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New South County ARES Communicator Qualifications April 2007

There are three distinct areas of knowledge necessary for a volunteer to be useful in a major emergency situation. They are: understanding the operational environment, understanding communications methods and means, and understanding how to operate the specific equipment to be used. In order to understand how to best use our members, we will track where each of them stand on these areas of knowledge.

For understanding of the operational environment, external agencies have established standards. As a minimum, a fully qualified ARES member needs to have completed the FEMA IS-100 level on line course. They should also complete IS-700. A recommended additional course is IS-200. Completion of these courses will be entered into a local data base and included as coded marks on a qualifications badge.

We will be developing an updated method for identifying and recording specific equipment skills at a later time.

For understanding communications methods and means, it is very useful for members to take the ARRL ARECC courses, especially Level One. We have developed, based on the ARECC courses, and on other relevant sources, an internal set of qualifications. These qualifications are grouped in a manner that is analogous to Naval enlisted ranks.

The ranks fall into three basic groups. Members of the largest (entry level) group are working communicators. It is assumed that they can function in an already established communications environment. They separate into two levels, Apprentice and 3rd Class. The fundamental difference is that 3rd Class communicators should be able to do most of their tasks with little or no supervision, whereas an Apprentice may need considerable initial help and guidance. Most members will only reach the level of 3rd Class Communicator. This level will allow them to fill most of the positions that we anticipate being created in a communications emergency.

The next group are supervising communicators. It is assumed that they can set up a routine emergency communications center and supervise those who man it. ECs and AECs fall into this group. The fundamental difference between 2nd and 1st Class is the area covered by the center. 2nd Class anticipates VHF/UHF communications and a line-of-sight environment. 1st Class adds HF and a wider area focus.

The final group are planning and managing communicators. They are expected to be able to meet with other agencies and help put together operating plans, band plans, and equipment plans that meet the anticipated disaster scenarios in an area. They are also expected to plan, execute, and evaluate drills conducted to test those plans. Finally, they are expected to make changes on the fly to take care of unexpected failures in the system during a drill or actual emergency. It is likely that only a handful of members of S.C. ARES, at any given time, will be at the level of "Chief Communicator" and only one or two at "Master Communicator".

The qualifications lists below will allow members an opportunity to do a self evaluation. They will also be used by a qualifications committee to evaluate the membership. As time goes by, a training curriculum will be delivered which insures that members acquire the skills necessary to meet these requirements and for S.C. ARES to meet its mission.

Apprentice Communicator

An Apprentice should be able to deploy for low level duties as a courier or as a shadow operator. An Apprentice may need help in getting set up for repeater use but should be able to function as a Tactical Communicator.

- _____ A.1. FCC Technician Class License or Higher
- _____ A.2. Describe a "Jump Kit" for immediate (< 48 hour), 72 hour, and one week deployment
- _____ A.3. Demonstrate setting up a UHF/VHF radio for Simplex including making frequency changes, setting the volume, and powering up and down

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3rd Class Communicator

A 3rd Class Operator should serve as a general purpose communicator for voice where HF is not

required. They should understand the proper role of a communicator, have a basic understanding of UHF/VHF radio operations, be able to handle record traffic, and to operate successfully in a net structure.

- _____ 3.1.a Describe the proper role and attitude of a Communicator in an Emergency Situation
- _____ 3.1.b Explain why you might be assigned to do tasks totally unrelated to the ones you volunteered for and how to deal with this situation
- _____ 3.1.c Describe the proper relationship between an Emergency Communicator and the Press and other Media
- _____ 3.2.a Know the ITU Alphabet and Numbers for both send and receive
- _____ 3.2.b Know Basic Prowords
- _____ 3.2.c Know the format for ARRL Radiograms
- _____ 3.2.d Know what ARRL radiogram handling instructions mean
- _____ 3.2.e Know how to log messages
- _____ 3.2.f Know how to originate a message
- _____ 3.2.g Know how to “pass” or relay a message
- _____ 3.2.h Copy a Correctly Formatted Message passed by Voice
- _____ 3.2.i Explain the importance and proper use of Tactical Call signs in EMCOMM
- _____ 3.3.a Explain the difference between Simplex and Duplex operations
- _____ 3.3.b Explain why “channels” might be used to designate frequencies
- _____ 3.3.c Explain how “tones” are used for CTCSS and PL
- _____ 3.3.d From a standard Repeater Description, set up a UHF/VHF radio to operate on a repeater
- _____ 3.4.a Explain the Operation of both Informal (Open) and Directed Nets
- _____ 3.4.b Participate in a Directed Net as a Station

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2nd Class Communicator

A 2nd Class Operator should be able to help set up the hardware necessary for UHF/VHF systems and be able to take a leadership role in the Operation and Reconfiguration of small area Tactical and Traffic nets, including acting as a Net Control Station. This should be the minimum qualification for an EC or AEC.

- _____ 2.1.a Explain why a fully qualified individual volunteering for service outside their own community might be rejected while a less qualified person from within the community is accepted for emergency service
- _____ 2.1.b Explain why Ham EMCOMM is not secure, what kinds of messages should be routed another way if possible, and how to make Ham more secure from casual listeners if other (non-Ham) means are not available.
- _____ 2.1.c Describe how to mitigate your risks from Hazardous Materials (HAZMET) in a response environment
- _____ 2.2.a Describe the “ARES/RACES” “Served Agency” relationship
- _____ 2.2.b Know where Communications fits into the ICS structure
- _____ 2.2.c Describe the relationships between an ARCT, NIMS, and ICS
- _____ 2.2.d Describe an ARCT and what Levels I – IV ARCTs mean
- _____ 2.2.e Describe the Difference between a “Communicator” and a “Radio Operator”
- _____ 2.3.a Act as Net Control for a Directed Net
- _____ 2.3.b Describe the Difference Between Tactical and Record or Traffic Communications and when it is appropriate to use each
- _____ 2.3.c Know how to Encode and Decode ARRL Numbered Radiograms
- _____ 2.3.d Describe the Importance of Brevity and Clarity in EMCOMM
- _____ 2.3.e Describe VOX and why it must be used carefully in EMCOMM centers
- _____ 2.4.a Describe a “gain” antenna
- _____ 2.4.b Demonstrate how to attach a “gain” antenna to an HT
- _____ 2.4.c Explain the Advantages and Disadvantages of a Directional (Beam) Antenna
- _____ 2.4.d Identify standard antenna couplers and describe the use of adapters and gender changers
- _____ 2.5.a Explain why low power operation is important in EMCOMM
- _____ 2.5.b Describe the advantages and disadvantages of various battery types including Lead Acid, Gel Cell, NiCad, NiMh, Lilon, and Alkaline for EMCOMM

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1st Class Communicator

A 1st Class Operator extends the 2nd Class capability into the HF, into wider area operation and for longer periods of primitive operation using emergency power.

- _____ 1.1 FCC General Class License or Higher
- _____ 1.2 Staff an EMCOMM drill
- _____ 1.3 Show the ability to set up a radio for SSB communications in at least two bands
- _____ 1.4.a Describe how maintaining reliable point to point communications is different from DXing
- _____ 1.4.b Explain When and How you would choose between NVIS and low incident antennas for HF for EMCOMM
- _____ 1.4.c Explain how to select NVIS frequencies
- _____ 1.5 Describe Linked and Layered Nets and when they are used
- _____ 1.6.a Describe the Advantages and Disadvantages of: Generators, Solar Power, and Batteries as back up emergency power systems
- _____ 1.6.b Describe the precautions necessary in portable generator operation including exhaust issues, GFI, extension cabling, fuel storage and handling

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Chief Communicator

A Chief Operator should be able to plan and configure communications for a wide range of operating conditions including making appropriate band and mode selections, assigning volunteers and equipment, and coordinating an overall operation.

- _____ C.1.a Explain how you would set up an "intake function" to screen and assign EMCOMM volunteers in a major emergency
- _____ C.1.b Describe how to set up an effective "Activation" system

- _____ C.2 Describe the roles of Complexity, Single vs. Multiple Recipient, Precision, Accuracy, Timeliness, Priority, and Authentication of Originator in message handling and in designing message handling systems

- _____ C.3.a Describe the Advantages and Disadvantages of HF, VHF, UHF for EMCOMM
- _____ C.3.b List five operating modes useful for EMCOMM and the Advantages and Disadvantages of each (List must include Voice and CW)
- _____ C.3.c Describe the Advantages and Disadvantages of non Ham systems such as the Internet, Telephone, Cell Phone, Trunked Radio, and Shared Repeater in handling EMCOMM
- _____ C.3.d Describe the Advantages and Disadvantages of Packet and Store and Forward systems for EMCOMM
- _____ C.4.a Describe the Advantages of standardizing on 13.8 volts DC and 120 volts AC for EMCOMM equipment
- _____ C.4.b Describe a possible choice and the Advantages of standardizing on some type of 13.8 volt DC Connectors
- _____ C.4.c Describe a possible choice and the Advantages of standardizing on some type of Antenna Connector
- _____ C.5.a Set up, and operate from, a portable Comm Center including UHF/VHF/HF Comms capability and the ability to operate on at least two frequencies simultaneously
- _____ C.5.b Describe Maritime Communications Systems including MF/HF SSB and VHF

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Master Communicator

A Master Operator adds full multi-mode understanding and a high level planning capability. A Master should be able to make and review plans, test and evaluate plan response, select operating means, modes and frequencies, manage the life cycle of an emergency response, interact with other agencies, and provide high level supervision to all operational and planning functions for EMCOMM using Ham resources.

- _____ M.1.a Create or review a plan for staffing EMCOMM positions in a time of Emergency
- _____ M.1.b Plan an EMCOMM drill
- _____ M.2 Describe some uses of the Internet in EMCOMM
- _____ M.3.a Describe the role of CB, FRS, GMRS, MURS, Cell Phones, and Public Safety Radio in EMCOMM including practical and legal issues in using them
- _____ M.3.b Describe the life cycle of an emergency deployment including activation, tenancy, deactivation and debrief
- _____ M.4.a Design or Set up a base station which allows at least two operator positions and has the capability to move messages freely between modes, bands, and land line based systems. The station must support HF/VHF/UHF operations with appropriate transceivers and antennas and must be

equipped with emergency power.

_____ M.4.b Describe the advantages and disadvantages of the selections made for transceivers, antennas, power systems, and links between modes.

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