

SECTION 12: PARTICIPATING IN A NET

This section provides guidelines and information that will be useful when you are asked to serve as a net controller.

Once you complete this section, you will be able to:

- Describe the types of nets used in ARES operations
- Describe the requirements associated with the role of net controller
- Use best practices for net control
- Participate in NTS traffic nets
- Understand the requirements and practices associated with CW nets.

TYPES OF NET

Types of net control

Directed nets

A directed net is a formal net with a net controller, who directs all communications on the net. Stations request permission from net control before calling other stations or passing traffic.

A directed net is used when there is a large volume of traffic that cannot be dealt with on a first-come first-served basis. The net controller determines who will use the frequency at a given time. Random conversations between stations are not permitted. The net controller will assign tactical call signs to facilitate traffic handling. Stations having traffic not suitable for the net are diverted to alternate nets.

Open nets

An open net is a net that allows informal communications, with or without a net controller. If there is a net controller, the controller acts to provide coordination, record keeping, and other support. On an open net, stations do not need to get net control permission before calling or passing traffic.

A typical open net permits 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. Stations are not required to contact the net controller before making a call to other stations, and incident-related traffic may be handled on a point-to-point basis.

Purpose or audience specific nets

Operational net

This is a **directed net** that carries the bulk of the traffic for the client agencies. The operational net is typically the first net established during an emergency, and remains the *primary net* throughout the operation.

Task-specific tactical nets

If a need exists for subnets dedicated to specific client groups or tasks, new net frequencies will be selected and specific operators will be moved to the new frequencies. A task-specific tactical net may be an **open net** or a **directed net**.

Examples of task-specific nets include the following:

- a **command net**, to provide communications among 'executives' at municipalities, aid agencies, and other stakeholder organizations
- a Red Cross net, to interconnect Canadian Red Cross aid stations and Red Cross headquarters
- a transport net, to allow coordination of transportation assets

Standby (availability) net

This is a **directed net** that is a point of first check-in for operators who are announcing availability to participate. Operators are kept on this net until deployed to a location or role and moved to the operational net.

This net is also a holding area used for non-ARES trained stations who wish to participate during the emergency. The net controller of the availability net issues regular bulletins regarding the status of the emergency, and broadcasts information about ARES procedures in preparation for including non-ARES trained operators in ARES activities. The net controller maintains a rollcall of available stations so that needs for operators can be met when they arise.

Formal traffic net

This is a **directed net** that is used to carry formal message traffic.

Support net

This is an **open net** used to provide technical and procedural support to operators, and ARES resource coordination (for example, finding spare handhelds). The purpose of the support net is to keep ARES 'maintenance' traffic off the operational net.

DUTIES OF A NET CONTROLLER

The basic duties of a net controller are:

- Taking charge of the net while the net is in session. You are responsible for controlling who uses the frequency. This needs to be balanced with the fact that you are managing a group of volunteers. You need to determine whether tight net discipline is required for the incident.
- Keeping track of which resources are on the net and who has cleared the channel. You are also responsible for knowing what types of traffic each resource is capable of handling.
- Ensuring that there is a backup net controller, in case you are indisposed or experience an equipment or propagation failure. (For some nets in some situations, this may not be required.)
- Keeping a written record of net activity, stations and traffic.

WHAT YOU NEED

To serve as a net controller, you should try to fulfill the following prerequisites:

- Speak with an air of authority, without sarcastic overtones or being overbearing.
- Develop a sense of control and self-assuredness.
- Be decisive and mature.
- Develop a knowledge of band characteristics.
- Develop a knowledge of common equipment.
- Develop good basic communications skills and a fluent command of the language.
- Know ICS.
- Maintain a physical condition that will allow you to tolerate high stress for extended periods of time.
- Be a strong team player and organizer.
- Maintain good ear-to-hand copying skills.
- Maintain decent (readable) penmanship.
- Develop computer keyboard skills - touch typing.
- Be willing to take and carry out direct orders.
- Consistently demonstrate above average operating technique.
- Have a general understanding of all MOUs with served agencies.

When you serve as a net controller, you need the following items and resources:

- Good coverage of the area served by the net (for a net on a repeater, a solid signal into the repeater)
- Good received audio (preferably a headset)
- Good transmitted audio
- Backup transceiver (to use to call for help on alternate channels when required, or as a backup in case of equipment failure)
- A comfortable way of writing down notes and traffic (for example, a notepad, a typewriter, or a laptop)
- If available, a tape recorder and tapes
- If available, a second operator onsite to keep notes and transcribe traffic, handle phone calls, and spell you during breaks

NET CONTROL BEST PRACTICES

- Speak slowly in a calm voice at all times.
- Pause before transmitting to allow break-ins.
- Periodically announce the designation and purpose of the net to ensure that new check-ins and monitoring stations understand that purpose.
- Keep a written record of net activity, and a list of traffic for each station. If you don't use an organized recording system you will get confused as the traffic gets heavier.
- Discourage idle chatter courteously, until all traffic is cleared. Do not however, make the net cold, stiff, and formal except at times of high traffic density, or during real or simulated emergencies.
- Remember that other people will have to read your notes. Write clearly and in clear text (no special symbols or short forms).
- Make instructions clear and precise. Use as few words as possible. Use clear text.
- 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 that stations ask for fills at the end of each paragraph.
- Use tactical call signs and enforce this rule with other members on the net. Tactical call signs are legal as long as periodic ID requirements are met.

- If a station's traffic is not appropriate for your net (for example, safety traffic on a support net), direct the station to the appropriate net, or to the primary net.
- When receiving multiple checkins or breakers, acknowledge all the stations that you heard. Then yield the channel to a single station, (usually the first one you heard, unless there is prioritized traffic). When the first station has passed their traffic, call in the next station on your list.
- Do not solicit new traffic until your current traffic list has been completed.
- Minimize contacts to their bare essentials. Try to operate without wasting any motions.
- Remain cool, calm, and collected. Never allow yourself to become frustrated or angry.

OPENING A NET

When opening a net:

- Politely break in to communications currently on the repeater or frequency, explain the situation and the need to open a net, and request use of the repeater or frequency.
- Once you have control of the repeater or frequency, introduce yourself, with your callsign, as net controller.
- Clearly identify the net designation (for example, ARES logistics net) and explain the net's purpose.
- State that the repeater or frequency will be used solely for net operations for a period of time.
- Briefly review 'rules of the road' for net operations.
- Call in any stations that you know are waiting to check in (such as stations that you know have been assigned to the net).
- Solicit other check-ins.

To open a net, use the following prompts:

1 Introduce the net.

For example: *Good evening, this is VE9ZYX Net Control for this evening. My name is Don and I am located in Fredericton. This is a National Traffic System Net operating daily at 19:00 hours local time on or about a frequency of 3.742 MHZ. This is a directed net specializing in formal traffic using the standard NTS format complete with full address and telephone number. A postal or ZIP code is often helpful. Traffic should be limited to 25 words if possible, and use of ARL numbered text is encouraged. All stations checking in to the net are asked to stay on*

frequency for the duration of the net unless excused by the net controller. If you must leave the net please inform the net controller before so doing. All stations are invited to take part in the activities of this net.

- 2 Call for any station with emergency, priority or welfare traffic.

Note: Note, this traffic must have absolute priority over all other net business. It must be moved as soon as a station is available to deal with it.

- 3 Ask if there is an ECN (Region) representative on frequency.
- 4 Ask if there any stations wishing to list ECN (out of province traffic) on frequency.
- 5 Ask any net liaison stations to check in, call signs only.
- 6 Ask for any stations with formal traffic to check in, call signs only.
- 7 Ask for stations with or without traffic to check in.

MANAGING CHECK-INS

Activation check-ins

Initially, accept check-ins on the primary net frequency. Once the primary net becomes an operational net, and a [standby net](#) is established, make periodic announcements directing newly activated stations to wait on the [standby net](#) until directed to return to the operational net.

Check-ins by non-ARES operators

Divert any non-ARES stations that wish to assist to the [standby net](#). By ‘parking’ non-ARES stations on a secondary channel, you keep the operational net free for traffic.

NATIONAL TRAFFIC SYSTEM NETS

Traffic routing

Local traffic is routed to a section net, then to a region net, then to an area net, and finally to TCC. It then returns to another area net, then to a region net, then to a section net, then to a local net.

For example, a message destined for Vancouver is listed on the Ontario Phone Net. It will be picked up by the region net (ECN), sent to the area net (EAN), taken across Canada by the Trans-Continental Corps, taken down to the Pacific Area Net, to RN7, and finally to a B.C. section net for delivery.

With good band conditions, and reasonable access to the addressee, you could have an answer the next day. Complete cycles occur twice each day, 365 days per year. In the case of very high volume or emergency periods, four complete traffic cycles are already designated by the NTS.

Assigned net representatives (net liaison stations)

A local net may ask for a representative to go to another net such as a section net or to a higher net. For example, the OQN (CW) NCS, may ask one of its stations to be liaison to the OPN. Net control will also ask for liaison stations to go to other nets either locally or to higher level nets. The NCS on the section phone net may ask for a representative to go to region net (in this case ECN).

It is also customary for NCS to call for net liaison stations from other nets. Remember that you are only net liaison from another net if the other net NCS or the Net Manager has assigned you that task. Furthermore, if you appear as assigned liaison to a net the NCS expects you to remain on the net until you are excused.

Freelance traffic

The handling of out-of-section traffic not routed through NTS is discouraged on an NTS net. The NTS does not object to stations handling out-of-section traffic, since this is often both convenient and a courtesy to the originating station. However, such traffic should be directed to appropriate informal nets.

If there is time, and the amateur listing the traffic is not familiar with NTS regulations, the traffic could be handled; however, the listing station should be politely told that a formal NTS net must route traffic via the normal pathway. Failure to maintain this standard on a regular basis would soon cause the traffic handling system to break down. Amateurs who feel otherwise may wish to route all their traffic through independent nets.

Digital NTS is now a fully integrated part of the North American NTS. Although digital NTS does not rely on traditional NTS's four cycles, it is very efficient in moving traffic and operates 24 hours a day, 7 days a week (including "unattended" operation in assigned spectrum areas to move messages automatically).

Running an NTS voice net

When running an NTS traffic net, remember the following best practices:

- Clear regional traffic as quickly as possible, allowing your representative to move to the region net.
- Clear any stations for which there is no traffic early in the net.
- Always call the receiving station first.
- Remember to call for stations with or without traffic at regular intervals. A station from an area you need to access may be listening.
- Pass traffic on the net frequency, when practical. (This is different from the practice of moving off-net to pass traffic on CW nets.)

Counting and reporting net traffic

The traffic handled by each traffic net is reported to the Section Traffic Manager (STM) monthly by the Net Manager. These reports are normally sent to the STM in the form of a formal message.

The number of net sessions, the number of check ins for the month, and the monthly total number of pieces of traffic handled by each Canadian Net are reported each month in Field Organization Reports.

Net Control Station report

A sample NCS report is shown below:

```
SAMPLE NCS REPORT
NR 30 R VE3MNI 19 VERONA ON DEC 25

DAN VE9ZYY
BREAK

(COUNT)      (1)      (2)      (3)      (4)      (5)
(5)          OPN| 240000Z| VE3MPX | X      |CHECK |
(10)         INS|  25 | TFC  | 14/12 | TIME |
(15)         22| MINS |VE9ZYY/LN| BBB/GBN | GT |
(19)         TO| ECN  | X    | 73   |

                BREAK
                DON VE9ZYY
                END OF MESSAGE NO MORE
```

The report is laid out with the bracketed numbers to assist with the word count. It is much easier to word check if groupings are set out in five items to the line.

Interpreting the NCS report. TFC 14/12 means that 14 pieces were listed, but only 12 were handled, VE9ZYY/LN means that VE9ZYY was liaison from LN, 240000Z, means that the net was held on the 24th day of the month at 0000Z or if you prefer U.T.C. (or in really old terms, Greenwich Mean Time), time 22 mins, means that the net lasted 22 minutes, and the VE3MPX following 240000Z, means that VE3MPX was net control. Note that a count of 11/17 could equally well appear, meaning that although only 11 pieces of traffic came into the net, after relays etc., 17 messages actually went out of the net. Thus, some messages had to be relayed and so were handled more than once.

Participating in an NTS net

Any licensed amateur can participate in the NTS. Listen to NTS nets to familiarize yourself with the practices and culture of NTS traffic handling and net operations.

Prior to participating in an NTS net, obtain the “pink card”, *Operating Aid FSD-218*.

Checking in

When checking in to an NTS traffic net, remember the following best practices:

- Listen to, and comply with, all instructions of NCS.
- If you are waiting to check in to the net and have no traffic (even if you have identified traffic that you are able to clear), delay your check-in until the stations with listed traffic are recognized.
- When the appropriate time arrives, send your call sign only. Net control normally acquires a list of check ins, then calls in each station individually.
- Do not say “break” when checking in.
- When you are called in, speak clearly and slowly, remembering that NCS is making notes with reference to your transmission.
- Always list your call and location when checking in and list your traffic at that time or if you have no traffic say “This is VE3MPX, Kitchener, no traffic”, or if you have traffic say “VE3MPX Kitchener, I have 2 ECN, and 1 Ottawa”.
- Be very careful to “zero beat” the NCS. The NCS cannot move. The NCS is always on the “right frequency”. Ensure that your RIT is turned OFF.
- List out of province traffic by routing (for example, 1-ECN), and not by destination. ECN listed traffic is understood to be going out of section and will be routed by the Region representative.
- Stay on frequency until you are excused.

Listing traffic

Traffic for out of province/territory is listed for the Region Net. (for example, *I have 1 ECN*). Traffic for within the section is listed by town or city (for example, *I have one Owen Sound*). If you are listing other than routine traffic, state the priority when listing (for example, *I have one priority Toronto*).

Listings with a priority above routine will always be cleared first.

Transmitting a message

When sending a message:

- Speak slowly and clearly. Remember the receiving station has to write down everything you say.
- If you are transmitting VOX, there is no need for fills at the end of the message.
- If you are using PTT, lift your thumb off the button at regular intervals and give the receiving station a chance to break for fills.
- End the message with “End of message, no more”, or “end of message, one to go”.

- Use international phonetics when requested by the receiving station. Do not use phonetics unless the receiving stations requests you to so do.
- Spell unusual words. If they are very difficult, spell them twice.
- Before you spell a word, say *I spell* (for example, *I spell "dirkwartz" D I R K W A R T Z*).
- If you are going to repeat a word, say *I say again*.
- If you are going to spell a word again, say *I spell again.....*
- Indicate a group of numbers by saying *number group*.
- Indicate a letter-number group by saying *number* (or if you prefer *figure*) *letter group*. If the letters precede the numbers, it is common practice to say *letter number group*.

Copying a message

When copying a message:

- Start writing after the transmitting station says *Number*.
- Write down everything sent, accurately and legibly.
- If you have missed a part of the message, don't panic. Just leave a bit of extra space, and when the transmitting station pauses, ask for fills. For example, "word after birthday", or "all between Mike and red", or "in preamble, all before Brantford".
- If you are unsure about a word or number say *confirm* (for example, *confirm 'bar bells'*). You will be answered with *confirmed*, or if incorrect, with the corrected text.
- Never guess at the message contents; our job is to be 100% correct.
- Be sure to check the word count in the preamble, and do not acknowledge receipt of the message until you agree with the check, or the transmitting station agrees that the check should be changed.
- Some stations will be asked to clear traffic off the net frequency. The NCS will suggest a possible frequency to pass the traffic. The receiving station is responsible to find the frequency nearest to the suggested frequency where the station can reasonably hear, and then the receiving station calls the transmitting station and receives the message. They should clear their traffic as quickly as possible, then return to net frequency and let NCS know they are back by simply sending their call signs. Remember, when off net frequency, to exchange call signs as in normal non-net operations.
- When you have cleared or received your traffic, simply stop transmitting.
- Do not use QSL or other Q signals on voice nets.

Sending a station activity report to the STM

At the end of each month, before the fourth or fifth day of the month, all traffic handlers should file a station activity report with the STM. Most messages handled count only as a single point, but there are some exceptions as you will note in what follows. Credit is given for each of the following classes: ORIGINATED, RECEIVED, SENT, and DELIVERED. Some messages will count for two points each. Some examples are as follows. When you ORIGINATE a message for some one else, count one point; when you actually send the same message, count a second point. Other messages counting for two points are: RECEIVED.... SENT, or RECEIVED.....DELIVERED. Any message bearing your own signature can only count for ONE point, and is counted in the SENT category only. This message demonstrates only the text of the message. Remember you need a preamble and address.

```
SAR VE3MPX JANUARY X ORIGINATED

1 RECEIVED 10 SENT 10

DELIVERED 2 TOTAL 23 X

73

BREAK
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Some amateurs tend to report only *big number months*, but you are strongly encouraged to report every month, even if you handle no traffic. That way the STM can identify available resources. In a time of emergency, this can be very helpful.

Sending a service message

It is proper practice and common courtesy to send a service message back to the originating station if a message can not be delivered within 48 hours of receipt of a message at destination.

Note: Sometimes a message is received garbled, and a service message will need to be sent for this reason. It is the responsibility of the station receiving the message for delivery to originate this message, not the responsibility of the station from which the message is received.

Proper service message format requires the use of the full name, address and telephone number of the originating station. (This is easier if you have online access to a callsign database.)

Use ARL standard text – ARL SIXTY SEVEN: *Your message number blank undeliverable because of blank. Please advise.* The second blank (after *because of*) might consist of one of the following: “*No phone number given, no number listed*”, “*No record of blank in this area*”, “*Addressee has moved, location unknown*”, “*need more complete address*”, etc.

Make every reasonable effort to deliver the original message without resorting to a service message.

A service message uses the following format:

```
NR 73 R VE3MPX ARL 14 BROCKVILLE ON 2300Z JAN 8
DAVE VE9FK
LEPREAU NB
BREAK
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ARL SIXTY SEVEN 34 NO
TELEPHONE NUMBER GIVEN X TELEPHONE
NUMBER UNLISTED X
73
BREAK
GEORGE VE3MPX
```

Note: It is not necessary to list message precedence after ARL SIXTY SEVEN since it is implied in the ARL text. A precedence other than Routine should be entered. SVC does not appear in any league traffic handling publication, the content of the message makes it obvious that it is a service message, and the use of abbreviations in amateur to amateur communications – although not formally recognized in published NTS literature – is generally accepted by operating practice standards.

NET CONTROL OF A SUPPORT NET

Unlike standby and operational nets, a support net normally does not require full-time net control. If you are assigned to control a support net, consider the following guidelines:

- Monitor the net and be ready to step in to provide coordination when it is required.
- Make a periodic announcement (perhaps every 15 minutes) on the net. The announcement should state that a net is taking place, and explain the purpose of the net. You may also consider listing key stations that are permanently on net. Keep the announcement brief so that you do not distract monitoring operators from other tasks.

NET CONTROL OF CW TRAFFIC NETS

In the unlikely event that you are required to run a CW traffic net (for example, in situations where propagation is too poor for voice communications, and digital modes are not available), use the following guidelines:

Calling a net

Remember that the NCS is always on the right frequency. Zero beat the NCS carefully. If you are not on the correct frequency you may not even be heard.

Net call-up or preamble

The call up varies slightly from net to net. It tends to be abbreviated on the higher level nets.

This sample is sent in the generally accepted form:

KA OSN OSN OSN ONTARIO SECTION TRAFFIC TRAINING NET DE VE3MPX
QND PSE QNZ OSTTN QTC? QNI K.

Note: KA stands for "beginning of work".

In the example above, the NCS identified the net by its short form OSTTN, then announced the net's full name. QND indicates that the net is directed, which means that you will only transmit when invited to so do.

PSE is the abbreviation for *please*.

QNZ means you must zero beat your frequency with the NCS.

The net short identification is sent again.

QTC? calls for stations with traffic only. Do not check in until stations with traffic have been acknowledged.

QNI is an invitation to check in to the net (though the first set of QNI right after the preamble should be limited to stations with traffic).

Checking in QNI

Stations with traffic are asked to QNI first. After this process is complete, the NCS will resend the short form of the net name, send the NCS's own call sign, and send QNI.

The preamble is now complete and stations with traffic have checked in and listed their traffic. NCS would now call OSN DE VE3MPX QNI K. At this point send a single letter – usually one from your call (for example "B"). NCS will reply B. Now send your own call followed by QNI QRU K or QNI QTC and list your traffic. NCS would reply GE GEORGE R AS. This simply means *Good Evening George I copy you stand by*.

Do not use BK when checking in. Some stations choose to use the two or three letters of their call suffix on initial check in. This is proper but not necessary.

A sample check-in follows:

----OSN DE VE9FK QNI K ----B (Sent by QNI)

B (Sent by NCS)

VE3MPX GE QNI QRU (Sent by station checking in).

Note: "QNI" means I am checking in to the net and QRU means "Do you have any traffic for me?"... whereas QRU from NCS with nothing following it means "I have no traffic for you."

VE3MPX GE R AS (Sent by NCS and means *good evening Larry, I acknowledge you, please stand by*).

The net will proceed in this manner until NCS clears all traffic or determines that some can not be cleared. As soon as NCS is reasonably sure there is no traffic for your area or that you can relay to another net he or she will send VE3MPX GE TU QNI 73 QRU QNX. (QRU means *I have nothing for you...* QNX means *you are excused from the net.*)

Reply with TU GE DE VE3MPX. Many really expert traffic handlers will just reply GE Dit Dit or just send a single "Dit".

If it is evident to NCS that the net will be short he or she may not QNX individual stations but rather may close the net after 4 or 5 minutes with no QNI or QTC. Closing the net is done as follows: OSN QRU QNF TU QNI 73 DE VE9FK GE. (QNF means the net is free, no longer controlled.)

Listing traffic on a section or local net

Once NCS has called for stations *QTC*, QNI. If you wish to list traffic send the brief letter group you have chosen to use to access the net. (It is good practice to always use the same group because it often helps the NCS to know who is calling). Then list your traffic.

For example, the NCS sends:

OSN DE VE3FGU QTC? QNI K

You then send B.

NCS replies B.

You reply VE3GOL QNI QTC WINDSOR 1 AR. This means VE3GOL checking in I have one for Windsor. The AR after Windsor indicates that is all you wish to list.

Assume now that you wish to list several pieces of traffic. You might want to list Toronto 1 EMERGENCY Ottawa 1 P ECN 2 Brockville 1 AR. They should be listed in order of precedence. EMERGENCY is always listed first and should be cleared immediately. P and W traffic are listed next and they too will be handled as quickly as possible. Out-of-province traffic for the Region Net is listed next and will be cleared before in-province routine traffic. Traffic listed without a precedence is assumed to be routine and will be dealt with last.

Transmitting the message

The NCS will usually send stations off net frequency to clear messages. If the NCS wishes to clear traffic on frequency he or she will call VE3AAA VE3BBB QNK Kingston 1 HR K. A more normal procedure is for the NCS to send VE3AAA VE3BBB QNY UP 5 Toronto 1 K.

Reply G or GG for Gone or Going. Many experienced stations send only a single "dit" to acknowledge NCS.

Note that the first call sent will be that of the receiving station. Both stations then move up 5 kHz to the nearest clear spot for the receiving station. The receiving station selects the frequency – since he or she has to find a clear spot where the receiving station can hear the message – and calls the transmitting station.

Be careful not to move too close to the net frequency and QRM net. Send your call two or three times followed by the sending stations call and stand by. Wait for a few seconds and if nothing is heard repeat the call – for example “VE3BBB VE3BBB VE3BBB DE VE3AAA VE3AAA VE3AAA K”. VE3BBB should reply VE3AAA DE VE3BBB GE ED QRV? *meaning good evening Ed Are you ready to copy?*

The receiving station now sends GE SAM QRV meaning *good evening Sam I am now ready to copy the message.*

The sending station should carefully zero beat the receiving station. After the message has been sent the receiving station will send QSL NR X.

If fills are needed, it is common practice to send DIT DIT SPACE SPACE DIT DIT. The receiving station then indicates what is lacking (as in "WB hammer" meaning *Word Before hammer* or “AA tent” meaning *All After tent* or “AB cat” meaning *All Before cat and dog etc.*

The transmitting station reviews the message and retransmits the word before the requested fill followed by the fill.

Check back

Assuming that you have QNYed to receive or clear traffic, it is very important to check back into the net as soon as you have finished. This is done by moving back to net frequency X carefully zero beating NCS and waiting for an opening. NCS will send “OSN QNI K”, then you will send the suffix of your call. NCS will reply *callsign R AS*. This means *I acknowledge that you have returned to the net please stand by*. If the NCS is certain that your presence will no longer be required when you are sent off frequency, he or she will probably send you both off frequency: *callsign callsign QNY UP 5 TORONTO 2 BOTH QRU QNX TU GE K*.

This means VE3BBB and VE3AAA move up 5 kHz VE3BBB to receive 5 pieces of traffic for Toronto.

QRU means *I have nothing further for you. You are both excused from the net.*

In this situation, there is no need to check back in to the net.

Traffic routing

Messages move through a carefully structured system. Traffic areas are divided as follows, local net to section net to region net to area net to TCC to area net to region net to section net to local net.

In Ontario the setting is this local net; that is, OLN to section net OSN or OPN to ECN to EAN to TCC etc. This assumes that the traffic is moving across North America. Traffic for the Caribbean and Australia is moved through Earl WX4J in Florida for relay through NTS-D, although it can be relayed through ECN.

The majority of NTS digital traffic is moved on Pactor-I and Pactor-II.

QNK, QNV and QNQ

QNK means *Transmit messages for "Amateur Call" to "Amateur Call"*.

QNK means that the message is to be transmitted on net frequency. Except in the case of QNK, the NCS usually calls the receiving station first.

QNV means establish contact with *callsign* on this frequency and if successful move to new frequency and send traffic for "wherever". The purpose of QNV is to ensure that, under poor band conditions, two stations are going to be able to pass traffic without a relay station. If the receiving station sends QNP then NCS should find a station who copies both to act as relay between them. NCS should call a station he feels can copy both stations and ask him if he QNJ's one and then the other.

For example, VE5AAA calls QNP VE5BBB after an attempted QNY and he returns to the net frequency. The NCS should try to find a station midway between the two stations that might QSP. The NCS then sends the following exchange. "VE5DDD QNJ VE5AAA K". VE3DDD answers "C" if he is able. NCS now asks "VE5DDD QNJ VE5BBB K". VE3DDD replies "C". NCS now sends "VE5BBB VE5AAA QNY D 5 VE5BBB 1 K".

Note: QNJ means *Can you copy me* and QNP means *I am unable to copy you*.

QNQ means Move frequency to "blank" (NCS will suggest a frequency) and wait for *callsign* to finish handling traffic then send him traffic for "blank" the destination you have a piece of traffic for). Assume that VE3BBB is up 5 receiving traffic for ECN from VE3AAA. VE3CCC now lists traffic for ECN as well. NCS will send VE3CCC QNQ UP 5 VE3BBB ECN 1 K. This means VE3CCC move up 5 kHz and wait for VE3BBB to finish receiving traffic from VE3AAA.

When VE3AAA has finished sending and VE3BBB QSLs send VE3BBB DE VE3CCC K. VE3BBB will reply to your call VE3CCC DE VE3BBB K. Now send QRV ECN 1?

VE3BBB will answer QRV and you may then send your ECN traffic.

Remember that QNQ does not QNX you, so when your traffic is clear, check back into the net. When you arrive back on net frequency wait for NCS to invite QNI then send your call suffix. NCS will reply with your suffix and send AS asking you to stand by or if there is no more traffic for you will QNX.

An example re-check to net follows. You hear OSN DE VE3MPX QNI K and send BDM (Your call has the BDM suffix). NCS will answer BDM R AS meaning VE3BDM I acknowledge you have reQNIed please stand by, or may send VE3BDM GE GEORGE QRU QNX 73 at which time you are free to leave the net. Acknowledge with GE or Dit Dit.

Out of province traffic

Out of province traffic listed on a Section Net is listed for the Region Net. In the case of Ontario the region net is ECN. Assume a piece of traffic is listed on OSN destined for BC. It is listed as follows "QTC ECN 1 K". Do not list the traffic as BC 1 etc. It would

be taken to ECN where it would be listed as EAN traffic since this is the correct routing for BC. The message will in fact go to EAN via a station designated as EAN TX by ECN NCS or by EAN NM. Some times the EAN station will go from ECN as EAN TX/RX meaning that he is there to both transmit and receive traffic.

It is common to find that the region net NCS will also go to the area net. For example the ECN NCS usually is the EAN TX/RX station. The AREA net rep will often receive and send messages for all three North American Areas. The EAN meets at 2030 local time and a station assigned by the director of TCC will be on EAN to receive traffic for PAN and he will QNI as PAN RX. He will meet with a west coast TCC station at a predetermined frequency and time. The west coast TCC station will appear on PAN as TCC TX and relay the message to a PAN RX liaison station. The message will then move to region net to section net and finally to destination. On rare occasions a TCC (Trans Continental Corps) rep will appear to list traffic on lower level nets. These operators are very hard working and traffic listed by them must have priority over all but EMERGENCY or Priority traffic. QNX a TCC rep as quickly as possible. Traffic for adjacent area nets should not be handled at Area net level. If you are assigned liaison to ECN from the section net receive the traffic then group it together by destination for listing on region net. For example you receive messages for BC AB NB and ME 2. They would be listed on ECN as follows VE9FK QNI OSN TX/RX QTC APN 1 EAN 4 AR. APN traffic is the only piece that will stay in the coverage area of ECN and thus does not have to go to a higher level net. NCS of ECN will check in VE9FK as OSN rep and have him QNY or QNQ to the frequency where EAN rep is taking traffic. Note that NCS on a region net must always be sure that the Area Net rep is able to get to the Area Net on time. Do however clear stations with high traffic counts QNY etc. ASAP so these busy traffic handlers are not sitting there twiddling their thumbs. VE9FK would then be asked to QNY to receive any traffic coming down to the Ontario Quebec Net. When ZZZ QNIs the next OSN he will QNI as ECN/RX.

Going to the area net

If you are competent at the Region Net level and can operate at 25 wpm, you can participate in the Area Net. The request to go to the Area Net MUST come from the NCS or the region net manager. In Ontario, the Area Net is EAN. On EAN you should find six region nets represented by TX and RX stations. Several TCC reps will also be present to receive and bring down traffic from other Area Nets. TCC stations will accept traffic for relay to CAN and PAN. Alternate TX/RX stations may QNI from all of the above.

If EAN NCS uses QNA, check in in prearranged order, you will have to wait for his call. In Ontario you would wait for NCS to send ECN, then send VE3MPX ECN TX QNI 1RN 1 3RN 3 4RN 1 PAN 2 AR assuming you are listing traffic for those areas. NCS will send VE3MPX R AS. Stand by for QNQ QNK QNV and QNY instructions. Be alert and try to keep your own list of other QNI and their traffic. Such a list will alert you that traffic is about for your Region and you will be prepared to QNY to pick it up.

Circle the call signs of stations with REGION traffic. Regions appearing on EAN are 1RN 2RN 3RN 4RN 8RN ECN ARN CAN and PAN. When listing traffic do so in the above order only.

Remember that most traffic moves across North America CW through these Nets. Remember to indicate precedences since if no precedence is listed traffic is considered

to be Routine. A sample QNI to a REGION Net follows: “VE2EDO QNI ECN TX QTC 1RN 1 3RN 3 4RN 4 PAN 1 EMERGENCY 1P 2R AR N”.

Traffic for Western Canada will go CAN or PAN.

Look at the National Traffic System Routing Guide in the PSC Manual. Make a copy of this table and keep it near your operating position for reference at region or area net operating level.

Note that international traffic should be routed via EAN for Earl WX4J in Florida for relay through NTS-D. It would be best to make your own traffic routing table.

Make headings for Regions 1, 2, 3, 4, 8, ECN ARN CAN and PAN. Under each heading write the provinces/states/territories covered.

Remember that although all stations at this level are capable of higher speed operation, 100% copy is still the rule. Do not bluff your way through a message and QSL when you are not certain. QRS is a useful tool and a good TX station will send at the speed of the RX station and will slow down when the band is poor.

NCS records and methods

There are probably as many ways of recording and running nets as there are NCS stations. If you have adopted a method that works for you do not change. A commonly used method is to mark off 4 liberal columns on an 8 1/2 by 11 sheet. The four columns are marked as follows Column 1 QNI, Column 2 liaison, Column 3 QTC and column 4 QNY. The first couple of lines might read as follows. (This sheet could represent one used by an NCS on OSN) Only the first two lines are shown:

VE2EDO | ECN TX | ECN 1 BRAMPTON 1R THOROLD 1P | UP 5

VE3MPX | EAN RX| TORONTO 2 EMERGENCY TRENT 1 | D 5

It is important to know at all times who is on board and to where stations are QNYed. In this case as the net has progressed NCS has sent VE2EDO up 5 to receive ECN 1. A Toronto QNI has arrived so VE3MPX is QNY down 5 to pass the Toronto. NCS knows he is down there so when he gets a QNI that can QSP Trent he QNQs that station down 5 to receive the Trent. Note that VE3MPX will get EARLIEST POSSIBLE service tonight because he is holding EMERGENCY traffic. When traffic is cleared simply draw a line through that listing. On the sheet list QTC in a column one above the other for easy reading. When a station checks back into net cross off the last column QNY and make a new entry in column one. When NCS spots a potential handling station for a listing he draws an arrow from the listing station in column one to the prospective traffic listing in column three. Keep a circled list of the number of pieces of traffic handled on the left side of column two.

If QNB relays are necessary count one for the TX to relay station and another for relay to the receiving station. When you close the net write down the closing time in UTC and record net length in minutes.

As soon as net is QNF write your report for net manager.

Call the net on time. Stations standing by for net to start if NCS does not appear in three minutes someone must QNG or take over as Net Control Station NCS. On most nets someone will QNG after only one minute without an NCS. NCS is unlikely to be upset if you start up the net after a couple of minutes. Do not waste time waiting for someone else to take the net.

Collect QTC stations first then liaison stations then general QNI so you have stations on board to handle the traffic. Keep on calling for QNI regularly. Move traffic quickly. QNX the QNI ASAP or in 15 minutes maximum if possible.

On Region nets it is common practice for NCS to go EAN as ECN RX.

Always clear TCC reps immediately even if you have to take the traffic yourself and QSP it. Then get your EAN TX moving. He will need the available time after net to organize the traffic before EAN QNI.

Net reports

When net is QNF your job is not yet done. Please do your Net Report immediately. QNS means *The following stations are in the net* followed by a list.

Net manager needs to know QNS for each net. Report date, time started, NCS call sign, QNS, number of pieces of traffic listed/over number handled, liaison stns/reps, and any other info that might be useful like the name and QTH of a new QNI.

Ask the net manager how he likes his QNS reports formatted. On ECN the normal report lists stations representing a net followed by a slant bar and the net. The text only of a Net report follows in this case for the OSN:

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(INSERT PREAMBLE ADDRESS ETC.)

OSN 232300Z VE9FK X QNS

W3OKN VE3MPX EAM FGU/OPN WV/OLN

BDM/OBN KK VE2EDO X QTC

7/5 TIME 12 MINS X

VE3MPX ECN TX SELF RX

73

BT

DAN
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OSN means that the net in this example is the Ontario Section Net. 232300Z means net session was on 23rd day present month at 2300 UTC. VE9FK means VE9FK was NCS. Then follows a list of QNS grouped by call area. Only the first call area is identified followed by other call suffixes from that area. TFC 7/5 means 7 pieces were listed 5 cleared. Time is obvious and in minutes. VE3GT went ECN Transmit and SELF VE9FK went ECN Receive.

SAMPLE REGION NET REPORT:

(PREAMBLE etc.)

ECN 232345Z VE3FGU X QNS

APN VE1WF TX VE1AMR RX

OSN VE3MPX TX VE9FK RX

OPN VE3BCZ TX/RX X TFC

16/12 TIME 22 MINS X

VE3ORN EAN TX SELF RX

X 73

BT

MIKE

AR N