary Repeater
3				Alachua91Rpt		146.9100 W	123	146.3100 W	123	A	Simplex Local Comms
4				AlachuaSimplex		147.5200 W	None	147.5200 W	None	A	
5				Alachua820Simp		146.8200 W	None	146.8200 W	None	A	
6				AlachARES-TAC5		444.9250 W	None	449.9250 W	None	A	
7				AlachARES-TAC6		444.9250 W	None	444.9250 W	None	A	
8				GNV-PACKET070		145.0700 W	CSQ	145.0700 W	CSQ	D	
9				FL-SEDAN770		145.7700 W	CSQ	145.7700 W	CSQ	D	
10				NFL ARES HF A		3.9500 N	SSB	3.9500 N	SSB	A	

What could go wrong? Everyone tune their radio to the Alachua820Repeater and we're all in communications, right? **WRONG!** The first “inject” in this exercise notified all the participants that the 146.820 repeater (as well as one of the digital packet nodes) was inexplicably DEAD. “Injects” are used to make exercises more realistic and more dynamic, allowing the scenario to change abruptly to require additional skills of the participants. Injects may be delivered over the radio (if everyone were

in communication) but in this case the inject was delivered in sealed Envelope #1 which both communications units were given, and were allowed to open upon embarking toward their assigned deployment locations (far apart). The instruction indicated that the participants could try other repeaters....but gave no other instructions...

So we have a dead repeater. The Exercise simulation is of a massive communications failure of unknown origin, so there could be many reasons the remote repeater has quit, but now the question is: **What frequency do we use next?**

The ICS-205 should make this CLEAR to the teams – in this case, the 146.985 repeater was listed as the “Secondary Repeater” so Team 2 immediately moved to that repeater and began calling for the Command Net. But Team 1, charged with setting up the Command Net from a different location, chose to move to one of the Simplex Comm frequencies and began calling the net there--- completely out of communications with Team 2. Perhaps they reasoned Simplex would not be dependent on any repeater technology?

And worse, this was a time-critical Exercise where multiple tasks had to be accomplished in only 90 minutes for “success”; in a real emergency, a delay in establishing communications could have much more serious repercussions than a delay in reaching tasks.

AVOIDING THIS COMPLICATION

In a real emergency, how do you avoid this unfortunate outcome? Well, there are multiple possible preventative steps. First, have everyone understand the order in which frequencies are tried from the outset.

Even more importantly --- **assign some available (unemployed) team members to scout out other frequencies for stragglers who may be of service and don't even know of your organization and your documents** --- they may find volunteers on any remaining functioning local repeaters (whether VHF or UHF) – or even on state HF net frequencies, or on 146.52 simplex National Calling Frequency. The ability to set one or more radios to “scan” large swatches of available bands for local hams may be of great help to rope them in and direct them toward the desired coordination frequency.

Depending on the severity and length of the incident, this search of other frequencies may need to be ongoing, or repeated at intervals. Also a good reason for EOC's to have more than ONE radio and antenna!

WHAT ACTUALLY HAPPENED

In our Full Scale Exercise, the proctor for the Exercise (me) thought something like this might easily happen, so using a couple of handi-talkies I was listening on both #2 and #3 frequencies --- and listened as the two Teams continued to “pass in the night” in the fog of *communications chaos*. When they didn't seem to be on track to find each other, I radio'd each group and got them together on the same frequency and their Command Net proceeded well after that.