

## Amateur Radio Emergency Communications Ramblings

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1. We are not first responders. The disaster will last - drive safely to the assigned location
2. We need to "lean forward" at times - if weather is bad, etc. - lean forward prepare to respond. Listen on appropriate channel, etc.
3. Lean forward - gas in car, etc.
4. Safety is always number one - do it safely or do not do it - setting up antennas - working around downed wires, walking in water (holes, currents, etc.)
5. Dress appropriately - make a positive first impression - versus an impression
6. Know the risks - Midwest has tornadoes, floods, etc. California has earthquake, wildfires, etc. - different requirements based on disaster. Tornado is large, but you can drive a few miles and have telephone and power - quake may affect an entire state
7. What is your assignment? If Red Cross shelters minimal training may be acceptable. But if you are doing a hospital or EOC - different set of tools are required. EOC's and hospitals have people who work together routinely - and you are outsider - need to integrate and know what they want
8. You just cannot show up at hospital - they have regulatory requirements for all staff that is mandatory - need to be pre certified with orientation, HIPAA and other issues
9. Remember we are an invited participant to these events; they can always not invite us. Rose bowl parade used to have huge amateur radio presence - one day said no and not since have we been involved
10. Get the message across - sometimes it is easier to hand the microphone to the person and let them talk to the other end
11. Since 9/11 there are entire college programs set up to train folks how to be disaster coordinators - many folks with master degrees are now running the disaster, not the old sheriff or fire chief a generation ago - they are better trained and they expect more out of everyone including radio operators
12. Since 9/11 bar has been raised and Katrina raised bar again - how are we raising our internal bar?
13. "There are many places on the route where cell phone coverage is marginal, making amateur radio an excellent choice," said George, K9TRV. "Small beams are deployed at the food stops to provide more reliable communication with net control than a 5/8-wave whip would provide." – Good pre-planning, but is this appropriate infrastructure – what is required to improve coverage?
14. What is your comm plan - is it documented?
15. What is primary repeater - do you have a secondary? What is power back up - battery, generator, solar - all? If battery and generator - how long. It is disappointing and amazing the number of repeaters installed and in use for "emcomm" with no reserve power plan.

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16. DHS has requirements for command, tactical, logistics and aero channels for an event - this is actually based on wildland fire fighting. While most events will not require an amateur radio aero channel and most likely not be of value in aircraft - having a core of command, tactical and logistics channels is key to a good comm plan. In addition to the primary there should be secondary channels selected. Not all channels need to be repeaters - if you can use simplex - do so, but validate simplex will work prior to use.
17. Minimally every event requires a command and tactical channel and secondary of same.
18. Some have information, resource, logistics, whatever the third channel is have it in the plan
19. Do you know how to complete FEMA comm plan - ICS 205 - and assure it is current dated form - not older. In class have students complete a 205 for their home town - must have at least six channels identified
20. Tactical call signs for things that do not move should be preplanned. Publish them - for things that move decide how you will identify - typically use street or major location - Honda Center does not move and is a good tactical call sign. You do not assign different tactical names for every event – confusing.
21. Tactical call starts a series of transmission - FCC ID finishes it. You only need call signs at completion of traffic and every ten minutes - stop using your call every microphone press
22. Concentrate on getting the message thru. Hand the microphone to the person that needs to talk - it is ok and they know what they want to say - or ask them and let them talk
23. Remember everyone knows what a cell phone is - it is duplex communication. With few exceptions - most amateur radio is semi duplex - only one person talking at a time and no interruption - keep it short and remind folks when the other folks are talking no one can hear them.
24. Note - some cross band repeaters broadcast same information on multiple bands. Play with transmitting on one band and listening on the other as a team and communications system. You may be able to improve thru put and hear other information using this method
25. The world does not revolve around two meters and 440. The six meter and 220 bands are significantly underused in some locations - 900 and 1.2 are also available bands with unique characteristics. In urban areas 1.2 is said to have same coverage as 440 with some other benefits
26. If you are going to use a repeater for emergency communications - know something about it - where is it exactly located - is that line of sight where you are located? How high is it - you hear it with no issue - what is its ERP? If it is 200 watt ERP and on your five watt portable - maybe you're not heard as well as you would like. Does it have time out - what is it set for - how is it reset, etc.
27. There are now several digital voice formats Dstar, Mototurbo, P25 (two or more versions), Fusion, Nexedge, etc. - how are those who need to talk with you going to communicate - remember amateur radio is interoperability kings - create a FM analog "access channel" this is now common in public safety so various systems can find each other - amateur radio needs to have defined and monitored "access channels" per organization.

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28. If you publish an access channel - monitor it always!!!!
29. Do not forget the auto patch - just because everyone has a cell phone does not mean that auto patch properly configured would not be a tool when local phone lines are not performing well
30. Experiment if we can send text easily by cell phone and pictures - why can we not send same easily by amateur radio???
31. If you have an actual emcomm net - who is net control - is it defined for the hazard area? Quake proof and emergency power - Pete's house may not be best net control location - what are secondary and tertiary net control locations and people?
32. What is your community top five hazards vulnerability analysis - every community has it - does your training match the five. Typically top three in California are wildfire, earthquake, infrastructure failure (phone, internet, bridges, etc.). Is your net control and repeaters in quake resistant structures? Emergency power?
33. Not everyone is a good guy - world has changed since 9/11 - expect background checks and fingerprinting for secure location access - EOC, possibly hospital, etc. - if you do not want to work those areas - you do not need to do this, but if you do - prepare to have it requested
34. We do not self-dispatch - but when a disaster is declared we do support our sponsoring agency. If you have a defined operational model and disaster is declared - you can respond to your assignment. This is especially true for EOC, hospital, dedicated command locations (utilities, transportation, fire stations, etc.).
35. Match your infrastructure to your operational model. If everyone is going to be using a HT, then assure repeater works well in vicinity with HT. If repeater is designed for mobile operation - assure everyone knows that and has mobile capability via battery support or plug in.
36. Most amateur radio digital modes are really slow. See if packet the old standby is too slow or works for your needs - look at the new fldgi and mesh networks. San Diego and twin cities Minnesota have great mesh network information - Pennsylvania and others are using basic audio via speakers in digital world routinely.
37. If you plan on using digital data - practice with same. Digital data does not mean that others cannot decode what you are sending - nothing is sent via amateur radio that cannot be overheard - nothing - we are not a secure communication system - we lost that opportunity recently with FCC. NFL quarterbacks have more secure communications than amateur radio.
38. You may be in sensitive location. Keep your mouth shut - you may hear things that are not intended for general public - keep quite - it is not ours to repeat outside of our communications mission
39. Unless you are a trained PIO - none of us talk to the media - any media - including Facebook, etc.
40. Thank you for going to the next step and taking emcomm

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41. Dress appropriately for your location - flip flops and shorts with t shirt do not work in EOC's. Take a shower - seriously.
42. Using recreational drugs and alcohol is not consistent with emcomm. If you do it, do not respond.
43. Emcomm is not a reality TV show - treat everyone with respect - no swearing - no raising your voice - be nice - smile
44. ICS 100, 200 and 700 are not optional - if you want to do emcomm - do the online classes
45. ICS 144 is an additional good on line class
46. Consider taking haz mat awareness - four hour on line class if you will be responding to the field
47. Consider HIPAA Training if you want to work in hospital, weather for storm watchers, etc. - many classes are available – take the classes - keep your certificate. If you do not have approved official certificate – you did not take the class.
48. Your sponsoring agency should have copy of all pertinent training certificates on file
49. Not everyone needs HF, but every organization needs to have an HF link - consider MARS
50. Emcomm is not a club or social organization
51. Every organization should have list of their primary channels as well as known channels for other groups in vicinity - program your radio with this set of channels - if everyone programs the same - just say go to channel 33 and you know what channel to go to and communicate, hint first ten channels are personal preference - then 30 or so standard channels
52. Know how to program your radio - practice in class
53. Know what a directed net is and other types of nets - practice directed net in class - remember raise your hand and ask mother “may I talk?” - Not auto permission
54. We like to talk on radios - if there are other radios and we are asked to communicate - communicate - your FCC call sign only on amateur frequencies
55. Mag mount is nice - suction cup is better and works on everything
56. Know what basic antenna connectors are - male and female - BMC, "N", SMA, SO-239, etc. - pass out in class
57. No matter where you are assigned - you are a guest - act appropriately or you may not be invited back or sent home early
58. Develop and document a communications plan and general rules prior to the event
59. Document on ICS-214 form everything from time you get in station until you are relieved - every major thing heard, transmitted, document

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60. Plan for relief operators as soon as mission is activated
61. Assure that you are always monitoring the command channel
62. Net control is mom. Do not leave without asking - and how long you will be gone - tell mom when you are back
63. Headphones
64. Earphones inside of headphones
65. Orientate your relief prior to leaving your post - comm plan ICS 214, etc.
66. No one can last forever - shifts no longer than 12 hours - consider ten - eat and sleep, drink fluids
67. Before being an amateur radio emcomm operator - assure your family, property and work responsibilities are ok and covered - then go do emcomm
68. Do not come to me as an emcomm operator without having a family emergency plan and kit - they come first not emcomm
69. Emcomm and firearms do not match - unless you are law enforcement - no firearms
70. If it can go wrong it will, get used to it
71. Amateur radio has a huge capacity for situational awareness - if channel is not busy - find out what it looks like at all the stations - what is going on
72. Net control is mom and mom needs to know where everyone is. Net control primary and secondary should have records of who is at what station - call sign, first name, when they got their and when they left. In perfect scenario when you leave station - your also contact net control when safely home or at destination - as organization we are responsible for our people - lets know who is where at all times. If something goes wrong - have a roll call on the net of all stations and find any that do not answer,
73. Net should not be quite - if 15 minutes go by with no communication - primary or secondary net control does roll call (great job for secondary net control to remember and perform)
74. Roll call every hour - more often depending on circumstances - on going quakes - flooding overtaking locations, etc.
75. Post who is where - consider white board - so everyone knows what location has amateur radio support - also doubles as your location matrix for who is where should something happen
76. HT radios eat batteries - have many battery packs and consider AA packs - in California AA batteries are part of every fire dept. cache of equipment - hundreds
77. Many of us have high blood pressure, cholesterol, maybe even diabetes - take a few days of medicine with you when you respond. You becoming a patient is not part of the overall plan of success

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78. You need a government photo ID on your person at all times - typically driver's license - may be passport - have something
79. Net control or organizational leadership need to implement an action plan for activation. Most action plans can be pre-configured for the first few items - validate all locations have at least one operator - validate net control can contact everyone on every channel - test those backup systems - alternate net control has list of operators assigned and at assignment as well as reserve, etc. - initiate plans for relief shift - arrange for relief operators now - do not wait -
80. Assign who attends EOC meeting for information - who is responsible for information sharing - leadership or net control?
81. There is a difference between organizational leadership and net control - net control maintains communications - leadership assures operational success currently and in future - it is near impossible for leadership to be net control. It is good for leader to be at net control or other strategic location to support amateur radio planning and success.
82. Does everyone know who the leader is? What if leader is out of town - who is number two, three? Better yet, does the organization self-activate and function without defined leader present?
83. Who is planning for next operational period? Is there an action plan - write it down - white board - tell everyone what the plan is - we have a huge conference call going on - simply get everyone's attention and inform them of plans
84. Consider transmitting tones for critical information - whistle, key DTMF pad, etc. - especially on busy nets break up the noise with attention getting tone
85. Safety is job one - we did not volunteer to get hurt or worse - if you do not feel safe - say so to local and amateur leadership - in worse case leave if you feel you must
86. Amateur radio operators should never be in isolated position without others knowing where and communications - should not be single person at road rally point, even storm watching - do things in pairs - if someone is hurt - you have back up plan - do not get isolated and alone in field or other location.
87. If something happens and people start running - follow the educated crowd - if not sure - follow the guy in tie or suit - especially at 0300
88. Remember there are bad people - bomb threats, etc. are to be taken seriously
89. If something does not look correct – say something – do not take anything out of the ordinary for granted.
90. Have an exit strategy – doing storm watch, what is your exit plan? – in a flood zone what is your exit plan – where is high ground? Should you be where you are in the first place? Always have an exit strategy and assure your partner and team are aware of same.