WEST CENTRAL FLORIDA SECTION

EMERGENCY COMMUNICATIONS PLAN

March 2011

EMERGENCY COMMUNICATIONS PLAN

TABLE OF CONTENTS

OUR MISSION:

The mission of the Amateur Radio Emergency Service in the West Central Florida Section is to provide emergency and public service communications support to the residents of West Central Florida.

**This communication plan was written as a guide to help each Emergency Coordinator perform his or her duties by providing a comprehensive and concise emergency communication system to be used by all amateur radio operators in emergency situations.**

These procedures are set forth in accordance to the rules and regulations of the Federal Communication Commission Part 97.1 (a) of the Communication Act of 1934.

WCF ARES Organization

There are three levels of ARES organization at the Section Level...SECTION, DISTRICT and LOCAL.   See Figure 1 which depicts the typical section ARES structure.

Figure 1 -- Section structure for ARES.

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┌─────────────────────┐
│      Section        │
│      Manager        │
└─────────────────────┘
          │
┌─────────────────────┐
│  Section Emergency  │
│    Coordinator      │
└─────────────────────┘
          │
┌─────────────────────┐
│  District Emergency │
│    Coordinators     │
└─────────────────────┘
          │
┌─────────────────────┐
│     Emergency       │
│    Coordinators     │
└─────────────────────┘
          │
┌─────────────────────┐
│ Assistant Emergency │
│    Coordinators     │
└─────────────────────┘
```
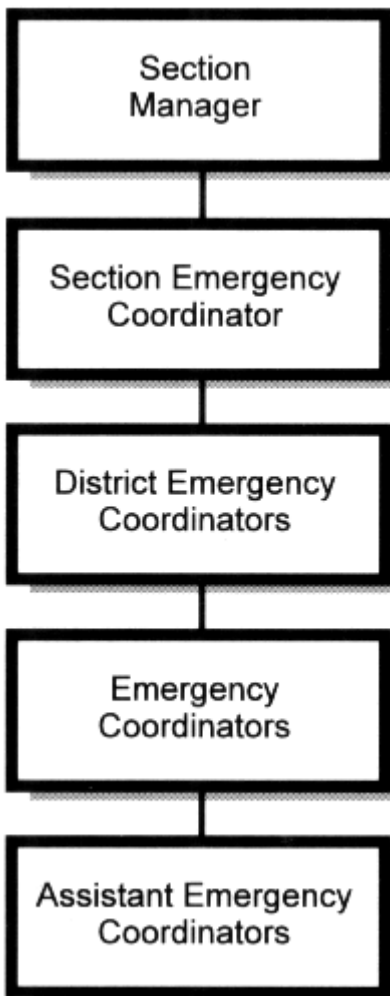
ARRL FIELD ORGANIZATION

SECTION EMERGENCY COORDINATOR'S RESPONSIBILITIES:

The **SEC** is the assistant to the **SM** for emergency preparedness. The SEC is appointed by the SM to take care of all matters pertaining to emergency communications and the Amateur Radio Emergency Service (**ARES**) on a section wide basis. The SEC post is one of top importance in the section and the individual appointed to it should devote all possible energy and effort to this one challenging organizational program for Amateur Radio. There is only one SEC appointed in each section of the ARRL Field Organization.

SEC qualifications and functions:

1. Encourage all groups of community amateurs to establish a local emergency organization.
2. Advise the **SM** on all section emergency policy and planning, including the development of a section emergency communications plan.
3. Cooperate and coordinate with the **Section Traffic Manager** so that emergency nets and traffic nets in the section present a united public service front, particularly in the proper routing of Welfare traffic in emergency situations. Cooperation and coordination should also be maintained with other section leadership officials as appropriate, particularly with the **State Government Liaison** and **Public Information Coordinator**.
4. Recommend candidates for **Emergency Coordinator** and **District Emergency Coordinator** and **Assistant SEC** appointments (and cancellations) to the Section Manager and determine areas of jurisdiction of each amateur so appointed. At the SM's discretion, the SEC may be directly in charge of making (and canceling) such appointments. In

the same way, the SEC can handle the Official Emergency Stations appointments.

5. *Promote ARES membership drives, meetings, activities, tests, procedures, etc., at the section level.*

6. *Collect and consolidate Emergency Coordinator (or District Emergency Coordinator) monthly reports and submit monthly progress summaries to the SM and ARRL Headquarters. This includes the timely reporting of emergency and public safety communications rendered in the section for inclusion in QST.*

7. *Maintain contact with other communication services and serve as liaison at the section level with all agencies served in the public interest, particularly in connection with state and local government, civil preparedness, Federal Emergency Management Agency, Red Cross, Salvation Army, the National Weather Service, and so on. Such contact is maintained in cooperation with the State Government Liaison.*

8. *Section Emergency Coordinators are required to earn certification at the ARRL EC-001 Level 1 (BASIC) Amateur Radio Emergency and are encouraged to complete the EC-016 Advanced Communications Course as well.* http://www.arrl.org/ec-016-course

9. *Recruitment of new hams and League members is an integral part of the job of every League appointee. Appointees should take advantage of every opportunity to recruit a new ham or member to foster growth of Field Organization programs, and our abilities to serve the public.*

Requirements: Full ARRL membership; Technician class license or higher.

ASSISTANT SECTION EMERGENCY COORDINATOR'S RESPONSIBILITIES:

1. ASEC is appointed by the SEC and is assigned specific duties. Amongst those duties are:
2. Collect and consolidate Emergency Coordinator (and District Emergency Coordinator) monthly reports and submit monthly progress summaries to the SEC. This includes the timely reporting of emergency and public safety communications rendered in the section for.
3. Maintain Active liaison with each of the DEC's and encourage both Inter and Intra District training
4. In addition to the listed responsibilities, the ASEC is
5. Responsible for all of the SEC Functions in his/her absence
6. The ASEC is required within 1 year of Appointment to earn certification at the ARRL EC-001 Level 1 (BASIC) Amateur Radio Emergency and are encouraged to complete the EC-016 Advanced Communications Course as well.

DISTRICT EMERGENCY COORDINATOR'S RESPONSIBILITIES:

The ARRL District Emergency Coordinator is appointed by the SEC to supervise the efforts of local Emergency Coordinators in the defined district. The DEC's duties involve the following:

1. Coordinate the training, organization and emergency participation of Emergency Coordinators in your district of jurisdiction.
2. Make local decisions in the absence of the SEC or through coordination with the SEC, concerning the allotment of available amateurs and equipment during an emergency.
3. Coordinate the interrelationship between local emergency plans and between communications networks within your area of jurisdiction.
4. Act as backup for local areas without an Emergency Coordinator and assist in maintaining contact with

governmental and other agencies within your area of jurisdiction.

5. *Provide direction in the routing and handling of emergency communications of either a formal or tactical nature, with specific emphasis being placed on Welfare traffic.*

6. *Recommend EC appointments to the SEC.*

7. *Coordinate the reporting and documenting of ARES activities in your district of jurisdiction.*

8. *Act as a model emergency communicator as evidenced by dedication to purpose, reliability and understanding of emergency communications.*

9. *Be fully conversant in National Traffic System routing and procedures as well as have a thorough understanding of the locale and role of all vital governmental and volunteer agencies that could be involved in an emergency.*

10. *District Emergency Coordinators are required within 1 year of Appointment to be certified at the ARRL EC-001 Level 1 (BASIC) Amateur Radio Emergency and are encouraged to complete the EC-016 Advanced Communications Course as well. http://www.arrl.org/ec-016-course*

11. *Recruitment of new hams and League members is an integral part of the job of every League appointee. Appointees should take advantage of every opportunity to recruit a new ham or member to foster growth of Field Organization programs, and our abilities to serve the public.*

Requirements: Technician or higher class; Full ARRL membership.

EMERGENCY COORDINATOR'S RESPONSIBILITIES:

The County Emergency Coordinator is the key official of the Amateur Radio Emergency Service of the American Radio Relay League and is responsible for administrating and coordinating amateur radio communications between the served agencies and fellow citizens of his jurisdiction. His or her primary duties are not limited to but must involve the following:

1. He may appoint as many Assistant Emergency Coordinators as he deems necessary and assign specific responsibilities to each.
2. Promote/enhance the activities of the ARES for the benefit of the public as a voluntary and non-commercial communication service.
3. Coordinate the training, organization and participation of the amateur fraternity in support of the community agencies.
4. Establish a written emergency communication plan for his jurisdiction, encompassing all served agencies and link these served agencies with whatever agencies or amateur facilities are required.
5. Attempt to maintain a resource list of every amateur in his jurisdiction. This list should contain all of the information about the amateur such as class of license, type of equipment, whether mobile or fixed, his availability, CPR or first aid training etc.
6. Establish a viable working relationship with federal, state, county and city governmental agencies through the local emergency management within his jurisdiction. This should include, where possible, a memorandum of understanding between ARES and the agency.
7. Establish local and intra district communication networks on whatever frequencies are necessary to maintain good communication. These networks should be updated and tested on a regular basis by realistic drills involving the served agencies and the public.

8. *Establish liaison with the National Traffic System and designate dedicated amateur radio stations [Gateway stations] to liaison between NTS and local nets. Gateway stations should be registered with all NTS nets serving their area and if possible should be part of these nets. All gateway stations should have the capability to interface with as many modes of communication as possible.*

9. *Their prime responsibility is to provide an outlet and inlet for NTS traffic. If necessary the EC may appoint several gateway stations provided they are so coordinated as to not cause confusion to the primary serving networks nor to the served agencies.*

10. *Establish a workable call up procedure with at least two assistant EC's to be implemented in time of a call up.*

11. *Establish a workable relationship with the EC's in adjoining counties as a mutual aid agreement. All served agencies must be aware of this procedure and it must update periodically.*

12. *Establish a means of identification for each ARES member such as ID cards and some type of visible external identification as shirts, jackets, vests, caps, etc so that each communicator is easily recognized.*

13. *Establish a workable communication plan, in writing, for each type of emergency so as to involve only those amateurs necessary to maintain good communications.*

14. *Establish RRT Level 1 and Level 2 Teams and assist in developing ARES Mutual Assistance Team (ARESMAT) at the Section Level.*

15. *Complete the ARRL ARECC Level EC-001 Course within 1 year of Appointment as the Emergency Coordinator and are encouraged to complete the EC-016 Advanced Communications Course as well. http://www.arrl.org/ec-016-course*

16. *Recruitment of new hams and League members is an integral part of the job of every League appointee. Appointees should take advantage of every opportunity to recruit a new ham or member to foster growth of Field Organization programs, and our abilities to serve the public.*

Requirements: Technician or higher class; Full ARRL membership.

Amateur Radio Emergency Service (ARES)

ARES is a ready-made organization of skilled, highly trained communicators and technicians. They are eager to put their talents to work for any emergency- response agency. For the County Emergency Manager of our Primary Served Agency, Emergency Management, or the Salvation Army communications officer, the Red Cross Communications chairman, the National Weather Service, or the National Hurricane Center, ARES is a human and technical resource available for the asking.

Making use of it is much like calling the fire department, police department, or ambulance service. It is an organization -- not just a mob of talented individuals.

When you want transportation, you don't go to the auto parts store and the junk yard and choose components to build yourself a car; you go to a dealer and buy the whole car as a functional piece of machinery.

ARES operates a nation-wide technical infra-structure – HF Nets, VHF and UHF repeater systems, simplex voice and digital networks that span the continent and the globe.

We can, and do, provide long-range HF communications to stricken communities. But we have also learned that local communications are best done on VHF. And long-range communications travel on HF "backbones" whose nodes collect outbound traffic from local VHF nets. They return messages the same way.

ARES Operation during Emergencies and Disasters

Operation in an emergency net is little different from operation in any other net, requires preparation and training. This includes training in handling of written messages--that is, what is generally known as "traffic handling." Handling traffic is covered in detail in the ARRL Operating Manual. This is required reading for all ARES members--in fact, for all amateurs aspiring to participate in disaster communications.

The specifications of an effective communication service depend on the nature of the information which must be communicated. Pre-disaster plans and arrangements for disaster communications include:

Identification of Clients who will need Amateur Radio communication services. It is the intention of the current Section Staff they we strive to make Emergency Management at the Local, County and State levels the Primary Served Agency. Discussion with these clients to learn the nature of the information which they will need to communicate, and the people they will need to communicate with. Specification, development and testing of pertinent services.
While much amateur-to-amateur communicating in an emergency is of a procedural or tactical nature, the real meat of communicating is formal written traffic for the record. Formal written traffic is important for:
A record of what has happened--frequent status review, critique and evaluation. Completeness which minimizes omission of vital information.
Conciseness, which when used correctly actually takes less time than passing informal traffic. Easier copy--receiving operators know the sequence of the information, resulting in fewer errors and repeats. Digital Modes should be used when ever possible for even greater accuracy and speed.

Interoperability with other Florida Section's ARES organizations Northern Florida Section. During emergencies, the NFL Section HF ARES net combines with the Northern Florida Phone (traffic) Net to form the No. FL. Emergency Net.
NFEN forms an HF backbone for the whole NFL section. It has HF/VHF Gateways from all seven Districts, some of the Counties, and the adjoining Sections of West Central and Southern Florida, Georgia, and Alabama (with which we have an inter-Sectional assistance agreement).
On the other side of the GATEway are the VHF District nets which in turn connect to the local VHF nets.

HF GATEway stations are scattered all over the District in home stations; if one area of the District is distressed they still have operational Gateways.

The NFEN Net also has a GATEway into the State Emergency Operations Center. They also have in place an AMTOR digital system that handles some of the traffic going into the SEOC as well as most of the welfare traffic. This is a very smooth-flowing system. We work on it and with it daily. It takes only a few minutes for a formal message to go from a shelter to the District Net to the Section Net to the State Emergency Operations Center and the agency it is intended for.

The State Emergency Operations Center (SEOC) requests that all Sections communications going to them be handled through the NFEN Gateway System. This means we send and receive our HF traffic to them in this manner.

Because of the way West Central Florida is organized, shelters don't need long-range communications. All they have to do is connect to a local VHF net. With that they have all the long-range communications they might need.

This part of the country frequently experiences severe weather. The hurricane season lasts six months, and all during the year we get heavy rain, hail, high winds, tornadoes, violent thunderstorms and lightning, with lots of QRN on HF.

ARES operates year-round, providing lots of opportunities to hone operator skills. Training for traffic handling and emergency communications goes on all year.

Conditions vary throughout the country, which means that Amateur emergency operations also must vary. What works in Michigan may not work in Florida or California.

National organizations like Red Cross need to be flexible enough to use whatever systems are still working after a disaster.

ACTIVATION:

The Emergency Coordinator or his designated assistant of each jurisdiction is empowered to activate all or any portion of his Emergency Communication Plan IF CALLED UPON to provide emergency communications for any served agency. If the emergency is of a local nature and only effects areas within his jurisdiction he need only notify the Section Manager [SM] and Section Emergency Coordinator [SEC] stating briefly the nature and reason of call up. If the emergency call up will affect the jurisdiction of a neighboring EC, then it is the responsibility of EC of the primary effected area to notify his adjacent EC FIRST and then the SM, and SEC.

If an abnormal amount of NTS traffic may be generated during the emergency then the STM is to be notified. In instances where the ARES is called on by a State or National organization where several jurisdictions are involved, it is the responsibility of the EC so notified to contact his neighboring EC to coordinate communications. In this instance, the EC or the District County headquarters is to be notified along with the SEC and SM. It is important that a good working relationship be maintained between the neighboring EC's

A written communication plan for each county is not only imperative, it is required to be reviewed, updated quarterly. It should list served agencies Remember your County's Emergency Management should be your Primary served agency, frequencies used, and key personnel in each county. It must be on file with the SEC and the neighboring county EC. Repeaters common to neighboring counties may be used for linking on VHF or UHF. If this is not possible then the HF spectrum may be utilized with frequencies left to the discretion of the EC's.

At the conclusion of the emergency a message is to be sent to the SM and SEC stating that the emergency has concluded. A short written report should be prepared and copies should be forwarded to the SEC and SM. At his option or in conjunction with

a served agency any EC may conduct as many tests to exercise his communication facilities as he deems necessary. It is suggested that the EC notify the appropriate parties as he would if it were a true emergency:

It is the intent that your SEC and SM will only provide what ever support you deem necessary as the EC of your county. We will come to your county to help you direct your Operations as invited or if the circumstances are that your ARES group has been overwhelmed by the nature of the emergency, We will be there to support you until you and your ARES group can again manage the emergency.

ARES can also be activated upon the direction of the Section Manager or Section Emergency Coordinator when more than one county is/will be affected by an emergency.

Events that could cause such an activation of the Section ARES Emergency Net include but are not limited to the following:

· Tropical Storms / Hurricane Weather Events
· Any wide area interruption of commercial communications and telephone services, electrical utility services or water services.
· Any terrorist-related incident when requested by the Regional Domestic Security Task Force (RDSFT)

Information about the Emergency Event, include the nature of the event, the location, the scope of the event will be relayed on the Section ARES Net

Those counties directly affected by the emergency will be released to initiate their local, County Emergency Activation procedures. All other counties will remain on stand-by until released by the Net Control Station.
All amateurs are required to obtain a tracking number in order to Volunteer their services regardless of going as an individual or as part of an organized group. Groups are not issued Tracking Numbers. This applies to everyone to help keep track of who is

assigned where and to be sure the individual is covered by Workman's Compensation Insurance from the moment they leave to the moment they arrive back home.

Tracking Numbers can be obtained from the Section Leadership or from the Local Emergency Management.

If the event is an emergency occurring outside the West Central Florida Section, the Net Control Station will provide timely information about the nature and location of the emergency. The NCS will pass along any requests for Mutual Aid that has been presented to the West Central Florida Section ARES leadership. Tracking Numbers will issued to operators before being dispatched.

Amateurs coming into the WCF Section to provide mutual aid communications will be staged at strategic locations as established by Mutual Aid Agreements between jurisdictions. For instance in the Tampa Bay Area, the Staging Area is at the State Fairgrounds in Hillsborough County. Amateurs will be staged there until dispatched as needed. The list of available operators and who needs operators is kept on the State EM Web Site. When a request for operators and/or equipment is made, it is placed on this list and filled as the manpower or equipment becomes available. Tracking Numbers will be issued to the Operators before being dispatched. Coordination and Logistics nets will be established as needed.

Florida Disaster Amateur Radio Volunteer's Deployment Policy

It is the Policy of the State EOC and supported by All Three Florida ARRL Section's that:

All mutual-aid deployments from the state-to-county or from County-to-county will be coordinated through the State Emergency Operations Center (SEOC) in Tallahassee and all incoming volunteers unless given a direct assignment will be staged at the appropriate Staging area in each FDEM Area.

No amateur radio operators should be physically responding to a disaster area without having a mission assignment and tracking number assigned by the Florida Division of Emergency Management and/or your Section's leadership. (Exceptions would be those Hams working specifically as Served agency volunteers and covered by that agencies Workman's Compensation)

NO Self-Deployments by individuals or groups will be allowed and you will be turned back and sent home.

We want everyone to be protected by Workman's Compensation and Florida's Good Samaritan's laws from the moment they leave their home until they complete their assignments and return home AND that by utilizing this method we can keep better track and control of where the Amateurs are actually assigned AND are NEEDED as requested by the county or counties effected by the disaster.

All Amateur Radio Operator Volunteers must be signed up on the ARRL Database http://www.aresdb.com/ *which includes entering your drivers license number and those volunteers who have completed the following minimum training courses will be given preference when selections for assignments are made:*

1. *Operators likely to be deployed away from their County, ARRL or ARES Officials at the local level (AEC, EC, RACES Officer), Gateway Station Operators, Local EOC Station Operators or Liaisons:*

   ARRL EC-001 Level 1 (BASIC) Amateur Radio Emergency Communications and are encouraged to complete the EC-016 Advanced Communications Course as well.
   http://www.arrl.org/ec-016-course

NIMS IS 100 Introduction to Incident Command System, I-100

NIMS IS 200 ICS for Single Resources and Initial Action Assessments
NIMS IS 700 National Incident Management System (NIMS) An Introduction.
FEMA IS 802 Emergency Support Function 2 Operator (ESF2)

ARES SECTION NET OPERATIONS

SCHEDULED ARES NET OPERATIONS

West Central Florida ARES will conduct a weekly WCF Section ARES and Information Net. This on-the-air activity will take place each Saturday morning at 8:30 AM EST on 3.911 (Primary) 7.281 MHz (Alternate)

Sunday at 7:30 PM Section Information Net on NI4CE Repeater System

Monday at 7:30 PM WCF ARES Net on the NI4CE Repeater System

The ARES Section Net Manager will be responsible for scheduling the Net Control Station and Alternate Net Control Station for these Nets.

ARES / Skywarn Frequency List:

COUNTY	PRIMARY	SECONDARY	IRLP NODE	SKYWARN
CHARLOTTE	146.745-	147.585 Simplex		147.255+
DESOTO	147.075+ (100.0) 147.180+	147.180+		147.075+ (100.0)
HARDEE	147.625- (127.3)			147.625- (127.3)
HIGHLANDS	147.270+ (100.0) 145.210- (100.0) 442.350+ (100.0)	147.045+ (100.0) 147.550 Simplex		147.045+ (100.0)
HILLSBOROUGH	147.105+ (146.2)	146.940- (127.3) 146.520 Simplex		147.105+ (146.2)
MANATEE	147.195- (103.5) 146.820+ (100.0)	146.995+ (100.0) 443.225+ (100.0) 446.500 Simplex		443.225 (100.0)
PASCO	145.330-			146.640-

PINELLAS	145.170- (156.7) 443.400+ (156.7)	147.030+ (103.5) 147.030+ (156.7) 147.030+(82.5) 147.030+ (192.8) 146.430 Simplex 146.470 Simplex		145.170- (156.7) 443.400+ (156.7)
POLK	146.985- (127.3)	146.685- (127.3) 146.550 (S) Wide 146.565 (S) East 146.580 (S) West 147.375+ (127.3) 444.950+ (127.3)	4156	146.655- (127.3)
SARASOTA	146.730- (100)	147.120+ (136.5) 145.130- (south) 147.550 Simplex		146.730-(100)

EMERGENCY NET OPERATIONS

The West Central Florida Section ARES staff will conduct Operations Nets to support one or more counties Emergency Operations as requested.

Primary HF ARES Net Operations will be conducted on 7.281 MHz Day time or 3.911 MHz Night time (USB) using SSB and Digital Modes

VHF/UHF Wide Area Repeater System – NI4CE
 (145.290, 145.430, 442.650, 442.825, 442.950, 443.450 PL 100.0 Hz.)
Section ARES Nets will be operated on a Section level upon Authorization of the Section Emergency Coordinator or the Section Manager. Such nets will be conducted to support inter-county emergency operations.
Section ARES Information Nets will be conducted as needed

Portable Repeater Frequencies
 (State-Wide Non-Protected and subject to change by the FRC)

Repeater TX	Repeater RX
446.725	441.725
446.750	441.750
446.775	441.775
146.550	147.550

HF Digital Operations Are authorized using one of these modes:

- **MT-63 (Primary Digital Mode)**
- **Winlink 2000 - AIRMAIL, PACLINK or RMS-EXPRESS (WinMor) (VHF/HF)**
- **D-Star Analog/Digital Voice and Digital Data Modes**

Other Digital Modes which may be used

PACTOR ARQ   AMTOR Mode B (FEC) AMTOR ARQ & SSTV

VHF/UHF Digital modes will used during emergency operations as follows:

· APRS

144.390 MHz for Vehicle Tracking, Damage Assessment and Weather Telemetry

446.150 MHz may be used for two hopping APRS operations in locations where terrain or man-made obstacles prohibit operations through a Digipeater.

· AX.25 PACKET

Point-to-point messaging using the SEDAN system (145.77) and the FADCA FPAC Switch Network.

· TCP/IP Packet

2.4 GHz, 802.11b operations can be employed for high speed voice, video and data transmissions as needed. These point-to-point links will interconnect with existing Packet networks and the Internet as needed.

· SSTV

SSTV operations will utilize simplex VHF/UHF operations when possible. Intercounty SSTV operations will be conducted at pre-designated times via VHF/UHF repeaters as available and as needed. Urgent Damage Assessment transmissions to County Emergency Operations Centers and the National Weather Service station (WX4TBW) will command Priority.

APPENDIX I

These requirements are in compliance with the requirements of the Department of Homeland Security and of the Federal Emergency Management Agency and apply to all potential disaster responders, volunteer and professional. The listing below merely identifies the various categories of potential responders as they apply to amateur radio. ARES registration with one of the approved Section Databases (WCF Section uses the aresdb.ab2m.net database) and is a requirement.

We also have added the EMCOMM training of the American Radio Relay League. This is not in the DHS/FEMA guidelines but is a League recommendation and one that is being applied in nearly all states in the Country.

Any person not meeting these requirements will not be eligible for deployment, participation, reimbursement, liability protection, etc.

Operators that will be deployed locally only or operating at home stations: (This is a *requirement for all ARES, ACS or RACES members)

ARRL EC-001 Level 1 (BASIC) Amateur Radio Emergency Communications
Communications NIMS IS 100 Introduction to Incident Command System, I-100*
NIMS IS 200 ICS for Single Resources and Initial Action Assessments*
NIMS IS 700 National Incident Management System (NIMS) An Introduction. *
FEMA IS 802 Emergency Support Function 2 Operator (ESF2

*DHS Requirement for All First Responders

Operators likely to be deployed away from their County, ARRL or ARES Officials at the local level (AEC, EC, ACS or RACES Officer), Gateway Station Operators, Local EOC Station Operators or Liaisons:

1. *ARRL EC-001 Level 1 (BASIC) Amateur Radio Emergency Communications .*

NIMS IS 100 Introduction to Incident Command System, I-100
NIMS IS 200 ICS for Single Resources and Initial Action Assessments
NIMS IS 700 National Incident Management System (NIMS) An Introduction.
FEMA IS 802 Emergency Support Function 2 Operator (ESF2)
Drivers License on File at http://www.aresdb.com

ARRL or ARES Leadership at the District Level, Deployed Operators with Management or Supervisory Assignments, State or Federal EOC Liaisons:
ARRL EC-001 Level (BASIC) Amateur Radio Emergency Communications and are encouraged to complete the EC-016 Advanced Communications Course as well.
http://www.arrl.org/ec-016-course
NIMS IS 100 Introduction to Incident Command System, I-100
NIMS IS 200 ICS for Single Resources and Initial Action Assessments
NIMS IS 700 National Incident Management System (NIMS) An Introduction.
FEMA IS 802 Emergency Support Function 2 Operator (ESF2)

Drivers License on File at http://www.aresdb.com (new URL)

ARRL or ARES Leadership at the Section, Division or National Level, State or National ESF-2 Representatives:

1. *ARRL EC-001 Level (BASIC) Amateur Radio Emergency Communications and are encouraged to complete the EC-016 Advanced Communications Course as well.*
   http://www.arrl.org/ec-016-course

NIMS IS 100 Introduction to Incident Command System, I-100
NIMS IS 200 ICS for Single Resources and Initial Action Assessments
NIMS ICS 300, Intermediate ICS
NIMS ICS 400, Advanced ICS
NIMS IS 700 National Incident Management System (NIMS) An Introduction.
FEMA IS 802 Emergency Support Function 2 Operator (ESF2)
Drivers License on File at http://www.aresdb.com

Additional information on those courses can be found at:
http://training.fema.gov/EMIWeb/IS/crslist.asp
The background on the EMCOMM courses is at:
http://www.arrl.org/courses-training

In addition to the listed NIMS courses, there are a number of other programs that would benefit the amateur radio response to disasters on the FEMA websites.

APPENDIX II

WCF Mutual Aid Frequency Plan *(WD4AHZ)*

To be used to make it simple for Mutual Aid Amateur Radio Operators coming in from another county to know where to operate.

Amateurs can use the list to preprogram their radios and use an Alphanumeric display to match the list. Then, for example all an amateur from another county going into Sarasota County has to do is dial up SAR-1 (Sarasota's primary frequency) and they'll be all set!
No wondering what frequency Sarasota OPS might be on or what tones are being used

WEST CENTRAL FLORIDA ARES FREQUENCY LIST

Section Wide:

HF
7.281 MHz USB Day Time Voice and Digital
3.911 MHz USB Night time Voice and Digital

VHF/UHF
145.430 - 145.290-   (All have a PL 0f 100.0Hz)
442.650 + 442.825+ 442.950+ 443.450+ (All have a PL 0f 100.0Hz)

Charlotte	*Hillsborough:*
Cha-1 146.745 -	Hil-1 147.105 + (PL 146.2)
Cha-2 147.255 +	Hil-2 146.940 -
Cha-3 147.585 (Simplex)	Hil-3 146.520 (Simplex)

DeSoto:	*Manatee:*
Des-1 147.075 + (PL 100.00)	Man-1 145.430 - (PL 100.00 if needed)
Des-2 147.180 +	Man-2 146.820 - (PL 100.00 if needed)
Des-3 146.555 (Simplex)	Man-3 146.955+ (PL 100.00)
	Man-4 443.225+ (PL 100.00)
	Man-5 446.500 (Simplex)

Hardee	*Pasco*
Har-1 146.625 - (PL 127.3)	Pas-1 145.330 -

Highlands:
Hig-1 147.270 +
Hig-2 147.045 +
Hig-3 147.550 (Simplex)

Pinellas:
Pin-1 145.170 - (PL 156.7Hz)
Pin-2 147.030 + (PL 103.5Hz N, 156.7Hz M,
                                      192.8Mz S)
Pin-3 146.430 (Simplex North Co.)
Pin-4 146.470 (Simplex South Co.)

Polk:
Pol-1 146.985 - (PL 127.3)
Pol-2 146.865 - (PL 127.3)
Pol-3 146.685 - (PL 127.3)
Pol-4 146.550 (County Wide S)
Pol-5 146.565 (East Polk S)
Pol-6 146.580 (West Polk S)

Sarasota:
Sar-1 146.730 - (PL 100.0)
Sar-2 145.130 -
Sar-3 147.120+ (PL 136.5)
Sar-4 146.580 (Simplex)

Portable Repeater Frequencies
   (State-Wide Non-Protected and still unapproved)

Repeater TX	Repeater RX
446.725	441.725
446.750	441.750
446.775	441.775
146.550	147.550

APPENDIX III

DIGITAL COMMUNICATIONS Plan for the West Central Florida Section

It is planned that digital communications will take on an increased role in WCF Section Emergency Communications Operations and will become a familiar and useful part of our nets.

HF digital modes are has been available to a limited subset of hams with general or higher class licenses. This may change soon. Getting the changes proposed by ARRL implemented should be a top priority for senior state level ARES managers.
There are currently a fair number of very active ARES hams across the state that lack HF privileges despite taking a very active role in emergency communications.

The Internet is simply another tool in the toolbox and should be incorporated into the plan at all levels. While failure is a possibility the potential benefits outweigh the risks. Those risks that exist are manageable through redundancy and alternative modes.

This document will adhere to the viewpoint that the primary duty of emergency communicators is to get the message through by any means available.

Current Status of Digital Communications in Florida:
(NOTE: See WCF Comm Plan Part Two.Doc for ICS Integration into our Comm Plans)

On the **VHF/UHF** front, there basically four modes currently being used. These four modes are:

APRS
SEDAN
SSTV
WL2K E-mail over RF (VHF) from the field to a Airmail, Paclink Node , or FPAC Switch – All Communications teams are strongly encouraged to include this tool as a regular part of their Emcomm equipment.

RMS Packet Nodes with Full-time Internet Connectivity are needed

APRS

APRS is a real-time tactical digital communications protocol for exchanging information between a large numbers of stations covering a large (local) area. As a multi-user data network, it is quite different from conventional packet radio.

APRS is different from regular packet in four ways. First by the integration of maps and other data displays to organize and display data. Second, by using a one-to-many protocol to update everyone in real time. Third, by using generic digipeating, so that prior knowledge of the network is not required, and Forth, since 1997, a worldwide transparent internet backbone, linking everyone worldwide. APRS turns packet radio into a real-time tactical communications and display system for emergencies and public service applications (and global communications). Although the recent interfaces to the Internet make APRS a global communications system for live real-time traffic, this is not the primary objective. But like all of our other radios, how we use APRS in an emergency of special event is what drives the design of the APRS protocol. Although APRS is used 99% of the time over great distances, and benign conditions, the protocol is designed to be optimized for short distance real-time crisis operations. APRS is a viable network in the state, but is since APRS uses UI (Unconnected Information frames) there is no guarantee of delivery. While data is sent in a broadcast manner to all monitoring stations there is no mechanism for reporting failure in the delivery of data to a specific station. Therefore APRS is totally unsuited for long haul or NTS style message traffic. However, APRS is a viable means for the dissemination of information in a one to many mode such as the issuing of weather bulletins. APRS is also useful in the tracking of assets in a SAR type environment or during the deployment of damage assessment teams. APRS provides universal connectivity to all stations by avoiding the complexity and limitations of a connected network. It permits any number of stations to exchange data just like voice users would on a voice net. Any station that has information to contribute simply sends it, and all stations receive it and log it. Secondly, APRS recognizes that one of the greatest real-time needs at any special event or emergency is the tracking of key assets. Where is the Event Leader? Where are the emergency vehicles? What's the Weather at various points in the County?
To answer these questions, APRS is a full featured automatic vehicle location and status reporting system too. It can be used over any 2-way radio system including HAM, CB, Marine Band, and Cellular Phone. Now there is even a nation-wide LIVE APRS tracking network on the Internet!

APRS is on 144.39 throughout the North American Continent.

SEDAN (Southeast Emergency Digital Association Networks.) There is now a system in place throughout the SE Region which does allow for reliable timely message traffic with packet nodes established at the State EOC, all Weather Service Offices and at most EOC's. It is called SEDAN. It is a Packet Network using the standard AX.25, a version of the X.25 protocol, which has been adapted by hams for VHF Packet radio. It is not a Store and Forward message system.

The SEDAN network is the largest contiguous RF-only packet network in the United States. In other words, "you can get there from here".
In Florida, an operator can move information to the State Warning Point, the National Weather Service in Jacksonville, or any one of a number of local Emergency Operations Centers Amateurs involved in emergency communications should use every tool available to get the job done. If you are in a part of Florida that does not have a **SEDANode** and can find a high location, Help is available to provide you with all the equipment to get the SEDANode in your location. The more nodes that are put up the stronger our coverage can be in Florida.

OTHER DIGITAL MODES WHICH CAN BE UTILIZED IN AN EMERGENCY

PACKET - Packet uses AX.25, a version of the X.25 protocol, which has been adapted by hams for VHF Packet radio. Packet allows multiple stations to time-share the same radio frequency. Data is broken up into blocks, or packets, which are transmitted and acknowledged independently.

A few HF stations operate Packet at 300 baud, but it is not considered reliable, at least by PacTOR enthusiasts. Packet radio is amateur radio digital communication utilizing American Standard Code for Information Interchange [ASCII]. Each packet of information contains a header or protocol and 128 bits of information. Normal packet radio has only shown usefulness in passing bulk message traffic (Email) from point to point. It has been difficult to apply conventional packet to real time events where information has a very short life time and needs to get to everyone.

PACTOR/ARQ - A digital radio protocol developed by a group of German hams in the early 80's, allowing faster and more reliable communications than Amtor. The name comes from Latin for the "Mediator". PacTOR operates at 100 or 200 baud depending on conditions, with net throughput of up to 18 characters per second. (Requires a TNC) are HF digital error-

free modes. It differs from Packet in that it provides for Forward Error Correction.

PACTOR-II/ARQ - An improved version of the original PacTOR protocol, also designed by SCS, the same group that did the original PacTOR protocol. PacTOR-II is a two-tone phase-shift system rather than FSK, and operates at basic rates from 100-800 baud depending on conditions. Net throughput is up to 140 characters per second depending on conditions. (Requires a TNC) are HF digital error-free modes. They differ from Packet in that they provide for Forward Error Correction.

SOUND CARD DIGITAL MODES

The following are just a few of the most popular digital modes which are easy to use by utilizing a Sound Card Interface, and a suitable sound card program. There are plenty of FREE sound card programs available. Sound card interfaces can be easily constructed for under $10.00 or there are numerous already built off-the-shelf commercial sound cards available.

MT-63 It is the Primary Digital Emergency Communications mode to be used by the WCF

MT-63 is a DSP based advanced HF mode for Amateur Radio, intended to provide high performance keyboard - to - keyboard conversational operation on HF bands under poor conditions. MT63 utilizes a number of revolutionary ideas, and is technically very complex and takes full advantage of DSP in sound cards controlled by the free terminal programs. MT63 is no more difficult to operate than most other digital Modes, and is easy to tune. It also provides much better performance on HF than most other modes for transmitting and receiving signals on amateur and MARS radio bands.
The specialty of MT63 is its performance when conditions are both weak and unstable. It also copes with incredible QRM.

PSK31 – Using a computer sound card as the "radio modem", this mode has become the favorite for HF keyboard-to-keyboard QSO's. It uses a maximum bandwidth of 80 hertz and takes full advantage of DSP in sound cards controlled by the free terminal programs. Noise is sharply reduced and QRM is virtually a non-issue with only 10 watts needed to work thousands of miles. 50wpm speed is easily attainable for those who can type that fast. PSK31 and other weak signal HF modes offer some potential for use in poor band conditions but with the lack of error correction may be little better than SSB or CW. Other flavors of PSK-31 are PSK-64 and PSK-128 faster but less reliable in noisy band conditions.

SSTV is a digital mode which can be used on VHF/UHF and HF and is underused here in West Central Florida. While there is a small dedicated group of amateurs who regularly exchange SSTV transmissions, it isn't being used to any extent for the sending of pictures from a disaster site and/or for Disaster Assessment pictures to be sent to the EOC or Red Cross. It should be.

WINLINK 2000 – Airmail, Paclink or RMS-Express (WinMor) are enhancements of the previous experimental WL2K Telpac Node. These software packages provides streamlined setup to deliver full WL2K BBS capability to the wireless ham user using AX.25 packet in combination with WL2K's Telnet Servers. These digital modes are simple to install and run and requires a minimum of computer and radio equipment. The Airmail or Paclink software run independently from the normal Winlink MBO (PMBO) software on virtually any Windows 98 and later computer. Other less expensive software (WinMor) is has also been developed to allow the windows style message format used on the internet to be available to the amateur in the field and because most amateurs are already using the internet messaging systems it is both easy to learn and will be a great asset to our served agencies. WL2K software (Airmail, Paclink or RMS-Express (WinMor) are ideal for temporary emergency setup or unattended remote locations where it can deliver reliable wireless communication to the "last mile".

WINLINK 2000

(Airmail has an SMTP server.)
This will be for groups that will set up a portable computer as a server at some remote location using Airmail's SMTP server and WL2K on a LAN that they make on site. Here is an example.

Web-based E-mail Server Hosted Externally on WinLink 2000 PC

Transceiver

Pactor Modem

Internet

Link Down

Desktop PC

Desktop PC

MAC

Internet Router

Desktop PC

Transceiver

Hospital Local Area Network

Desktop PC

Pactor Modem

USB

WL2K system running proposed web-based email form

Hospital Firewall

Desktop shortcut connects user to WL2K web-based email form

Desktop PC

802.11 WIFI

PC, Browser
Check-in

MAC, Browser
Triage

Linux, Browser
ARES Ops

External Network | Hospital Network

Linux PC

Desktop PC

K7WFR, K6AH, 12/20/06

APPENDIX IV

RAPID RESPONSE TEAMS:

33

All County EC's are encouraged to develop RRT Level 1 and Level 2 teams either individually or working with the ASEC to develop combined county teams.

A RRT is small team within the EC's larger Ecomm group. Their job is to put a few strategically placed stations on the air within the first half-hour to an hour. These stations will usually include the emergency operations center (EOC), a resource net NCS, and often a few field teams where needed most. This is commonly known as a "Level 1 RRT response".

A Level 2 RRT response follows within a few hours, bringing additional resources and operators. Level 1 teams have pre-assigned jobs, and short-term (12-24 hour) "jump kits", ready to go whenever the call comes. Level 2 teams have longer term (72 hour) jump kits, and a variety of other equipment, possibly including tents, portable repeaters, extended food and water supplies, sleeping gear, spare radios, and generators, depending on local needs.

ARES Mutual Assistance Team (ARESMAT):

The Section SEC will encourage the formation of ARESMAT Teams both at the Section and County levels.

When a communication emergency lasts longer than a day or two, or when the scale of the emergency is beyond the ability of a local ARES group to handle, help can be requested from neighboring counties. The ARESMAT concept was created to meet that need. These teams consist of hams that are willing and able to travel to another area for a period to assist ARES groups based in the disaster area. They may also bring additional resources in the form of radios, antennas, and other critical equipment. If you travel to another area as part of an ARESMAT, remember that the local group is still in charge -- you are there to do what they need done. In a sense, the host ARES group becomes a "served agency".

APPENDIX V

FLORIDA TRAFFIC NETS

LOCAL	*MHz*	*NET NAME*

TIME

0655..................3.940................FPTN.....Florida Phone Traffic Net
1200..................7.242................FMTN....Florida Midday Traffic Net
1700..................7.242................TPTN.....Tropical Phone Traffic Net
1800..................3.940................FAST.....Florida Amateur Sideband
                                                                     Traffic Net (Early)
1830..................7.051................FMSN....Florida Medium Speed CW
                                                                     Net (5-13 wpm)
1900..................3.651................QFN.......Florida CW Traffic Net Early
                                                                     Session (18 wpm)
1930..................3.950................NFPN.....Northern Florida Phone Net
2200..................3.651................QFN......Florida CW Traffic Net Late
                                                                     Session (18 wpm)
2230..................3.940................FAST.....Florida Amateur Sideband
                                                                     Traffic Net (Late)

VHF/UHF Traffic Nets

SPARC Nightly........ NTS Net (Local) 147.060+................ (18:30)
(Monday-Saturday)
Eagle Net Nightly... NTS Net (WCF)...NI4CE Repeaters... (20:30)
(Every Night)

FLORIDA SECTIONS ARES HF NETS

TIME/DAY	KHZ	NET NAME

0730 Sat...............................3940.................AIN..........ARRL Information Net

0800 Sat............................. 3940................SFAN......Southern Florida ARES Net

0830 Sat............................3911...............WCF......West Central Florida ARES and Section Information Net

0900 Except Sunday........3950...............NFAN........Northern Florida ARES Net

APPENDIX VI

DEFINITIONS:

FCC - The Federal Communication Commission [FCC] is the United States Government agency charged with regulation of interstate and foreign communication.

ARRL -The National Association for Amateur Radio formerly called the American Radio Relay League [ARRL] is the national organization of amateur radio operators that has memorandum of understanding with national served agencies that use amateur radio operators as primary or secondary means of communication. The Amateur Radio Emergency Service [ARES] is that part of ARRL dedicated to implement the FCC mandate under Part 97. 1 (a).

DIVISION OF EMERGENCY MANAGEMENT [DEM] is the agency of the state or local government empowered by statutes to govern during natural or man made emergencies.

The Amateur Radio Emergency Service (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization, is eligible for membership in the ARES. The only qualification, other than possession of an Amateur Radio license, is a sincere desire to serve. Because ARES is an amateur service, only amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership

The *SECTION MANAGER [SM]* is the duly elected official of the ARRL to manage the designated West Central Florida Section.

The *SECTION EMERGENCY COORDINATOR [SEC]* is the appointee of the SM to coordinate the emergency communications of the West Central Florida Section.

The *Assistant SEC's [ASEC]* are appointed by the SEC and are assigned specific duties.

The *DEC - DISTRICT EMERGENCY COORDINATOR* is the appointee of the SM and SEC to coordinate the emergency communications of the West Central Florida Section.

The *Emergency Coordinator [EC]* is the appointee of the SM and SEC to coordinate the emergency communications of a designated county.

The ***Assistant Emergency Coordinator [AEC]*** is appointed and directed by the EC of the particular county.

National Traffic System [NTS] is the official ARRL national network for routing traffic between sections.

The ***STM - Section Traffic Manager*** - Supervises the traffic handling organization at the section level--that is, to coordinate all traffic efforts within the section, regardless of mode or National Traffic System affiliation, so that routings within the section and connections with other networks and digital traffic nodes will result in orderly and efficient traffic flow

The ***ACC - AFFILIATED CLUB COORDINATOR.*** The primary contact and resource person for each Amateur Radio club in the section, specializing in motivating, providing assistance and coordinating joint activities of radio clubs

The ***BM -Bulletin Manager*** - Responsible for recruiting and supervising a team of Official Bulletin Stations to disseminate news and information of interest to amateurs in the section and to provide a means of getting the news and information to all OBS appointees

The ***OOC - Official Observer Coordinator*** - Supervises the maintenance monitoring work of the section Official Observers, and coordinates special Amateur Auxiliary efforts with Headquarters and the SM.

The ***PIO - Public Information Coordinator*** - The section's expert on public information and public relations matters. The PIC is responsible for organizing, training, guiding and coordinating the activities of the Public Information Officers (PIOs) within the section

The ***State Government Liaison*** - Is knowledgeable on state legislative and regulatory proposals. The SGL needs to be a amateur radio operator who can monitor and respond appropriately to those proposals having the potential to affect Amateur Radio. This is an active, responsive mission, not merely a passive, "stand by the sidelines and watch" function

The ***TC - Technical Coordinator*** - Coordinates all technical activities within the section. Oversees and coordinates the work of the sections Technical Specialists

Auxiliary Communications Service (ACS) provides Primary Amateur Radio and backup Government communications support for Emergency

Management (EM) utilizing whatever means of communication that is Available and authorized for use by EM.

Radio Amateur Civil Emergency Service [RACES] is the part of the amateur radio service that provides communication for civil defense purposes only during local regional or national emergencies. It is an integral part of ACS where that service exists.

Military Auxiliary Radio Service (MARS) is a Department of Defense sponsored auxiliary communication program, established as three separately managed and operated programs by the United States Army, Navy/Marine Corp, and Air Force.
http://en.wikipedia.org/wiki/Military_Auxiliary_Radio_System

National Communications System (NCS)
A Federal agency, the NCS consists of 23 government organizations tasked with ensuring that the Federal Government has the necessary communication capabilities under all conditions from day-to-day use to national emergencies and international crises. These include the Forest Service, Federal Emergency Management Agency, Coast Guard, FBI, ATF, and others who have a variety of communication assets. The Manager of the NCS is also the Director of the Defense Information Systems Agency (DISA), usually an Air Force general. http://www.ncs.gov/

SHARED RESOURCES (SHARES) HIGH FREQUENCY RADIO PROGRAM
What is the mission and purpose of the SHARES Program?
SHARES combines existing high frequency (HF) assets from 101 Federal, state, and industry organizations into a single emergency voice and data message handling network, supporting national security and emergency preparedness (NS/EP) when normal communications are destroyed or unavailable.

What is the make-up of the SHARES network?
As of March 2010, over 1340 HF radio stations, representing 101 Federal, state, and industry entities resource contributors. There are SHARES stations situated in every state and at 17 overseas locations. Nearly 200 emergency planning and response personnel also participate in SHARES. Over 150 HF frequencies are earmarked for use in SHARES. The NCS also has the ability, if needed, to communicate via non-government emergency radio groups such as SATERN, Maritime Mobile Service Net, REACT, INTERCON, Radio Rescue Net and the Hurricane Watch Net. The National Communication System publishes SHARES HF Radio Bulletin's, to periodically keep members updated on program activities that can be accessed at http://ncs.gov/shares/ .   .

FEMA/HS FNARS

Federal Emergency Management Agency/Homeland Security - FEMA National Radio System (FNARS)

This is a FEMA high frequency (HF) radio network designed to provide a minimum essential emergency communication capability among federal agencies, state, local commonwealth, and territorial governments in times of national, natural and civil emergencies. FEMA monitors the FNARS HF frequencies on a daily basis. At the state level, FNARS radios are typically located at the states emergency operations center (EOC).

Radio Emergency Associated Communications Teams (REACT)

REACT is another national Ecomm group, whose members include Citizen's Band (CB) radio operators, hams, and others. In addition to CB and Amateur Radio, they may use General Mobile Radio Service (GMRS), Family Radio, and the Multiple Use Radio Service (MURS).

REACT has an organizational structure similar to ARRL/ARES, with local teams who directly serve many of the same agencies served by ARES and other ham radio Ecomm groups. REACT has MOU's with many of these agencies, as well as with ARRL. REACT's mission is somewhat broader than that of ARES. They offer crowd and traffic control, logistics, public education, and other services that usually (but not always) include a need for radio communication.

EDICS

Emergency Deployable Interoperable Communications System. Florida has received nine portable communications systems. The Emergency Deployable Interoperable Communications System (EDICS) is a modular unit that can be rapidly deployed to a disaster scene to assist in coordinating local, state and military agencies' radio communications.

MARC

Multiple Agency Repeater Communication Unit. A 100 foot Aluminum portable tower with antennas for 700-800 Megahertz (MHz) and Very High Frequency (VHF) with a compliment of at least 40 handy-Talkies (HT) a generator, air conditioned (AC)

S.E.T. - Simulated Emergency Test

GPS - Global Position System

POD - Points **o**f **D**istribution sites. The initial PODs are predetermined by each county. These are the site that the State of Florida will send the Food, Water, Ice and Blue Tarps along with a compliment of National Guard personnel who are there to help distribute those items, A fork lift, a pallet jack and port-a-potties are part of the initial items or personnel sent (the actual numbers are dependant on the POD level assigned by potential population for that site. I, II or III)

FEMA/**DHS - ** Federal Emergency Management/ Department of Homeland Security

EOC - ** Emergency Operations Center i.e., **PCEOC = Pinellas **C**ounty **EOC**

**FDEM - ** Florida Department of Emergency Management

**SERT - ** State Emergency Response Team

**CERT - ** Citizens Emergency Response Team

APPENDIX VII

UNDERSTANDING OUR MEMORANDA OF UNDERSTANDING, STATEMENTS OF UNDERSTANDING & STATEMENTS OF AFFILIATION

Understanding our Memoranda of Understanding
... of these agencies, and our "method of operation" under each of our national-level formal agreements, a.k.a. Memoranda of Understanding (MOU). First, however, a few basics: An MOU provides a framework for cooperation and coordination with agencies to which we as radio amateurs provide communication.This includes Statements of Understanding (SOU) and Statements of Affiliation (SOA)

http://www.arrl.org/memoranda-of-understanding-mou

The premier justification for continued access to our piece of the spectrum pie is, and always will be, public service. A major part of our public service activity is conducted in the context of the League's formal agreements with six "heavy hitters" of the emergency management community. These include, not in order of importance, the American Red Cross, the National Weather Service, the Federal Emergency Management Agency, the Association of Public-Safety Communications Officials-International, the National Communications System, and the Salvation Army. Let's take a brief look at each of these agencies, and our "method of operation" under each of our national-level formal agreements, a.k.a. Memoranda of Understanding (MOU). First, however, a few basics: An MOU provides a framework for cooperation and coordination with agencies to which we as radio amateurs provide communication services.
At the national level, this means Headquarters-to-Headquarters contact periodically, for exchanging news, views, information, and points of contact in the field. For example, ARRL staff attends the annual Red Cross partnership meeting, along with representatives from other agencies and organizations (from the government and non-government, private and commercial sectors) that have MOU's with the congressionally-chartered organization. The idea is to get to know one another on a face-to-face basis, so that when the detritus hits the fan, you know whom to call and whom you can count on. At the local level, an MOU serves two purposes:
 First, it's a door opener. A new ARES group is more likely to be heard and
 taken seriously by a local NWS office when accompanied by the
agreement   document signed by the head of the agency. The served agency says, in effect, we have examined this organization of radio amateurs and have found them to be trustworthy and able to render substantial and needed services for our field operations in times of emergency. The agency head is telling its field offices,
"Go get 'em--they are good for us."
  Secondly, once your foot is in the door, the provisions of the MOU document spell out the capabilities and organization of the servers (us),

the organization and needs of the served agency (them), and the methods of operation. These are broad guidelines that lead to the establishment of a local memorandum of understanding or similar document that sets forth the detailed operational plans and policies to be subscribed to by both parties during drills and actual events. The most important step here is to ensure that both parties to the local agreement have a realistic assessment of the resources brought to the table by the servers, and the needs of the served.

APPENDIX VIII

Anderson PowerPole Connector

The WCF endorses the Anderson PowerPole as the standard dc power connector for use by ARES personnel. Other ACS/RACES and ARES groups throughout Florida and the United States have now adopted this connector. Using this standard, highly reliable connector allows quick and easy installation and substitution of radios, power supplies, batteries, and other equipment.
Either the 15-ampere or 30-ampere sizes may be used, or both sizes mate with each other. The plastic parts are the same for both sizes. The barrel area (which holds the wire) of the 15-ampere silver-plated contact is smaller than that of the 30-ampere contact, but the contact area is the same. The connectors
dovetail together into a compact unit.
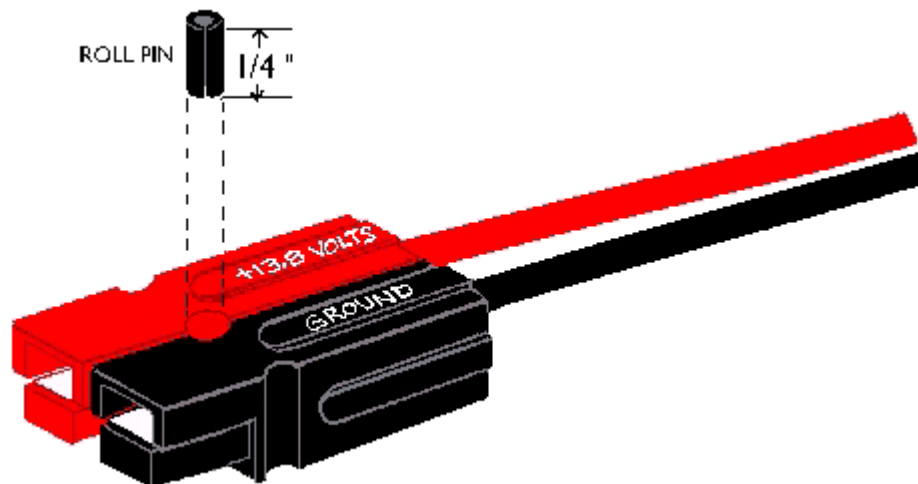
Housings should be mated according to the diagram above, viewing from the contact side (opposite the wire side), tongue down, and hood up, RED on the LEFT, BLACK on the RIGHT. Use a 3/32-inch-diameter roll pin, 1/4 inch long, to keep the housings from sliding apart.
Highly conductive silver-plated copper contacts allow minimal contact resistance at high currents. Self-wiping action on make and break keeps conducting surfaces clean. Contact dents keep connectors mated in high-vibration applications and provide quick-break, snap action upon disconnect.
Noncorrosive stainless-steel leaf springs maintain constant contact pressure—ideal for frequent connections/disconnections and intermittent overloading. Durable, high impact-resistant, polycarbonate housing with UL94V-2 flammability ratings comes in many colors for circuit traceability and coding.
Identical connector halves are genderless—making assembly quick and easy and reducing the number of parts stocked. Molded-in dovetails allow for a customized harness in a variety of configurations. When the connectors are disconnected, no metal parts are exposed. The 15-ampere contacts are designed for 16-20 AWG wire and the 30-ampere contacts are designed for 12-16 AWG wire. The contacts can be

soldered or crimped to wires. An expensive crimping tool (#1367G1) is available from Anderson. Other, less expensive, crimping tools are available from some of the sources listed below. After a contact has been attached to a wire, it should be installed into the housing so that the housing spring mates with the underside of the contact.

To remove a contact from the housing, use Anderson insertion/extraction tool #111038G2. You may also substitute a very small blade (jeweler's screwdriver or X-acto knife) to depress the spring, allowing the contact to be removed.

Here are the Anderson part numbers:
  15 A
  Black
  Red Complete Connector
  #1395G1
  #1395Housing Only
  #1327G6
  #1327Contact Only
  #1332
  #1332
  30 A
  Black
  Red Complete Connector
  #1330G4
  #1330Housing Only
  #1327G6
  #1327Contact Only
  #1331
  #1331

The connectors can be panel mounted with clamp receptacles, consisting of two aluminum plates (Anderson part #1462G1), notched to hold the plastic housings when they are dovetailed together.
The plastic housings come in other colors also. Red and black are suggested for standard dc connectors (red as positive and black as negative).
Anderson Power Products Web Site: http://www.andersonpower.com/

Anderson PowerPole Ideas: Get Everyone Connected!:
http://home.comcast.net/~buck0/app.htm

Sources of Anderson PowerPole:
  Allied Electronics

Tel: 800-433-5700
http://www.alliedelec.com/

Cable X-Perts
416 Diens Drive, Wheeling, IL 60090
Tel: 800-828-3340 (orders only) or (847) 520-3003
Fax: (847) 520-3444
http://www.cablexperts.com/

mailto:cxp@ix.netcom.com
D&L Antenna Supply Co.
3410 Gibbs Rd, Kansas City, KS 66106-3308
Tel: 800-965-8880 (orders only) or (913) 677-8674
Fax: 800-219-9392 (orders only) or (913)-677-2648
http://www.wavehunter.com/

dandl@birch.net
DC Power
2870 S.W. 199th Place, Aloha, Oregon 97006
Tel: (503) 649-3295
http://www.dcpwr.com/

wesa@dnc.net
Ford Electronics, Inc.
8431 Commonwealth, Buena Park, CA 90621-2594
Tel: (714) 521-8080
Fax: (714) 521-8920
http://www.fordelectronics.com/

  PowerWerx.com   sales@fordel.com
401 S. Harbor Blvd., F-320, La Habra, CA 90631
Tel: (714) 570-3303
Fax: (714) 990-5532
http://www.powerwerx.com/

info@powerwerx.com

West Mountain Radio   sales@westmountainradio.com

 http://www.westmountainradio.com/

 18 Sheehan Avenue, Norwalk, CT 06854
Tel: (203) 853-8080
Fax: (203) 299-0232

ARRL EC-001 BASIC COMMUNICATIONS COURSE DESCRIPTION

Course No. EC-001

Description. A basic course to raise awareness and provide additional knowledge and tools for any emergency communications volunteer. **This course has 23 lesson units, is expected to take approximately 25 hours to complete over an** 8-week period. **Basic computer, Internet, and email navigational skills are required. Senior hams are encouraged to participate!**

Each lesson consists of text, quiz questions, and Student Activities, which are required for successful completion. The course also includes an online 25 question Final Assessment. A score of 80% is required to pass. Every student is assigned a mentor/instructor to review student activities, guide him/her through the course and determine when all course requirements have been successfully completed.

Register **for this course** Syllabus.

LEARNING UNIT NUMBER	TITLE
A	Credits
1	**Introduction to Emergency Communication**
2	**Amateurs as Professionals - The Served Agency Relationship**
3	**Network Theory and the Design of Emergency Communication Systems**
4	**Emergency Communication Organizations and Systems**
5	**Served Agency Communication Systems**
6	**Basic Communication Skills**
7	**Introduction to Emergency Nets**
8	**Basic Message Handling - Part 1**
9	**Basic Message Handling - Part 2**
10	**Net Operating Guidelines**
11	**The Incident Command System**
12	**Preparing for Deployment**
13	**Equipment Choices for Emergency Communication**
14	**Emergency Activation**
15	**Setup, Initial Operations, and Shutdown**
16	**Operations & Logistics**
17	**Personal Safety, Survival, and Health Considerations**
18	**Alternative Communication Methods**
19	**What to Expect in Large-Scale Disasters**
20	**Hazardous Materials Awareness**
21	**Marine Communications**
22	**Other Learning Opportunities**
23	**Modes, Methods, and Applications**

Required Student Activities

Here is a sample of representative Student Activities that are required in the course.
LU 1.1 1a. List three **ways in which emergency communications are** similar **to day-to-day communications. 1b. List** six **ways in which emergency communications** differ**from Non-emergency Communications. 2. In an emergency situation, a served agency asks you to forward an urgent message. Which one of the following methods would you NOT employ? In one or two sentences, tell why you selected your answer. a. CB radio**
b. Family radio
c. Informal, conversational grapevine
d. The served agency's own radio system. Share your responses to both activities with your mentor.
LU 2 1. Locate the ARRL website. Conduct a search for the Statement of Understanding (SOU) between The American Red Cross and ARRL. List three forms of assistance the Red Cross may request of ARRL ARES and NTS. (Hint: when searching the ARRL website, search on the term "MOU" rather than "SOU"). 2. If you were asked to develop a Statement of Understanding (SOU) between your local emcomm group and a local served agency, what general topics **would you include? Share your work with your mentor.**
LU 3 Make a list of the kinds of messages that might need to be handled during a communication emergency likely in your area. Match the kind of message (tactical messages, served agency manpower requests, welfare inquiries, medical information, casualty lists, requests for supplies, shelter resident lists, etc) with the appropriate communication mode(s) (packet or other digital modes, FM phone, CW, HF SSB, etc.). Send a summary of your work to your mentor.

ARRL EC-016 ADVANCED COMMUNICATONS COURSE COMPLETION REQUIREMENTS

ARRL ADVANCED COMMUNICATIONS COURSE DESCRIPTION

EC-016, Public Service and Emergency Management for Radio Amateurs

This course, number EC-016, is an online course, available for you to view and study as you have time available. Members and Guest Members may access this course on our website.
If you are currently serving in a leadership role in your local ARES organization or are training to assume more management responsibility, you may want to complete the final assessment for this course and earn the certificate of completion validating your study.

To enroll for the final assessment and certificate you will need to document completion of a list of prerequisites, obtain a recommendation from your ARRL Section Manager and pay an administrative fee.

. Taking the Final Assessment for Public Service and Emergency Communications Management for Radio Amateurs (EC-016)

 After completing the *Public Service and Emergency Communications Management for Radio Amateurs* course you may choose to take a final assessment to earn a certificate of course completion. To enroll for the final assessment certain requirements must be met. The *Public Service and Emergency Communications Management for Radio Amateurs* course requires that you have previously completed ARRL's Emergency Communications Level 1/Basic course, certain FEMA courses and have some experience with Amateur Radio and public service/emergency communications. To apply for the Final Assessment and course completion certificate **you will also need to supply a reference from your ARRL Section Manager, stating the reason for your participation**. Section Managers will take into account your relevant experience or role within public service and emergency communications and whether you are in good standing within the amateur radio community. Anyone who wants to receive a course completion certificate for this new course (which we refer to in shorthand as "Advanced EmComm" or "Emcomm for Managers") will first need to document that they have satisfied these requirements. After providing the necessary documentation, you will need to pay an enrollment fee of $35.00 to gain access to the course's final exam. This fee will help to offset the cost of developing the course and for the online testing service as well as costs for administrative support.

Documenting Course Requirements *These requirements need to be documented and verified by the ARRL Continuing Education Program office:*

Item	Source
An Amateur Radio license	**ARRL FCC database**
Completion of ARRL's Level 1/Basic course, and	**ARRL Continuing Education database**
Recommendation from ARRL Section Manager	***Applicant must request this from his/her ARRL Section Manager**
FEMA courses that are prerequisites for this course:	

ICS-100 (basic ICS)	*Copy of FEMA transcript or certificate
ICS-200 (supervisory)	*Copy of FEMA transcript or certificate
ICS (NIMS)-700	*Copy of FEMA transcript or certificate
ICS-300, a classroom course, is also highly recommended, but not required	Copy of FEMA transcript or certificate (optional)
FEMA courses that need to be completed prior to the final assessment for this course:	
IS-800 (National Response Framework)	*Copy of FEMA transcript or certificate
FEMA IS-240, Leadership & Influence	*Copy of FEMA transcript or certificate
FEMA IS-241, Decision Making & Problem Solving	*Copy of FEMA transcript or certificate
FEMA IS-250, Emergency Support Function 15 (ESF15), External Affairs	*Copy of FEMA transcript or certificate
FEMA IS-1, Emergency Manager, An Orientation to the Position	*Copy of FEMA transcript or certificate
IS-288, The Role of Voluntary Agencies in Emergency Management	*Copy of FEMA transcript or certificate
IS-244, Developing and Managing Volunteers	*Copy of FEMA transcript or certificate
FEMA IS-120.a, An Introduction to Exercises	*Copy of FEMA transcript or certificate
FEMA IS-130, Exercise Evaluation and Improvement Planning	*Copy of FEMA transcript or certificate
FEMA IS-139, Exercise Design	*Copy of FEMA transcript or certificate

Please note: the list of FEMA course as prerequisites, as well as those referenced internally within the course, may change as FEMA makes changes to its course offerings or the course is modified to introduce new content.

You will need to provide documentation for the items that are marked by an asterisk (*). Documentation can be mailed or emailed to:

ARRL Continuing Education Program

225 Main Street Newington, CT 06111-1494

or by email to cep@arrl.org

Application for the Final Assessment. **You must apply to take the final assessment by submitting an** application**. When you have documented all the requirements outlined above you will receive a confirming email from the ARRL Continuing Education office.**

After you have paid the course evaluation fee of $35.00, you will receive information to access the online exam site and the final assessment.

Exceptions. **In some cases, the requirement to hold an Amateur Radio License and to complete the ARRL Introduction to Emergency Communications Level 1/Basic Course may be waived. If you are not a licensed radio amateur but are a member of a governmental organization or NGO and have some role or responsibility related to emergency response, you will need to obtain a recommendation from the local ARRL Section Manager describing your role and stating the reason for your interest in earning the course completion certificate.**

Taking the Final Assessment**. The final assessment is a 50-question online exam that includes multiple choice questions and true/false questions. You will have the ability to log in and out of the exam site whenever you choose. Once you have completed all questions and submitted your exam it will be scored and your score reported to you. You must achieve a score of 80% to pass. If you do not pass on the first attempt, you will be permitted another try.   When you pass the final assessment you will be prompted to provide your name so that a course completion certificate can be generated. You can print the certificate on your printer. ARRL will be notified of your successful completion so we can update your student history. ARRL will notify your Section Manager of your successful completion.**

NON-ARRL COMMUNICATIONS COURSES AVAILABLE TO AMATEURS
(Upon Recommendation of the EC, SEC and SM)

COML Type III Training

Communications Unit Leader Training Courses

In the coming months, the Office of Emergency Communications is offering several opportunities to take the All-Hazards Type III Communications Unit Leader (COML) training course (see below for upcoming dates). This course trains emergency responders on how to serve as radio communications unit leaders during all-hazards emergency operations. This training will significantly improve communications across the multiple disciplines and jurisdictions responding to an incident. This COML training will qualify emergency responders as lead radio communications coordinators if they possess the necessary prerequisites, including knowledge of local communications; communications systems; and local, regional, and state communications

Fact Sheet

TYPE III COMMUNICATIONS UNIT LEADER TRAINING

Background

During all-hazards emergency response operations, communications among multiple jurisdictions and disciplines—including emergency medical, fire, and law enforcement services—is essential. Unfortunately, the absence of on-scene communications coordination has often compromised critical operations. To close this capability gap, the Department of Homeland Security's (DHS) Office of Emergency Communications (OEC) in partnership with the Office for Interoperability and Compatibility (OIC), the Federal Emergency Management Agency (FEMA), National Integration Center (NIC), and practitioners from across the country developed performance and training standards for the All Hazards Type III Communications Unit Leader (COML) as well as formulated a curriculum and comprehensive All-Hazards Type III COML Course.

Type III COML Training

The Type III COML course trains emergency responders to be communications unit leaders during all-hazards emergency operations, significantly improving communications across the multiple disciplines and jurisdictions responding to an incident. This COML training will qualify emergency responders to lead ICS communications units if they possess the necessary prerequisites, including knowledge of the following: local communications; communications systems; and regional, State, and local communications plans. COML responsibilities include developing plans for the effective use of incident communications equipment and facilities, managing the distribution of communications equipment to incident personnel, and coordinating the installation and testing of communications equipment. Meeting the prerequisites outlined below, and upon completion of formal classroom training, students must complete and

have signed off on a comprehensive position-specific All-Hazards COML Task Book before they can be certified as a Type III COML.

Incident Scale

Incident response is categorized into five types, according to incident magnitude and complexity. The type of response operation needed for an incident is determined by the level of resources required to address the incident as well as its duration (e.g., one hour, several weeks). As the most complex incident, a Type I response necessitates a multi-discipline, multi-jurisdiction response for a significant duration, such as recent large-scale natural disasters. As the least complex incident, a Type V response requires limited resources and time, such as a small fire or routine traffic stop. A Type III event includes:

• Activation of some or all of the Command and General Staff positions, as well as Division/Group Supervisor and/or Unit Leader-level positions.
• A Type III Incident Management Team (IMT) or incident command organization managing initial action incidents with a significant number of resources, an extended attack incident until containment/control is achieved, or an expanding incident until transition to a Type I or II team.
• Extension into multiple operational periods.
• Typically, a written Incident Action Plan (IAP) for each operational period.

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Required COML Course Prerequisites

1. A public safety communications background with exposure to field operations; this experience should be validated by the authority who supervised the student.
2. Fundamental public safety communications technology, supervisory, and personnel management skills. These include, but are not limited to:
• Knowledge of local communications and communications systems
• Frequencies and spectrum
• Technologies
• Knowledge of local topography
• Knowledge of system site locations; regional, State, and local communications plans; and regional and local Tactical Interoperable Communications Plans, if available
• Communications and resource contacts

3. Completion of the following training courses:
• IS-700
Explains the purpose, principles, key components, and benefits of NIMS. The course also contains Planning Activity screens, allowing participants to complete planning tasks during this course.
•IS-800b
Introduces participants to concepts and principles of the National Response Framework.
• ICS-100
Introduces ICS; provides the foundation for higher-level ICS training; describes ICS history, features, principles, and organizational structure; and the relationship between ICS and NIMS.
• ICS-200
Provides training on, and resources for, personnel who are likely to assume a supervisory position within ICS.
• ICS-300
Provides training on, and resources for, personnel who are required to implement advanced application of the ICS.

NIMS Compliant

The National Incident Management System (NIMS) provides a consistent, nationwide approach for agencies to manage emergency response operations. Recognized by the FEMA/NIC as supporting NIMS, the Type III COML course is being made available to States and localities.

2 Next Steps

OEC is currently working on a plan to provide COML training throughout the country in late 2008. Please contact comltraining@hq.dhs.gov if you would like to be added to any distribution lists regarding the dates and locations of any training.

The Homeland Security Grant Program and the Interoperable Emergency Communications Grant Program may be used by States to fund and/or attend COML training.

For additional information on COML efforts, including the Type III COML course, visit the SAFECOM website at

www.safecomprogram.gov/SAFECOM/currentprojects/comltraining/comltraining.htm

Incident Communications Technician

Course Description:

This course is designed to provide the prerequisite knowledge and skills necessary to perform the tasks of a communications technician (COMT) in the Incident Command System (ICS). Topics include: installation, maintenance, and troubleshooting of National Incident Radio Support Cache (NIRSC) communications equipment on incidents. The course consists of classroom instruction, field exercises, a written exam, and a practical final exam.

Objectives:

- **Identify and describe the responsibilities of the COMT prior to, during mobilization, and demobilization.**

- **Identify and explain basic communications theory, the capabilities of NIRSC specialty equipment and assist with installation, and hazards and risks on various incidents and how to mitigate them.**
- **Recognize, plan for, and demonstrate the ability to provide adequate incident communications coverage.**
- **Demonstrate proper installation of equipment, the ability to properly program NIRSC incident handheld radios, and the ability to accurately troubleshoot and field repair NIRSC equipment.**

Target Group:

Personnel desiring to be qualified as a communications technician (COMT).

Minimum Instructor Qualifications:

Lead instructor must be a qualified communications unit leader (COML).
Unit instructors must be qualified incident communications technician (COMT).

Also see Instructor Certification at the beginning of the Field Manager's Course Guide.

Prerequisites:

None required, but suggested reference and training includes:
Basic Fire Suppression Orientation, (S-110)
Basic Incident Command System (I-200)
Firefighter Training (S-130)
Basic Aviation Safety Student Guide (NFES 2097)

Offer Level:
Regional, state, or area

Courses focused on other positions in the Communications Unit, including the Incident Communications Center Manager (INCM), and Radio Operator (RADO), are being developed.