

Coshocton County, Ohio Amateur Radio Emergency Service Operations Manual

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1.0 PURPOSE

This manual is designed to serve as a general guide only. Coshocton County ARES leadership and membership are expected to use their own judgment based on conditions at the time. This manual will be updated as needed.

1.1 DESCRIPTION

The Amateur Radio Emergency Service (ARES) consists of licensed Amateur Radio operators who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes.

The Coshocton County Amateur Radio Emergency Service (ARES) is an organization of Amateur Radio operators licensed by the Federal Communications Commission (FCC). The major purpose of the organization is to provide emergency communications within Coshocton County, Ohio as required.

1.2 ELIGIBILITY

The only qualification for membership in ARES is a valid Amateur Radio license, issued by the Federal Communications Commission, of any license class, and a desire to help the community. Every licensed amateur, regardless of membership in ARRL or any other local or national organization, is eligible for membership in the ARES.

Activity records for each member will be reviewed each year. Those with little or no activity in the organization will be asked if they wish to remain in the organization.

Any member found to be in violation of any Federal Communications Commission rules (any radio service) may be dropped from membership in the organization.

The Coshocton County Emergency Coordinator will determine any individual's capability or suitability to serve as a member and what duties will be assigned to each person.

1.3 LIMITATIONS

The Coshocton County ARES organization provides a communications service only. Amateur Radio operators are not expected to perform any additional functions. It is NOT the responsibility, nor function of ARES, to organize, direct or coordinate the activities of others. ARES is to provide reliable, coordinated EMERGENCY RADIO COMMUNICATIONS for served agencies upon REQUEST. You should not make any type of command decision unless it is a life-threatening situation which requires IMMEDIATE action.

1.4 CODE OF CONDUCT

All Amateur Radio operations will be governed by Part 97 of the Federal Communications Commission rules and regulations. Coshocton County ARES members should conduct themselves in a professional manner at all times while participating in any ARES activity or when representing this organization.

All Coshocton County ARES members will follow the rules and regulations of any building or property where they are assigned as part of an ARES activity.

No Coshocton County ARES member shall participate in an activity or volunteer their services while under the influence of any drugs or alcohol.

2.0 ORGANIZATIONAL STRUCTURE

2.1 NATIONAL

ARES is a program of The American Radio Relay League (ARRL). The ARRL Field Services Manager provides national coordination of the Amateur Radio Emergency Service (ARES) program. It is here that reference materials are produced and relationship/guidelines with national disaster organizations are maintained.

2.2 SECTION

Each ARRL Section Manager appoints a Section Emergency Coordinator (SEC), who is responsible for ARES activities in that section. This individual is responsible for the appointment of district and local Emergency Coordinators and the development of a statewide response plan. In Ohio, this plan is called OSERP (Ohio Section Emergency Response Plan). (Appendix II)

The SEC for the Ohio Section is John Chapman, WB8INY.

2.3 DISTRICT

Each section is then divided into districts for area coordination, led by a District Emergency Coordinator (DEC). The Ohio Section is divided into 9 districts; we are located in District 9. The counties in our district include Belmont, Carroll, Columbiana, Coshocton, Guernsey, Harrison, Jefferson, Monroe, Muskingum, Noble, and Tuscarawas.

The DEC for District 9 is George (Sonny) Alfman, W8FHF.

2.4 LOCAL

In the Ohio Section, a local Emergency Coordinator (EC) is assigned to each county. The EC is responsible for all local ARES activities. The EC's responsibilities are outlined on page 6 of the OSERP (Appendix II).

The EC for Coshocton County is Bruce Adams, KE8XM.

2.5 COSHOCTON COUNTY ARES ADMINISTRATION

Even in a small county such as ours, the responsibilities of the EC are far too great for one person. For that reason the EC may appoint, at his discretion, Assistant EC's (AEC's) to aid in managing the operation of ARES. These appointments may include but are not limited to the following:

- AEC - Emergency Operations
- AEC - Net Manager
- AEC - Administration and Training
- AEC - Skywarn
- AEC - Public Information Officer
- AEC - Planning and Logistics

3.0 PARTICIPATION

3.1 MEETINGS

In-person meetings and training sessions will be held as required. The date, time, and meeting location will be listed on the Coshocton County Amateur Radio Association Website and announced on the ARES nets.

3.2 NETS

The Coshocton County ARES net will be held each Monday at 9:00 p.m. on the KE8XM primary repeater (145.230 MHz). The W8CCA secondary repeater (147.045 MHz) will be used if the primary repeater is not available for any reason. The net will be used for general announcements, discussions, coordination of upcoming events, and training exercises. This net is open to both members and non-members.

Coshocton County ARES members may be assigned to assume the duties of Net Control. The Coshocton County ARES net will also be activated as needed for disaster operations, drills and public service events.

3.3 REMAINING ACTIVE

Coshocton County ARES participates in events and drills each year. We can provide this level of support only by active participation by all members. All members are given an opportunity to assist in many or all of these events. Members are also encouraged to check into the net, and attend the in-person meetings. Members with little or no activity in the organization will be asked if they wish to remain active. It is understood that family, work or other commitments can affect volunteer time.

3.4 ANNUAL SURVEY

Once each year the EC or AEC will send out a survey form to the membership. This is used to insure that our membership database is correct, determine what equipment each member has available, what training the member has received in the past year, members availability in case of emergency, and ask for comments, donations and suggestions on improving the organization. Each member is encouraged to return the form as it is used to generate year-end reports to the ARRL and plan the future of Coshocton County ARES. It is vital that the annual survey be returned to the EC or AEC as soon as possible. Each member is responsible for notifying the EC and/or Membership AEC of any changes to personal data, such as address, phone or email changes, changes to license class, or updates to equipment.

4.0 DUES/FINANCIAL

4.1 DUES

There are **NO** dues to be a member of Coshocton County ARES. We rely on donations from the membership and other organizations for financial support.

4.1 FINANCIAL

Financial records are maintained, as a separate fund, by the Coshocton County Amateur Radio Association. Members are encouraged to donate at any time, directly to the CCARA Treasurer, or to the EC. Equipment donations are also accepted; please contact the EC directly for additional information.

Checks should always be made out to "Coshocton County Amateur Radio Association" and note ARES Fund in the memo space at the bottom of the check.

5.0 IDENTIFICATION

5.1 COSHOCTON COUNTY EMA & ARES ID CARD (ARRL FSD-224)

Each Coshocton County ARES member is issued a national ARES ID card, ARRL FSD-224. The card is part of the national ARES program, and is recognized by all law enforcement agencies. Members are also issued a county EMA Picture ID card. These ID's should be carried at all times by ARES members.

5.2 OTHER AGENCY ID'S

Other agencies served by Coshocton County ARES may offer an additional ID card to allow access into their facilities, or to allow access into secured areas. Members should qualify for and acquire these on an as-needed basis.

5.3 CLOTHING/UNIFORM

There is no formal uniform code for ARES members. Members are encouraged to dress professionally and according to the situation and weather. Some disaster operations and drills may require heavy clothing or a jump suit, and sturdy hard shoes. EMCOMM Vests may be issued to key members or provided on an as-needed basis during exercises and disaster operations.

5.4 OTHER IDENTIFICATION

All Coshocton County ARES members should carry a copy of their Amateur Radio license at all times.

6.0 SAFETY

6.1 INSURANCE

Coshocton County ARES members are responsible for their own personal medical, liability, vehicle, and equipment insurance at all times.

6.2 PERSONAL SAFETY

All Coshocton County ARES members are responsible for their own safety at all times. Any member may decline an assignment at any time for any reason if you are not comfortable with the situation. Members should be especially careful around vehicle traffic during our public service events, and at all times during a disaster situation. Always remain aware of what is occurring in and around your location. Before accepting an assignment during an actual emergency, please be sure that your own family and personal property are safe and secure. Your own well being is priority one!

7.0 EQUIPMENT

7.1 REPEATER SYSTEMS

Primary Repeater:

The primary Coshocton County ARES repeater is the KE8XM repeater. The frequency is 145.230 MHz with a -600 kHz input.

Secondary Repeater:

The secondary repeater is the CCARA W8CCA repeater. The frequency is 147.045 MHz with a +600 kHz input.

Simplex Frequencies:

The primary simplex frequency will be 146.490 MHz. Other simplex frequencies may be assigned as necessary.

When not being used for net operations or other Coshocton County ARES functions, the repeater is available for use by licensed Amateurs, member or non-member. As with any repeater, users are asked to leave a pause between transmissions, listening for the courtesy beep. Please keep your transmissions short at all times, allowing emergency traffic to break into a conversation. Please pay attention to the courtesy beep! As always, when monitoring, be friendly and courteous answering questions, and always answer distress calls.

7.2 PACKET RADIO & APRS

Digital packet radio is used during some of our larger events, and during disaster operations and drills. Members are encouraged to develop portable packet systems, and be familiar with the operation, for field use. Automatic Position Reporting System (APRS) is becoming a valuable tool for ARES operations. All stations having APRS capabilities are requested to provide the EC with their calls and ID's. This allows the tracking of the stations during operations.

7.3 RECOMMENDED PERSONAL EQUIPMENT

The first piece of Amateur Radio equipment for most members is a two-meter handi-talkie. Members should also have extra batteries and an external magnetic mount antenna with adapter. Next, consider a higher power mobile radio or an external power amplifier. After that, additional equipment for other bands and packet radio will become useful.

7.4 ARES STANDARD POWER CONNECTOR

The 30 amp Anderson Powerpole® is quickly becoming the standard power connector of preference within emergency communications organizations around the country. The Powerpole® allows for quick field installation and interchange of power supplies and radio equipment without having to resort to adapter cables, clip leads and other jury rigged arrangements. Powerpoles® are both polarized and genderless, so you never have to worry about male vs. female or positive vs. negative. Connections can be quickly made and remade in the dark without any hassles and the 30-amp connector can easily handle 100-watt radios.

Obtain connectors from Universal Radio or West Mountain Radio (www.westmountainradio.com). West Mountain Radio's Website provides an excellent step-by-step installation guide.

8.0 EMERGENCY RESPONSE PLAN

8.1 TYPES OF DISASTERS

The Coshocton County area may expect to encounter different types of disaster situations. Examples of these include, but are not limited to:

- Tornado
- Fires
- Flooding
- Hazardous Material situation (chemical, nuclear)
- Search and Rescue (missing person)
- Civil Disturbance
- Earthquake
- Terrorist Attack
- Aircraft/Mass Casualty

8.2 COSHOCTON COUNTY ARES ACTIVATION

Any member of Coshocton County ARES who, for any reason, suspects a communications emergency exists should monitor the KE8XM repeater on 145.230 MHz for activity. If local phone service is available, the EC and/or AEC's should be notified by telephone. In an emergency in which Amateur Radio might serve the community, ARES may be alerted by notification to the EC by any city, Red Cross, or Civil Preparedness official.

COSHOCTON COUNTY ARES MOBILIZATION PROCEDURE

If telephone service is available, the Coshocton County ARES calling tree system will be activated. Upon the awareness or notification that a communications emergency exists, members of Coshocton County ARES will call into the ARES Emergency Net on the KE8XM 145.230 MHz repeater, with the W8CCA 147.045 MHz repeater as backup. In the event of repeater failures, the alternate simplex frequency will be 146.490. The EC or Net Manager AEC will assume net control or delegate another station as the Net Control Station (NCS). This station will be designated as the "Key Station," and will be extensively utilized during a communications emergency.

8.2 COSHOCTON COUNTY ARES ACTIVATION (Cont.)

DUTIES OF THE NCS

The ARES Emergency Net will be called to order by the NCS, at the time determined by the EC and/or AEC. Members of ARES are checked into the net from their mobile or home stations to await further instructions. Liaison stations to the following nets may be assigned:

- o Ohio Single Sideband Net, 3.9275 MHz, 6:45 p.m. local time
- o State of Ohio Emergency Operations Center Amateur Radio Station W8SGT

Mobile/portable stations are dispatched as needed to any agencies which require communication assistance.

OPERATIONS UNDER ACTIVATION

All written messages will be in the standard ARRL radiogram format. The official, who originates them, with his/her title, taking responsibility for their contents, must sign all messages.

Message precedence of EMERGENCY, Priority, Welfare, and Routine, as defined on ARRL Form FSD-3, shall be used on all messages. (Appendix IV)

Stations do not transmit unless invited to do so by the NCS. The only exception to this is for a station having EMERGENCY TRAFFIC.

LOGGING

ALL STATIONS WILL MAINTAIN COMPLETE LOGS. All fixed stations operating during an emergency must maintain a complete log of their operations. This log will contain the TIME (in UTC) of each message, the CALL of the contacted station and MESSAGE CONTENT of the message. A copy of all FORMAL TRAFFIC will be kept and become part of the log. Each log sheet will contain the OPERATING CALLSIGN, the location of the station, the call of the operator and be signed by the control operator. Mobiles should log the STATION CALLED, TIME, and brief CONTENT of each message. Each log should contain the operator's call sign, date, and operator's signature. ALL LOGS will be kept as a part of the ARES records. If an operator requires copies for his/her own log, copies should be made and the originals remain with the ARES. (Appendix 5)

STATION REQUIREMENTS

1. COUNTY CONTROL STATIONS (CCS) should, if possible, be an existing station that meets the following requirements. They should be located on high ground, have emergency generators either right there or immediately available and have sufficient space to allow at least three (3) operators to operate simultaneously. Again, the use of existing stations, where possible, will save setup time. These stations must be able to operate on 3.875 MHz and at least two (2) vhf/uhf frequencies and are encouraged to make use of other bands (6m, 10m etc.). The EC shall be in direct control of the COUNTY CONTROL STATION and use it to control all amateur operations within his jurisdiction. Other equipment at these stations should include a complete set of maps of the area and adjoining areas plus other emergency supplies deemed necessary. COUNTY CONTROL STATIONS (CCS) should be located outside of the disaster area to facilitate access and insure the safety of the operators.

STATION REQUIREMENTS (Cont.)

2. CONTROL STATIONS (CS) will be set up at the headquarters of each served agency and at local command posts in affected areas. These stations shall be capable of operating on at least two (2) vhf/uhf frequencies. One of these frequencies will be used as a link to the CCS and other CONTROL STATIONS while the other one will be used to communicate with operators assigned to that served agency. (Additional frequencies may be added if needed.)

8.3 AGENCIES SERVED

Any government or private agency can request ARES service during a disaster, and we will make every effort to honor those requests. Coshocton County ARES has already set up disaster agreements with a number of agencies. These include:

- American Red Cross
- Coshocton County EMA
- Coshocton County Memorial Hospital
- Coshocton County Sheriff's Department

8.4 STATION LOCATIONS

THE AMERICAN RED CROSS

ARES operates and maintains an Amateur Radio station, located at the American Red Cross, at 245 N. 4TH Street. The station consists of 2M FM equipment.

COSHOCTON COUNTY EMERGENCY MANAGEMENT AGENCY

ARES provides operators for an Amateur Radio station, located at the Coshocton County EMA at 724 S. 7TH Street. The station includes HF and 2M FM equipment.

COSHOCTON COUNTY CAREER CENTER

ARES provides operators for an Amateur Radio station, located at the Coshocton County Career Center at 23640 CR 202. The station consists of 2M FM equipment.

COSHOCTON COUNTY SHERIFF'S OFFICE

ARES provides operators for an Amateur Radio station, located at the Coshocton County Sheriff's Office on Chestnut Street. The station consists of 2M FM equipment.

8.5 JUMP TEAMS

Coshocton County ARES will send response teams with equipment to areas as required with the approval of the EC. These teams should be prepared to stay in the affected area for a period of time, self-contained if possible.

8.6 FORMAL TRAFFIC PROCEDURES

When required, Coshocton County ARES will use the formal NTS traffic procedures to pass traffic which requires extreme accuracy. Forms and sample procedures are included in Appendix V of this document. It is recommended that all Coshocton County ARES members be familiar with formal traffic handling procedures as part of their training.

8.7 DISASTER CHECKLIST

Emergencies strike with little or no notice. Our goal is to be able to respond as quickly as possible when our services are requested. It is difficult to determine quickly what items may be required. We have prepared a phased approach to emergency preparedness, allowing you to customize a checklist based on the situation, and your abilities and resources. Please consider this list when preparing for a disaster situation, prior to actually needing it. Items carried with you at all times, or easily available, will enable you to respond quickly to a disaster situation. Possible contents of this kit are listed below:

- Blank ARRL NTS Radiograms
- Scratch paper
- Coshocton County Map
- Small First Aid kit
- Plastic rain ponchos
- Spare fuses (rig/car)
- Credit/ATM cards
- ARES Vehicle ID (Magnetic Signs)
- 3+ Amp 12V DC power supply
- 12V DC power cord w/lighter plug and ARES Connector
- Copy of FCC License
- Pens, Pencils
- Flashlight w/extra batteries
- Knife
- Tape (electrical and duct)
- Small tool kit
- ARES ID Card & EMA ID Badge
- Extra magnetic mount antenna
- Jumper cables

The second category of emergency equipment includes items that might be needed in a major emergency but that could be gathered later with a "second wave" of volunteers. These are items that you would not normally carry in the car, but they should be available to obtain quickly if needed. Use the checklist to insure that nothing is missed in the rush. Items suggested for this list include:

- Additional rigs (HF, 144, 220, 440, packet)
- Accessories (microphones, headphones, earphones, external speaker)
- Extra batteries, charger
- Power supplies, extra power cords
- Coax, small sections and 50+ foot rolls
- Heavy extension cord, multiple outlet strip
- Portable antennas, mast sections, guy material
- Coax adapters (BNC, UHF, barrel, etc.)
- Extra tools, including VOM

If you operate HF, bring pre-measured dipoles, tuner, SWR Bridge, and spare tubes (if needed). We should be able to let you know in advance what HF equipment is required and if portable generators are required.

A third category would be equipment required if the operation would extend over a longer period of time. This list would include:

- Extra clothing
- Soap, towels
- Alarm clock
- Portable broadcast radio/TV receiver
- Mirror/shaving gear
- Can/bottle opener
- Food (not requiring cooking or refrigeration)
- 110V AC/12V DC desk light
- Toilet tissue
- Aspirin, required medication
- Sleeping bag/blanket/ground cloth & spares
- Toothbrush/paste
- Camera/film
- Gasoline siphon

8.7 DISASTER CHECKLIST (Cont.)

In addition to the above items, extra equipment may be required during the winter months, such as:

- Compact shovel
- Tow rope
- Thermos (warm drink)
- Blanket
- Emergency food
- Salt pellets
- Plastic sheet
- Boots or overshoes
- Warm hat, clothing
- Gloves

Also remember to keep a half tank of gas in your vehicle at all times during the winter, if possible.

8.8 DRILLS AND EXERCISES

At times, Coshocton County ARES will hold disaster drills and exercises. Remember that other Amateur Radio operators and the public, including news agencies, monitor our frequencies. Announce all drills and exercises frequently, and explain what is happening as you identify the net every ten minutes. Any exercise relating to formal traffic, which uses PRIORITY or EMERGENCY precedence, should become TEST PRIORITY or TEST EMERGENCY and always include the phrase TEST MESSAGE X as the first three words of the message.

An annual test will be conducted in October in conjunction with the nationwide Simulated Emergency Test (SET). At the discretion of the EC, Coshocton County ARES will be activated unannounced via the Calling Tree system.

9.0 PUBLIC SERVICE EVENTS

9.1 TYPES OF EVENTS

Coshocton County ARES participates in various types of public service events. Coshocton County ARES uses and encourages participation in public service events to allow members the opportunity to participate in large scale net operations, allow the chance to work with their equipment outside of the shack, and to provide the community the chance to learn about the Amateur Radio Service.

9.2 PARTICIPATION

TYPES OF PARTICIPATION

The types of assignments available depend on what the event is and its size. Sample assignments include:

- Mile mark/check point (stationary)
- Shadow an event official
- Medical (Red Cross or other EMS)
- Security communications
- Liaison
- Net Control
- Packet Station

Some assignments may require you to install radio equipment in another vehicle, such as a police car or ambulance. You should be prepared with an external antenna and power cords if required.

9.2 PARTICIPATION (Cont.)

VOLUNTEERING TO WORK

Scheduled events will be listed on the CCARA Website and listed during the weekly net. Most events will be offered to the membership through the calling group leaders. The calling group leaders will call only enough members to get the needed volunteers for those assignments required; so if you have a specific event you would like to work, please let the assigned coordinator know or contact the Event Coordinator or EC.

CONFIRMATION OF ASSIGNMENT

You should receive confirmation by mail, e-mail, or phone shortly before the event, with your assignment including the location and time to meet. Allow plenty of time to travel to the meeting location, reviewing the location with maps if needed. Let the coordinator know if you will be late or need further directions.

If you are not able to participate, please let the coordinator know as quickly as possible so that a replacement can be found. If you do not receive your assignment, get in touch with the Event Coordinator, the EC, or an AEC immediately.

EQUIPMENT

Equipment to bring to an event depends on the type of event and your assignment. Suggestions include:

- Extra batteries
- Clipboard with pens and paper
- Maps of the area
- ARES Jacket, shirt, or vest
- Food/drink
- Mobile magnetic mount antenna
- Weather gear (you and your radio)
- ARES ID/Coshocton County EMA Badges and Magnetic Signs

MEDICAL PROCEDURES

One of our primary responsibilities at any public service event is for the safety of the participants and public. It is important to recognize problems and summon the correct response. The event coordinator should know what medical and law enforcement responses are available and announce these arrangements to the net. Examples of medical response include the Red Cross First Aid Service Corps, local private ambulance services, or calling the EMS response for the area.

If you see a potential medical problem, do not panic. Use the key phrase **MEDICAL** with your call and location to Net Control and describe the situation. If another person is relaying the information, get as much of a description of the problem, victim, and location. Give Net Control a description of the victim and a description of your location if needed. Your information on the victim(s) and events will help form the appropriate response; chest pains are quite different from a pulled muscle. Net Control will contact the appropriate agency for response.

(If you hear the word “MEDICAL” when in the net, hold your current traffic until the “medical” situation is cleared, even if you were recognized by Net Control prior to the situation!)

9.2 PARTICIPATION (Cont.)

OTHER KEYWORDS

Other keywords, which are used during ARES nets, are “PRIORITY” and “INFORMATION” (or “INFO”). The uses of these keywords are as follows:

PRIORITY - Used to give the Net Control Operator a way to prioritize your traffic over all other traffic (except MEDICAL, see above). Examples of “Priority” traffic could be a car being driven erratically on a 5K run course, or any situation where your traffic needs to be taken by the NCS over routine traffic.

INFORMATION - Used when you have information that can help with a discussion which is taking place during a net. Breaking the discussion with your callsign (or tactical call) and “Information” will allow the NCS to break the current conversation and allow you to give your information traffic.

TACTICAL CALLSIGNS

The use of Tactical Callsigns is encouraged during public service and emergency nets. Tactical Callsigns allow the NCS to know where the station is calling from and/or assignment during the operation. Tactical Callsigns allow the flexibility of having different operators assigned to the same location/assignment, and do not add load onto the NCS, who has to try to keep a list of who is assigned where. The most important point of using a Tactical Call (i.e. “Mile Mark 1”, Ambulance 2”, etc.) is to know the rules and regulations of identifying properly your station with the FCC assigned Amateur Radio callsign. Remember to identify every 10 minutes during a QSO, and end each QSO with NCS with your FCC assigned callsign, and you will be in compliance.

10.0 TRAINING

10.1 NATIONAL WEATHER SERVICE/SKYWARN

The National Weather Service will generally provide severe weather (SKYWARN) training sessions each spring. Coshocton County ARES members are encouraged to attend these sessions. As trained spotters you will be aware of what different types of weather conditions look like and which need to be reported.

10.2 ARRL - CCEP EMERGENCY COMMUNICATIONS COURSES

The ARRL Certification and Continuing Education Program (ARRL-CCEP) hosts three levels of Emergency Communications courses for those who wish to delve further into understanding the basics and advanced techniques of Emergency Communications. ARES recommends all members at least take the Level 1 - Introduction to Emergency Communications. The class is offered on-line through the University of Connecticut’s Distance Learning Consortium. Check with the ARRL Website (www.arrl.org) for a schedule, registration information, and fees of upcoming classes. Coshocton County ARES may periodically offer the CCEP Emergency Communications courses in either a classroom or “Hybrid” (Combination On-Line/In-Person) setting. Classes will be published on the CCARA Website and ARES net.

10.0 TRAINING (Cont.)

10.3 COSHOCTON COUNTY ARES TRAINING

The Training AEC will provide specific training sessions dealing with disaster and public service communications during the year. In addition to these sessions, drills will be used to supplement the training schedule. Check the CCARA Website for current training schedules.

If there is a special type of training that you would like to propose to the organization, please contact the Training AEC.

11.0 GENERAL NOTES AND SUGGESTIONS

Watch your microphones at all times! If you hear no noise from your radio during a busy net, check to see that you are not transmitting inadvertently. Make sure you are using the lowest power setting on your equipment, which still gives a readable signal. Most of the newer headset/microphone units for HT's also contain a switch to "lock on" the transmitter. Coshocton County ARES members are encouraged to disable this feature by cutting the wire going to that part of the switch, as it frequently has a tendency to "LOCK ON" when least expected and you will have no indication of this problem. Coshocton County ARES members are encouraged to use a simplex frequency when coverage will allow it. You may give direct but controlled use of your radio (third party traffic) to officials, if required, to avoid explaining and/or interpreting a situation twice. This is allowed as long as you are present to supervise the operation. Explain how to use the radio, and announce that they are finished when the information exchange is complete.

11.1 MOBILE CONSIDERATIONS

At times you may be asked to install radio equipment in a vehicle other than your own. Here are some points to consider when doing so. Also, these are good points to remember when installing your own equipment.

1. **Power Considerations:** To get power for your radio, the best method most experienced operators will tell you is to go directly to the battery. Use 2 fuses at the battery, one on the POSITIVE side and one on the NEGATIVE side. We suggest terminating into an Anderson Powerpole connector. This assures a clean power source for your equipment and reduces interaction of "noise" between the vehicle and equipment. If you find yourself installing radio equipment in a mobile other than your own, remember lighter or accessory outlets in today's vehicles are designed to handle only about 4 to 6 amps. Your 50+ watt mobile or amplifier will have problems here if HIGH power is attempted.

2. **Antenna Considerations:** Remember the following: The bigger the better. Tuned is better than un-tuned. Balanced is better than un-balanced. **BUT: Any antenna is better than no antenna!** So it is with mobile applications also. We must trade off these areas to make them work in mobile applications. A magnetic mounted antenna today seems to be by far the most favored, easy to install, easy to store, removes easily when in low head room spaces such as parking garages. But many of today's cars are using more and more fiberglass and that means two problems: nothing for the magnet to hold onto and no ground plane to balance the SWR. If installing radio equipment in someone else's vehicle, you may have to mount on a fender, tailgate, bumper, or some place where there is metal. Maybe some kind of suction cup or strap harness may work better here and the use of a half wave antenna, which requires no ground plane.

11.1 MOBILE CONSIDERATIONS (Cont.)

3. **Vehicle Considerations:** Most of today's vehicles have a variety of "on-board" computers. They control anything from the interior temperature, amount of drive or grab per wheel, brakes, airbag deployment, transmission, etc. and most of them are NOT friendly to high power RF environments produced by amateur radio. Be aware that your equipment may cause the vehicle that it is "installed" into do odd things and possibly even break down. Most owner's manuals for these vehicles will give a clear warning on the cause and effects. If you are buying a new vehicle, you may want to check for this problem. Since almost any manufactured vehicle can be used as part of an "Emergency Vehicle Fleet," there are more RF immune packages available, but do not be surprised if you have to go to the corporate level to get satisfaction.

11.2 REFERENCE MATERIALS

Below is a listing of reading material that may help prepare you for special events and disasters within your Amateur Radio hobby. This listing is only for reference.

- The ARRL Handbook for Radio Amateurs
- The ARRL Repeater Directory
- The ARRL Public Service Communications Manual
- The ARRL Antenna Book
- The ARRL Operating Manual
- The ARES Field Service Manual

12.0 GLOSSARY OF TERMS

The following is a list of some of the many terms associated with ARES and our communication activities. If you do not see the term you are looking for, just ask!

AEC Assistant Emergency Coordinator
ARC American Red Cross
ARES Amateur Radio Emergency Service
ARRL Amateur Radio Relay League
CP Command Post
CTCSS Continuous Tone Controlled Sub-audible Squelch
CW Continuous Wave (also known as Morse Code)
DAT Disaster Action Team (Red Cross)
DEC District Emergency Coordinator
EC Emergency Coordinator
EMA Emergency Management Agency
EMS Emergency Medical Services
EOC Emergency Operations Center
FASC First Aid Service Corps (Red Cross)
FCC Federal Communications Commission
FEMA Federal Emergency Management Agency
NCS Net Control Station
NTS National Traffic System
NWS National Weather Service
OES Official Emergency Station (ARRL Appointment)
OSERP Ohio Section Emergency Response Plan
OSSBN Ohio Single Side Band Net
OTS Official Traffic Station (ARRL Appointment)
PL "Private Line" Motorola trade mark for CTCSS
PTT Push To Talk (Referred to by seasoned ARES members as a RTL, Release To Listen)
RACES Radio Amateur Civil Emergency Service
SEC Section Emergency Coordinator
SET Simulated Emergency Test
SKYWARN Severe weather spotting service for the NWS
SM Section Manager (ARRL Appointment)
TNC Terminal Node Controller (Packet radio interface)