Amateur Radio Emergency Service
Net Control Manual

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The purpose of this manual is to instruct prospective control operators how to serve as a net control station. A special set of skills is required to successfully control an ARES net. This manual will try to impart those skills to you. The different types of ARES nets will be introduced along with what type of traffic should take place on each. Control techniques will also be included. The most essential parts of an emergency net are the character and skill of the net control station (NCS). The NCS coordinates all net activity and shapes the efficiency (or inefficiency) of net operation. The basic duties of the NCS are outlined below.

1. The NCS is in charge of the net while the net is in session. He/she is responsible for controlling who uses the frequency. This needs to be balanced with the fact that you are managing a group of volunteers. As NCS you will need to determine whether a tight or loose net discipline is required for the incident.
2. NCS should have a commanding signal. Everyone on the net should be able to hear the NCS.
3. NCS must keep track of which resources are on the net and who has cleared the channel. The NCS is also responsible for knowing which traffic each resource is capable of dealing with.
4. In large emergency incidents, if you are running the net from your home you need to find an alternate NCS to serve as your backup. (I think a backup should be considered at all times).
5. You should keep a written record of the incident and a list of traffic for each station in a systematic manner. If you don't use an organized recording system you will get confused as the traffic gets heavier. Please remember, other people will be reading your notes --- write the information clearly!!
6. Make instructions clear and precise. Use as few words as possible. **Use clear text. Do not use HAM Q-phrases (QTH, QSL, …).** Send traffic as fast as you would write it down. Tactfully remind other stations to do the same when necessary. Break every five words or so to allow stations time to catch up. Request stations to ask for fills at the end of each paragraph.
7. Use tactical call signs and enforce this rule with other members on the net. Tactical call signs are legal as long as FCC 10 minute id requirements are met.
8. Different nets handle different types of traffic. If a message is inappropriate for the NCS, direct the traffic to the appropriate net and give that net's frequency.
    a. When asking for reports or soliciting traffic, the next thing you do is listen!!
    b. Take down as many calls as you can distinctly hear before acknowledging anyone.
    c. Acknowledge all the stations that you heard. Then yield the frequency to a single station, (the first one you heard). When he/she has passed their traffic recognize the next station on your list. *Exception: Priority traffic has to be taken first!*
    d. Continue this until all stations on your list have passed their traffic. Do not solicit more traffic until your list has been completed.
    e. When traffic has been passed by the last station on your list, begin the same procedure over again. Other stations on the net will catch on quickly to this pattern. If they do not, take the time to explain what you are doing. When all stations are playing by the same rules things will go faster.
    f. Minimize a contact to its barest essentials. Try to operate without wasting any motions. The NCS must remain cool, calm, and collected. Being a NCS can be a trying experience and it's easy to become frustrated or angry. (Remember becoming angry is not the way to solve a frustrating problem). A sense of humor is a very good asset and can help defuse a tense

situation. Being a good NCS requires practice. Taking the NCS position during weekly ARES nets is very helpful.

9. As an NCS you are a traffic cop for the frequency and you will be enforcing discipline on the net. Before we get into net discipline and how to apply it, you need to understand what to expect from the net members.
    a. Report to the NCS promptly as they become available
    b. They should ask NCS permission before they use the frequency.
    c. Answer promptly when called by the NCS. If you have to leave for any reason, get someone else to sit in while you are gone, and inform the NCS what you are doing.
    d. Use tactical call signs, (usually assigned by the NCS).
    e. Follow the established net protocol.
    f. Never leave a net without checking out.
    g. All of the above sounds good but the reality is that you are dealing with volunteers who have a vast and divergent set of training and experience levels. This means you cannot order net members to comply with your instructions, you can ask them to cooperate with your needs.

    The best way to enlist the cooperation of the net is to explain what you are doing in a calm and straight forward manner or a small dose of real time training. As an example, a station constantly uses his call rather than the tactical call you assigned to his location. This is a problem of net discipline and a lack of training. The best way to deal with this problem is to ask the station to use his/her tactical call instead of his/her own call. If he/she continues to use his/her own call then the best thing you can do is to address him/her by his/her tactical call sign exclusively. Eventually he/she will catch on by your example.

    Never-never dress down someone on the air. To do so can be counterproductive and will drive down the morale of the entire net. It is better to lead by example. Control the tone of your voice. Keep as calm as possible. A sudden higher pitch in your voice can be detected by others, causing them to raise there voices also.

    Try to emulate the professionals, such as 911 emergency dispatchers and air traffic control operators. If you are calm, other members of the net will be calm also.Take frequent breaks (provided you have a back-up operator). As the frustration level begins to build, it can be detected in your voice causing other net members to lose their ability to operate in a calm manner. In high volume traffic incidents, a NCS should not work more than two hours without a break if possible.

10. There are three types of nets which can be used during an ARES event. They are:
    a. the tactical net
    b. the resource net
    c. the command net
    The tactical net will always be used. Whether all three nets will be used is determined by the size of the event.

11. The tactical net is the front line during an emergency event. It is typically used to manage ham radio operations within a specific city's boundaries. Types of traffic you might hear on this net would be traffic handling, coordination of ARES efforts and recruiting additional operators.

When the event goes beyond the cities/agency boundaries to the point where mutual aid is necessary, the resource net is created.

12. The primary purpose of the resource net is to recruit resources, both operators and equipment, in support of mutual aid operations. Volunteer operators will be directed to the resource net by the tactical net control operator. The net is also used as a check-in point before the assigned responder leaves for his/her assignment. As the size of the event increases and more ARES jurisdictions become involved in the incident, a command net may be necessary.

13. The command net allows the ARES leadership to communicate with each other and resolve amateur radio operations related problems. The net would also be used to allow cities to talk to each other. It is the responsibility of the command net control operator to limit communications related to ARES, ARRL, and city/agency only. All other traffic is to be directed to and handled by the resource or tactical net.

14. The style of a net is related to the level of discipline used on the net. An example of a disciplined net would be a directed net, while an open net would be a non-disciplined style of net.

15. The open net permits most any kind of traffic or communications. Open conversations are allowed on the net provided they break every so often to allow incident related traffic to pass. A NCS may not be required for this type of net. Stations are not required to contact net control before making a call to another station, and incident related traffic may be handled on a point to point basis. The style of this net is considered to be lose and informal.

16. A directed net is created when there is a large volume of traffic that cannot be dealt with on a first-come first-served basis. Stations doubling with each other in an attempt to make contact may increase to the point where the frequency becomes unusable. This is when a directed net is established. The NCS will determine who will use the frequency at a given time. He/she will acknowledge those stations first that have incident related traffic. Random conversations between stations are kept at a minimum or not permitted at all. The NCS will assign tactical call signs to facilitate traffic handling. Stations having non-incident related traffic should be asked to direct their traffic to the appropriate frequency. The style of this net is considered disciplined and formal.

17. Tactical nets are where the real work gets done. Traffic can range from requesting portable toilets to letting a doctor talk to a medical technician in the field. This net is used to move information and coordinate field unit activities.

It is suggested that you have a second operator who can transcribe incoming traffic. This keeps your hands free to operate the radio and take notes to keep the net moving. Consider using headphones in a noisy area. When traffic is passed on a tactical net it must contain the following information:

  a. The exact title and address of the addressee from the sender. This is extremely important to guarantee the accurate, prompt delivery of the message.
  b. Be brief and concise when originating the message. If you are handed a written message to send, **do not modify it**. Send the message as it is handed to you. It is not important that you understand the message content, the addressee will.
  c. The message should have the exact title of the sender so that if any return traffic is required, the addressee will know who should receive the message.
  d. The message must contain a message number and time stamp. This will allow you to reference the messages more easily.

18. The message form must contain the following minimum information:

To:	Date:	Time:
Title:	Msg #:	
Message:		
Signed:	Title:	

Most important: know what form your city/agency uses and <u>follow their procedure</u>. Participate with your city/agency in the annual county drill in October to learn what that city/agency plans and procedures are.

Incident Assignment Checklist

- ☐ Determine locations to be staffed.
- ☐ Determine staffing requirements at each location.
- ☐ Determine appropriate shift lengths.
- ☐ Begin initial staffing work-sheet.
- ☐ Make frequent announcements on the net requesting volunteers for open staffing requirements.
- ☐ Obtain call, first name and phone number for each volunteer.
- ☐ Advise volunteers of location, shift and talk-in frequency .
- ☐ State any special requirements operators may need,   (mobiles, HT's, frequencies used, foul weather gear, and other equipment).
- ☐ Keep locations advised of staffing progress via appropriate tactical nets.
- ☐ Accept changes in staffing requirements and make adjustments to work-sheet and volunteer announcements.
- ☐ Regularly review staffing progress with the shift supervisor.
- ☐ Listen to the local frequency. Ask if there is a net control station. If there is, follow his/her directions.
- ☐ If there is no net control station then you are it!!
  - ☐ Declare a directed net. Give and ask for major damage and injury reports unless otherwise requested. Set up a resource net if necessary.
  - ☐ Start a log. Note the time, date, and what you did.
  - ☐ Take reports of life threatening damage or injury only, not "i see smoke in the distance" or "my house is ok", and delay the passing of any health and welfare traffic until the situation cools down. Find out where damage is greatest so that resources can be directed there.
  - ☐ If a resource net exists have the operator take calls and names of volunteers and have them stand-by on that frequency until given an assignment.
  - ☐ Also remember to appoint an alternate net control.
  - ☐ Ask for a volunteer to make a survey of area repeaters. Make a list of those found to be operational and pass   this information on to the resource net control operator   Log all repeaters found to be down
  - ☐ Ask for a volunteer to staff county communications, local   EOC, and other emergency locations as needed. There should be at least two amateurs at each site. Direct the operators to fill out logs at each location.
  - ☐ Establish a hospital net if needed. Ask for a volunteer to be net control. Determine if hospitals are accepting any patients.

- ☐ When you know that local communication needs are being met, consider supplying amateurs to adjacent areas.
- ☐ Maintain radio discipline. Instruct everyone not having an immediate assignment to stay on the resource frequency. Accept non-emergency traffic as time and conditions warrant.
- ☐ Once your shift is completed, turn over the operation to your relief operator and get some rest. You can't do it all yourself, and you need to be rested and fresh for your next shift.

- ☐ Brief your relief operator. Tell him/her everything he/she needs to know to do the job. Here is a list of items you might want to pass on:
  - ☐ Frequency(s) are being used
  - ☐ List of all tactical call signs and where the stations are located.
  - ☐ If a telephone is located nearby, its location and number.
  - ☐ What officials you are serving, how to contact and recognize them
  - ☐ What is going on in general.
  - ☐ What changes, if any, are expected.
  - ☐ Pending activity. Such as messages that have not been completed, who they go to and who gets the reply.
  - ☐ Where to find drinking water, food, and toilet facilities.

The command net serves two major purposes. ARRL leadership will use this frequency to pass ARES related control and` management traffic. Traffic between cities also will take place on this frequency. All EOCs should monitor this net during a major operation. The command net will normally be set up by the DEC or other ARES section level staff appointee. This net is only created as the need is perceived.

Incident Assignment WorkSheet

Amateur Radio Emergency Service				
Date	Shift 1	Shift 2	Shift 3	Shift 4
Location				
Staffing				
Talk-in:				
Special needs and equipment:				
Shift supervisor:				
Resource Net Control:				
Notes:				

Note: - maintain work-sheets on a clipboard.- have hams check in on resource net 30 min. before start of assigned shift to allow for staffing changes .