Grassroots Emergency Communications Operations

Sticky Notes

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Ready to Serve and Sustain Our Community

What is an Emergency?

An emergency is a situation requiring immediate attention and remedial action. It involves injury, loss of life, damage to the property, or catastrophic interference with the normal activities. A sudden, unexpected, or impending situation. [Source: https://thelawdictionary.org/emergency/ Featuring Black's Law Dictionary Free Online Legal Dictionary 2nd Ed.

In Glass v. Board of Common Council, 262 Ky. 471 (Ky. 1936), the court observed that "An emergency is any event or occasional combination of circumstances that calls for immediate action or remedy; pressing necessity; exigency; a sudden or unexpected happening; an unforeseen occurrence or condition. Existing and continuing conditions are never considered emergencies." Source: https://definitions.uslegal.com/e/emergency-event/ For example, you are driving or hiking in the mountains and spot a plume of smoke. You have your radio

For example, you are driving or hiking in the mountains and spot a plume of smoke. You have your radio with you.

TO MAKE AN EMERGENCY CALL

Step 1: Pick a Frequency. You have some choices to make:

- *US National Simplex Calling Frequencies*: 146.520 MHz and 446.000 MHz
- *US Wilderness Protocol Frequency:* 146.52 MHz. This is monitored for 5-minutes every 3 hours starting from 0700-0705. *The secondary frequencies are 446.0, 223.5, 52.525 and 1294.5 MHz. [Note: Most new HAMs might only have a dual band (2m 70 cm aka 144/420 MHz) HT.]*

Step 2: Set TX to max power. Once you make contact, maintain contact and try reduce power to conserve your battery.

Step 3: Make the Call.

- Key the mic. Say "Break", "Break emergency", "Emergency", or "Mayday, Mayday, Mayday";

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Step 3: Make the Call (continued).

- State your **callsign**;
- Give your **location** as specifically as possible (e.g. Latitude, Longitude). Or you might download and use what3words location system. This is especially great for places with no roads, street/house numbers, etc.
- State the **nature of the emergency** in just a few words;
- What assistance is needed (keep it simple, e.g. medical).

***Note 1*:** Repeat your call even if you do not hear a response. It is possible someone heard your call, but you cannot hear their response.

Note 2: Make your call on another frequency or frequencies. If you know a repeater in the area, try using it.

Note 3: If you radio battery is getting low, TX a message stating your battery situation and tell the frequency and hours when you will monitor the frequency. For example, every hour on the hour.

TO ANSWER AN EMERGENCY CALL

Step 1: Write down/record the emergency transmission (at this point you are ONLY LISTENING):

- Date, time, frequency, and callsign.
- Location (e.g. latitude, longitude, street address); be as specific as possible.
- Nature of the emergency;
- What help is needed;
- Any other information you hear transmitted.

Step 2: Answer the call (speak slowly, clearly, calmly).

- [callsign of station in distress] this is [give your call sign], I copy your Mayday call. What is your status?
- Use the list in Step 1, to get complete information about the emergency.
- Ask about their battery / power status. Set a "low power" procedure BEFORE it is needed.
- Tell them to remain on frequency, and you are relaying their emergency to the authorities. If possible, use other communication means to contact the authorities. This way you won't lose radio contact. If you must change frequencies to do this, tell the station in distress what you are doing and that you will return to them.

Step 3: Relay the emergency information to the authorities. Be prepared to:

- Write down / record instructions. If necessary, read them back and follow them carefully.
- You may be asked to relay information for the authorities to the emergency calling station.

Step 4: Report back to the emergency calling station.

- Tell them you have contacted the authorities and relay any information you got from the authorities.
- If the authorities will contact them by radio, say what frequency will be used. Set "no contact" procedure to return to the original calling frequency so you can keep contact with them.
- Keep communications with the emergency calling station until the authorities are in direct contact with them.

Step 5: Continue monitoring the frequency as long as possible (even if it seems you aren't needed), just in case the unexpected happens.

- There is a loss of communication between the emergency station and the authorities. Listen for the emergency station and respond if there is no response to their call.
- Use other communications methods to contact authorities to let them know you are still in contact with the emergency station.

WHEN THE EMERGENCY IS DONE

If you want to improve and be a better EmComm HAM, your work doesn't end when the emergency call is over. Plan to spend time, no matter how tired you are, to immediately review the incident. An honest review and reflection of your performance is critical to your LEARNING from experience. After all, experience is the best teacher. Learning from your experiences makes you be your own best teacher. All the theory and practice will never teach you more than your own experience.

Bill Crawford suggests a simple 5-step process to objectively review any incident or experience to glean important lessons to learn so you can improve.

1) **Factually list the sequence of events.** Simply tell what happened without judgment or fear of being judged.
2) **Tell what went right.** It is important to be objective. Avoid the blame or bragging game at all costs. Every incident involves many people on the scene and behind the scene. No one person can be credited or blamed for what happened. Knowing what went right begs the next question.
3) **What went wrong?** Again, stick to the facts. Remember, whenever you point a finger at someone, you have three fingers pointing back at you. Avoid the blame game. You may discover you had a hand in the deficiency. Be factual about what went wrong.
4) **Why did it go wrong?** The emphasis is the WHY not the WHO. The goal is to improve performance by correcting procedures, policies, methods and practices.
5) **What did you learn?** Life is full of ups and downs, twists and turns. Surprises are when the unexpected occurs. Some situations are unique. Others routine. No two situations are exactly alike. So, learning from experience / mistakes is important if you truly want to improve.

Throughout my life as a student, working professional, mentor, and teacher, I have always found that I learned best in conditions of mutual respect, mutual benefit, and challenging, but not so aggressive confrontation. I preferred discussion aimed at understanding rather than arguing in order to win. The world is a better place when more HAMs become good EmComm HAMs. I think that is a better outcome than having just a few stellar EmComm HAMs.

Advisory Notes:

- *Disasters and emergencies can bring out the best and the worst in people. Not to be paranoid, but you never know if the "bad guys" are listening.*
- *Keep a clear head and do not mention names and other personal information on the air about yourself or anyone involved in the incident.*
- *You must be vigilante for your personal safety. If you are knocked out of action, you are not going to be able to help anyone. Keep transmissions short and to the point.*
- *As a volunteer EmComm operator, you have no legal authority to enforce any laws or regulations. You primary function is to observe and report (the facts not your opinions, unless your clearly separate the two in your transmissions).*

Before Your EmComm Field Deployment

This is a GECO EmComm Litmus Test to make you aware of factors of EmComm Operations

EmComm operators can serve their communities operating from their stations or from the field. Field operations are best done when you can be independent and self-sufficient. This reduces the negative impact of you showing up at a disaster scene and consume limited resources and supplies urgently needed by the survivors.

The checklist on the right was developed by the RTC-TH (Rural Training Center-Thailand) EmComm Program. Sparky was an all-electric radio and geo-equipped vehicle for EmComm recon work. The all electric vehicle made is easy to transport batteries for EmComm operations. The geo-equipment included GPS and weather observing gear. But that's another story.

The checklist was created to help HAMs objectively determine their readiness to deploy to the field. When requested to muster for deployment, a HAM would simply read down the list and honestly answer yes or no to the questions. The scoring was simple: Add the number of "No" responses. 0-12 = NO GO; 13-14 = Maybe NO. On the other hand, 13 "Yes" responses = Maybe a Go (but carefully asses the risks). Count 16-18 Yes answers = GO, but carefully exam the NO items and recognize the risks/consequences for your personal safety. If something happens to you and you cannot operate, you won't be doing any one any good as an EmComm operator.

Before Deploying to the Field

Every operator is an individual with unique circumstances.
Use this checklist to guide your decision to "GO / NO GO" point.
Binary scoring. Yes = 1; No=0

#	Question
1	Is your family / property safe and secure?
2	Is all of your equipment in good operating condition to go?
3	Do you have all necessary current radio / ID documents?
4	Do you know the operating bands / frequencies?
5	Will you be going on the deployment with others?
6	Do you know the Deployment Area (DA)?
7	Do you have maps of the DA?
8	Has the DA been scouted and mapped?
9	Do you know the present DA conditions?
10	Do you know who is in charge in the DA?
11	Are you familiar with the route to the (DA)?
12	Is there an alternate route to/from the DA?
13	Do you have transport and fuel for a round trip to the DA?
14	Do you know how long you will be gone?
15	Can you afford to pay your own way for the duration of the deployment?
16	Do you have \sufficient emergency power to operate for the term of the deployment?
17	Do you have sufficient supplies to be self-sufficient for the term of the deployment?
18	Do you have a Plan B if it will be longer?

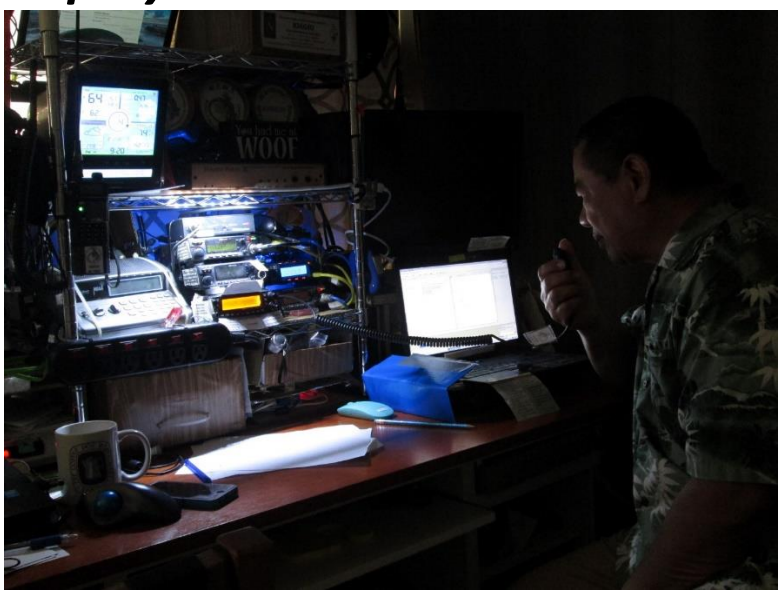
0-12	13-14	15	16-18
NO GO; to close to 50-50	Maybe **NO**; odds are against a GO	Maybe **GO**; but carefully weigh the odds	**Go**; **but** carefully weigh items answered NO

From GECO EmComm Sparky Ops Guide

With so many things in life and war, EmComm plans can often evaporate once the emergency begins. Studies of many post-emergency EmComm operations attest to the fact the EmComm failures were largely due to "unexpected events." In other words, Murphy's Law seems universal "Whatever can go wrong, will go wrong." Only you can decide how may alternative plans and contingencies you can afford to cover before running out of money, time, and resources.

I want to take some time to emphasize this point: EmComm operating from your home station is just a valuable to operating from in the field on the front lines. Having a reliable relay station is an important link in the EmComm chain. Having HAMs on the ground in the disaster area is important. Having a relay base station to help get the word OUT from the disaster area and further OUT to disaster response authorities is also important. In a system, no one part is more important than another.

The Undeployed HAM



Not all EmComm HAMs are able or willing to deploy to the field. But this does not diminish their usefulness or value in any way. There are many reasons why a HAM may not choose to accept a deployment request. It is important to avoid jumping to conclusions about the reasons "why or why not?" Accept the idea that if a person declines to self-select, they may not be able to perform 110% or more in a stressful environment. Ask yourself, "Are you willing to have people with you in the field that you cannot count on to go the extra mile?"

While undeployed HAMs may not be on the front lines and slogging through the muck of a disaster, they can perform critical support functions.

Monitoring: The airwaves can be very chaotic during an emergency. Having more ears listening assures transmissions aren't missed. Broken communications might be re-established by having other stations listening.

Relaying: HAMs at their stations can be valuable relay links for field teams. Field teams may be stationary or roving. Roving operators could find themselves in "dead zones" or out of range relative to their primary contact. However, they might be able to contact a different base station.

Remember, many failures in EmComm operations occur due to "unexpected" events. Having some HAMs at their stations could make the different when the unexpected happens.

Origin of Why We Are Called HAMs

We are sure you've all heard one story or another why amateur radio operators are called HAMs. Here is a version many HAMs feel is closest to the truth. It was submitted by Bob, KC2DLR from Florida Skip Magazine – 1959.

"*Have you ever wondered why radio amateurs are called "HAMS"? Well, it goes like this: The word "HAM" as applied to 1908 was the station call of the first amateur wireless stations operated by some amateurs of the Harvard Radio Club. They were ALBERT S. HYMAN, BOB ALMY, and POOGIE MURRAY. At first, they called their station "HYMAN-ALMY-MURRAY". Tapping out such a long name in code soon became tiresome and called for a revision. They changed it to "HYALMU", using the first two letters of each of their names. Early in 1901 some confusion resulted between signals from the amateur wireless station "HYALMU" and a Mexican ship named "HYALMO". They decided to use only the first letter of each name, and the station call became "HAM".*

Source: https://www.qsl.net/w3ha/illuminator/archive/2001-01/index.html