

## NCS Operator Practices

### ***Student Preparation Required:***

On-going observation of local, regional, or national traffic and emergency nets.

### ***Information:***

#### **NCS Pre-Net Check List**

The following is a list of questions the NCS operator should answer before opening the net.

1. *Can the NCS hear all the stations in the net from his location?* The NCS should be in a position to hear all the stations in the net whenever possible. Relays may be used, but they slow the operation of the net significantly.
2. *Is the NCS location sufficiently separated from the served agency's operations?* The noise and commotion in an EOC can greatly degrade your ability to run a good net and the noise you generate can potentially add to the confusion there. If the EOC is sending and receiving messages, they should be handled by a separate station, since the NCS operator cannot do both jobs effectively.
3. *Do you have the best performing antenna for the conditions?* A "rubber duck" is not adequate unless you can see the repeater antenna, and if the repeater fails, you are out of business. On HF, a NVIS antenna (Near Vertical Incident Skywave -- discussed later in this course) is essential for skip-zone communication. For long-range nets, conventional vertical, beam or dipole antennas, or a combination of these will work best.
4. *If you are running your radio with battery power, do you have at least one hour of battery capacity available?* Ideally you will have a battery with at least 90% charge or access to backup batteries. If you are the only choice for NCS, make sure that you can run the net long enough to have someone else get ready to assume the duty so you can recharge your batteries.
5. *Are you using a headset with a noise-canceling microphone?* Even from home, background noise can affect how well you can hear and be heard.
6. *Do you have sufficient pencils/pens and paper to run the net for your shift?* You will not be able to remember enough about the traffic or participants to be effective unless you write it down.
7. *For VHF/UHF repeater operation, are you familiar with the characteristics of the repeater system hosting your net?* Your effectiveness as NCS may be adversely affected if you do not, particularly with linked systems.
8. *Do you have a runner, liaison, or logging person to support you?* For large emergency events, all three are required. It is nearly impossible to handle the net, keep accurate and complete logs, and handle messages at the same time.
9. *Do you have a designated relief operator?* Everyone gets tired and the NCS must be the most alert operator on the net.

#### **Clearing the Frequency**

Before opening the net, listen to the frequency for a few minutes to see if it is in use. If

other stations are operating on or very close to the net's frequency, see if it is quiet 5 kHz above or below. If not, politely inform the hams on the frequency of the upcoming net, and ask if they would mind moving to another frequency. Remember, they are not required to do so except when a FCC declaration has been issued. If they refuse, find the nearest clear frequency and ask them if they would mind pointing anyone asking to the new frequency.

### **Opening And Closing The Net**

Nets may be opened or closed on a specific schedule, or when the situation dictates. For instance, training and regular traffic nets may open at specific times, and may run for a specified period of time or as long as it takes to complete the net's business. Emergency nets are often opened and closed as needs dictate. NTS nets operate on a "cycle" that can be increased or decreased at the traffic load dictates.

Each net session should begin with the reading of a standard script that describes the purpose of the net and its basic procedures and protocols. Here is a sample script:

"This is W1FN calling the Southern Grafton County Emergency Net. This is a directed net, and all stations must call Net Control only. This net is handling only Emergency and Priority Traffic at this time. Only ARES stations assigned to this net should participate. Stations with emergency traffic may check in now, or break the net at any time."

At the end of each net session, you can read a similar script, also thanking members for participating, and reminding them of any future nets or other obligations. All scripts should be kept short and to the point.

### **The Importance of Message Precedence**

In a communication emergency, one of the NCS operator's primary concerns is "information overload". When this happens, a message requesting "more bedpans for a shelter" may be sent before one requesting "a trauma team for a train wreck". This condition is usually caused by messages that are fed into the "system" in an unregulated manner. Failure to organize this information flow could result in critical messages being delayed or lost.

As you learned in Level I, there are four message precedences:

- *Emergency* (relating to the immediate protection of life or property)
- *Priority* (served agency and ARES messages directly related to the emergency, but not as time sensitive as an *Emergency* precedence message.)
- *Health & Welfare* (Inquiries or information about the whereabouts or condition of persons in the affected area.)
- *Routine* (Messages unrelated to any emergency: birthday greetings, net activity reports, etc.)

The primary job of the NCS operator is to ensure that messages with the highest precedence are sent first -- *emergency*, then *priority*, then *health and welfare*. Most

emergency nets refuse to handle any *routine* messages at all, since they usually have little or no bearing on the emergency itself or the served agency's needs. Other nets may handle only *emergency* and *priority* messages, or primarily *health and welfare* messages.

### **Asking for Check-Ins**

Ask for check-ins immediately after reading the opening script, and then periodically during the net's operation. If the net is handling only *emergency* and *priority* messages, but not *welfare* or *routine* messages, it is important to state this in the opening script and when asking for "check-ins with messages". If *emergency* precedence messages are likely, it is a good idea to ask for them first, then move on to *priority*, and finally *welfare*. Try to ask for "check-ins with traffic only" as often as possible, and ask for "check-ins with or without traffic" at least every fifteen minutes, so that new stations may join the net. In a busy net, it can be difficult to balance the need to handle the current message backlog and still take check-ins on a regular basis. It is important to ask for check-ins with traffic frequently to ensure that priority or emergency messages get through expeditiously.

In some nets, stations checking in will say "this is", un-key, and then send their call sign. Some feel that this practice helps prevent "doubles", but studies have shown that it actually wastes valuable time. Instead, the NCS should read back the calls he has received, and then ask if he has missed anyone. This method can cut the time required for check-ins by half when compared with the "this is" method. If local operators are in this habit, consider prohibiting it in the net's opening script.

### **Time Tested Techniques**

**Listen!** When asking for reports or soliciting traffic, **listen carefully!** This might seem obvious, but it is easy to miss critical information when operating under the stress of an emergency. Wear headphones and reduce any distractions around you.

**Check-ins** - After asking for check-ins, note on your net worksheet as many calls as you can before you acknowledge anyone. Acknowledge all stations heard by call, and then ask if you've missed anyone.

**Pair up stations to pass traffic** on a different frequency whenever possible. This practice results in net "multi-tasking" and a higher rate of traffic handling. This is especially true when longer formal messages are being passed, or when a protracted discussion or exchange of information is required.

**Every net has a particular style** of operating, suited to the needs of the net. Most participants will catch on to the methods used, but if they do not, take time to explain. Things get done much more quickly if everyone uses the same techniques.

**Be as concise as possible.** Use the fewest words that will completely say what you mean. This will minimize the need for repeating instructions and messages.

**Take frequent breaks.** While you may not recognize the stress that being an NCS produces, it is constant, and will become evident in your voice. If you find yourself asking when your last break was, you know it is time to take one. Turn over the net to your backup at least every two hours and rest. Do not listen to the net -- rest. Once rested, listen to the net for a few minutes before resuming as NCS.

**Control the tone of your voice.** Be as calm as possible. Tension tends to cause voices to increase in pitch, and net members will detect this change. When you use a calm tone, other members of the net will tend to remain calm as well. Remember to speak with confidence and authority. A weak or indecisive demeanor undermines your effectiveness as NCS, and consequently the productivity of the net.

**Net Discipline** - You can reasonably expect trained net members to:

- Report to the NCS promptly as they become available.
- Ask the NCS operator for permission to call another station.
- Answer promptly when called by the NCS operator.
- Use tactical call signs.
- Identify legally at the end of each exchange.
- Follow established net protocol.

Expectations aside, you must keep in mind that you are dealing with volunteers. You cannot *order* their compliance -- you can only *ask* for their cooperation.

Probably the best way to enlist the cooperation of the net is to explain what you are doing in a calm and straightforward manner. This may involve supplying a small amount of real-time training. The one thing you must *never* do is criticize someone on the air. It is better to lead by example -- it produces better results. If a problem persists, try to resolve it on the telephone or in person.

### **More Hints and Kinks**

*Keep transmissions as short as possible without losing message clarity.*

*For voice nets, use only plain English and standard "pro-words". "Q" signals are only for CW, and 10-codes are for CB and certain served agencies.*

*Keep the net formal and professional, but friendly.* An informal or casual style during an emergency net promotes sloppiness, and does little to impress served agencies.

*If the net is a scheduled net, start on time!* Tardiness indicates poor management and doesn't inspire confidence in the NCS.

*Use a script to promote clear and concise communication.* Scripts can be used to open and close the net, and for periodic "housekeeping" announcements. If you don't have a pre-printed script, take a moment to write one.

*Frequently identify the name and purpose of the net.* Advise listeners of the sub-audible squelch tone (CTCSS or DCS) required, if applicable. This can be part of your periodic "housekeeping" script.

*If the net is an emergency operation, use your scripts to tell listeners where to find other nets,* such as resource or specialized nets. In some cases, this may help prevent un-needed but well-meaning stations from checking-in just to offer their services, which distracts the net from its mission.

*Be friendly, yet in control.* Speak slowly and clearly with a calm, even, tone -- not a monotone. Speak with confidence, even if you are inwardly nervous.

*Ask specific questions -- give specific instructions.* This reduces the need for "repeats" and prevents confusion.

*Have pencil and paper ready -- write down ALL calls and tactical call-signs.* Practice writing down everyone's calls when you are not the NCS.

*Read your radio's owner's manual and know your radio before an emergency occurs.* Random fumbling with the knobs wastes valuable time and is very unprofessional.

*Know how to use your microphone.* The worst NCS is one that cannot be heard or sounds like a train huffing and puffing into the microphone. Articulate, don't slur. Speak close to your mike, but talk across it, not into it. Adjust the mic gain to allow close-talking without overmodulation or distortion.

*When there is a "double" (i.e., when two or more stations transmit on the same frequency at the same time), listen to see if you can identify either station by call sign or by text.* Then, ask all stations to stand by while you solicit clarification or repeats from each station involved, as needed.

*During check-ins, recognize participants by name whenever possible--it helps boost morale.*

*Don't be afraid to ask for assistance if you need it.* The net manager should be able to assist you or locate additional help. That is part of their job.

*You will make mistakes.* Acknowledging them will earn the respect and support of net members.

*NEVER think out loud.* If you need a moment to consider what to do next, say something like "stand by" and un-key your microphone while you think.

*Transmit only facts.* If there is a real need to make an educated guess or to speculate, make it clear to others that it is only speculation and not fact.

*Avoid becoming the source for general information about the event.* If it is an emergency, refer event status questions to the proper public information net or Public Information Officer (PIO). Avoid casual discussions about the served agency's response efforts on the air, since the press or the general public might be listening and take information out of context.

*When necessary, use standard ITU phonetics.* There is no such thing as "common spelling." Send all numbers as individual numbers, e.g., 334 is "three three four" not "three hundred thirty four."

*If the net has been quiet for more than ten minutes, check on operator status.* This keeps the net running more smoothly and insures that you know about equipment failures and missing operators as soon as possible.

*Tactical call signs* should be used to make it easier to call and identify stations, as you learned in Level I. To initiate a call, use the location name or assignment instead of your FCC call sign. Use your FCC call sign only as you are required to: every ten minutes during an exchange and at the end of the exchange. Some examples of tactical calls signs might be "command post", "Newington Police", "Shelter 1", or "Rover 4".

*During drills,* all stations should state frequently "this is a drill", especially when transmitting simulated priority or emergency messages. This prevents other hams, the press, or public listening on scanners from assuming that an actual event has occurred.