

# Emergency and Disaster Radio Operating Procedures

Radio Operators Guide

## Mississauga ARES - Emergency and Disaster Radio Operators Procedures Guide

The basis of this document is found at URL [http://www.nacs.uci.edu/network/Radio\\_Operator.pdf](http://www.nacs.uci.edu/network/Radio_Operator.pdf) with changes made to reflect some grammatical changes. I suspect that this document originate with ARRL or another ARES group. The section on Radio Procedures During Emergencies was replaced with the section on Radio Procedures During Emergencies is from the 'The RAC Emergency Coordinator's Manual' with minor changes.

# Operations - Techniques

## CALLING AND COMMUNICATING TECHNIQUES

The secret to working quickly and efficiently in an emergency net is to use standard procedures. The techniques presented herein are the most common. It doesn't take much analysis to see that standards and guidelines must be established and then utilized.

Before you key your mike, gather your thoughts about what you are going to say. Many hams have a tendency to talk and/or repeat too much. Say what you need to say without unnecessary repeats. Keep in mind that you must strive to get your message through the first time.

In general, there are five parts to Calling and Communications. The more serious or complex the situation, the more important these procedures become. The information printed herein **MUST** be practiced until it is second nature.

**FIRST**, you **MUST** give the tactical call of the station you are calling. This alerts that station that they are being called and that they should listen to determine who is calling.

**SECOND**, say "*This is*". The called station knows a tactical call follows. This is quite important in cases where there is a lot of confusion or poor signal conditions.

**THIRD**, give your tactical call sign. Note that we say tactical calls and not ham radio calls. Tactical call signs are important and ham calls are not, egos notwithstanding.

**FOURTH**, give your message. Speak clearly. Don't speak too fast especially if the message needs to be written down. Pause after logical phrases. Do not use the word "*break*" when you pause. It is confusing, wastes time and has another meaning in formal message handling. Merely unkey and pause. If the other station has questions, they should key up and make their request known. This also permits other stations to break in if they have emergency traffic.

**FIFTH**, end your message with "*Over*" or "*Out*".

## EXCEPTIONS OR VARIATIONS

1. It is sometimes permissible to omit the call designator of the station you are calling BUT only after communications have been established and no confusion will occur. Don't waste time, by using superfluous call signs.
2. The term "*This is*" is used to separate the FROM and TO call signs. If, and only if, confusion will not result, omitting the "*This is*" phrase is permissible.
3. If you are the calling station and you omit your own tactical call sign, you can create confusion. In certain situation, such as quick replies between operators, it can be accomplished without confusion. You must NOT use this simplification where messages can be interpreted incorrectly.
4. Elimination of the words "*Over*" and "*Out*" is possible where it doesn't introduce problems. Unkeying after your message implies "*Over*". To comply with ISC regulations, give your ISC assigned call every ten minutes OR at the end of a series of exchange communications, whichever comes first. Giving your call sign can imply an "*Out*" ending. Should giving your call cause any confusion, do not hesitate to add the word "*Out*". In HF single-sideband radio, it IS necessary to say the word "*Over*".

## RADIO PROCEDURES DURING EMERGENCIES

1. To transmit in the voice mode, always remember to ***talk across the face of the microphone!*** It is unfortunate that TV shows don't use this technique when they present, for example, detective shows. Actually that mike the cop/actor appears to use is dead--they record him on a high fidelity system with a different mike. So to make the picture appealing, the actor holds the mike six inches away and talks directly into it. This is how bad habits are picked up! If you are using a push-to-talk mike, put your lips right at the edge of the mike and talk across it. If you have a fixed station microphone, it is still a good way to get crisp, clean speech across. Talking across the mike cuts down on sibilants, breath sounds, the "popping" of "P's" and similar sounds. This technique makes the communication more understandable.
2. Speak slowly, distinctly, clearly, and do not let your voice trail off at the end of words or sentences.
3. On FM, hold the transmit button down for a least a second before beginning your message. This will assure that the first part of the message is not cut off by a slow squelch system.
4. Know what you are going to say before you push the mike button. Don't clutter the air up with: "Net Control, uh, this is VE, uh, Seven, uh, XYZ, and, uh will you call Mister, uh, uh, Black to uh, the radio uh, for Mister Green, uh, over?" It is very easy to confuse the whole transmission if the operator does not have the facts right on the tip of the tongue and ready to put out the message in a crisp and orderly fashion.
5. Make sure you are not on the air with someone else. Listen before transmitting--the pause you hear from the Net Control Station (NCS) may be deliberate to allow two other stations to complete a transmission.
6. Chewing gum, eating, and other similar activities tend to clutter up the clarity of your speech. **Don't.**
7. On 2-meter and other VHF bands, look for a receiving "hot-spot" site and use it, particularly when on the fringes of communications. Don't walk around talking while in communications fringe areas. Repeaters have much more power than your handheld. Even if you have a good signal from the machine, it does not mean you are good into the machine.
8. Under stress, many operators have a tendency to talk fast. Even if you are in the midst of the action, remember to talk slowly and clearly in order to get the message across correctly. ***Accuracy First. Speed Second.***

9. Avoid angry comments on the air at all costs. Also, obscene statements reflect on the Amateur Radio fraternity. Remember there are many "scanners" in use by unlicensed but interested people, including reporters, and your operating techniques are under observation all the time.
10. If you are relaying a message for another person, be sure you repeat the message exactly, word-for-word, as it is given to you. If it makes no sense to you, get an explanation before you put it on the air. Refer the message back to the originator for clarification.
11. Sound alert. Nothing destroys confidence as much as a bored or weary-sounding radio operator. If you are tired, get a relief operator.
12. Forget humor on the air during drills and obviously in real emergencies. A radio system suffers enough confusion without wisecracks and jokes. Amateur Radio may be a hobby to enjoy, but the ARES function is serious business and should be treated as such at all times.
13. Watch certain words. They sound almost like the opposite meaning. For example, "can't" almost sounds like "can," and with a poor signal--who knows. "Unable" is a better choice. Use "affirmative" instead of "yes." Use negative" instead of "no." "Roger" is a good word. It means "message received," implying that it is understood. It does not mean "affirmative" or "yes." The use of Q signals on ARES voice circuits is not advisable! They are too easily misunderstood, rarely save time, and often result in errors.
14. Identification of units in a multi-station ARES network is a requirement under Industry Canada regulations. However, if the NCS and each of the outlying ARES stations give a complete identification at least once in a thirty minute period during the contact, the use of abbreviated call-sign identification or tactical ID is acceptable. As an example, VE7XYZ can use "7XYZ" or "First-Aid 1" or "Command Central" as long as the complete call is given as VE7XYZ at 30-minute intervals during the contact and at the end of the communication.
15. Always identify your unit at the beginning of each transmission. The NCS, or anyone else for that matter, needs to know who is calling because voice identification may be difficult. Identify your unit again when the message exchange is completed, as required by the regulations.
16. ***The word "break" is never used unless there is an emergency.*** State your call letters (or tactical ID) to gain access to the net.
17. Remember that the strongest signal "captures" the receiver on FM. When two or more stations are on the air at the same time, confusion can result. Check to see that you are not overriding someone or blanking out their communications with your signal.

18. Do not act as a "relay station" unless the NCS, or another radio station, asks for a relay--and you can fulfill the requirement at your station.
19. When transmitting numbers (house numbers, street numbers, telephone numbers), always transmit the number sequences as a series of individual numbers. Never say numbers in combinations. Example: "12345 SW 148 Ave." is given as a series "one, two, three, four, five, south west, one, four, eight Avenue." Do not say: "Twelve three forty five south west A-hundred forty-eight Avenue." There is much confusion when sending combinations of numbers.
20. There is no such thing as "common spelling" in ARES work. If there is a proper name to be transmitted, always spell it out using the ITU (International Telecommunication Union) phonetic alphabet. Do not improvise a phonetic alphabet; if you don't know the ITU-recommended phonetics, now is a good time to learn it and use it in your daily operations:

A	Alfa	F	Foxtrot	K	Kilo	P	Papa	U	Uniform	Z	Zulu
B	Bravo	G	Golf	L	Lima	Q	Quebec	V	Victor		
C	Charlie	H	Hotel	M	Mike	R	Romeo	W	Whiskey		
D	Delta	I	India	N	November	S	Sierra	X	X-Ray		
E	Echo	J	Juliett	O	Oscar	T	Tango	Y	Yankee		
21. Always acknowledge calls and instructions. You can acknowledge by just giving your unit identification or tactical call sign. Nothing is more disruptive to the smooth flow of communications than dead silence in response to a message. If you cannot copy, or respond to the call immediately, then tell the caller to repeat or stand by. Otherwise, acknowledge each call immediately.
22. Never acknowledge calls and instructions unless you understand the call or instructions perfectly. If you do not understand, ask for a repeat. Make sure you have the instruction right before acknowledgment.
23. NCS stations frequently are very busy with work that is not on the air. If you call the NCS and do not get a reply, be patient and call again in a minute or two. If it is an emergency, call more often and so state; otherwise, just space the calls to the NCS until they answer. You may be in a dead spot; try moving your position slightly until acknowledged. Above all, be patient.
24. **Only transmit facts.** If your message is a question, deduction, educated guess, or hearsay, identify it as such. Do not clutter up the air with non-essential information. Particularly important is information regarding ARES emergency work where rumors can be started from overhearing a transmission on a scanner or other non-ARES receiver. Be careful what you say on the air!!

25. Always know where you are located. If you are mobile or portable and moving around, always keep a sharp lookout for location identification. The NCS and many others may need to know exactly where you are physically located, so keep a sharp eye on surroundings. If called upon, you can accurately describe your location at any time. This is particularly important if you are with a search team or other mobile units.
26. Always keep a monitor on the net frequency. If you must leave the frequency, ask permission from the NCS to change. Advise the NCS of the change and always report back to the NCS when you have returned to the net frequency. It is vital that the NCS knows the whereabouts of each station in the net. Keep the NCS advised.
27. Stay off the air unless you are **sure** you can be of assistance. It does no good to offer advice, assistance, comments or other input to a net unless you can truly provide clarification. It is better to remain silent and be thought a fool than to open your mouth and remove all doubt!
28. Many times radio conditions are poor and words must be over-exaggerated to be understandable. In general, speak very slowly and distinctly to carry through static or weak signals. The following list provides pronunciation of numbers in poor conditions:  
One - "Wun"    Two - "Too"    Three - "Tharee"    Four - "Fower"    Five - "Fiyuv"  
Six - "Siks"    Seven - "Sevven"    Eight - "Ate"    Nine - "Niner"    Zero - "Zearow"  
  
(The number "zero" is never to be pronounced as "oh.")
29. If you do not understand the whole message given to you or if you missed a word out of the transmission, reply with "Say again." Do not say "Please repeat" because it sounds too much like "Received" when conditions are poor.
30. When you have understood the message, acknowledge the receipt with the words "received" or "acknowledged." **Do not say "QSL"** since it may be misunderstood or even missed under poor conditions.

Above all, analyze your present operating methods and try to polish each element so your contribution to ARES is worthwhile. The NCS may have final authority, but good, crisp operating methods and procedures almost make a net run without an NCS.