

Date Approved:

By ARRL Emergency  
Coordinator:

## **Yolo County Amateur Radio Emergency Service (ARES) Emergency Communications Plan**

April 2, 2007 (Revision 02/26/09)

### **Mission Statement**

The principal mission of the Yolo County Amateur Radio Emergency Services (ARES) group is to provide emergency communication for the communities within the County of Yolo when called upon.

### **Statement of Purpose**

In Section 97.1 of the Amateur Radio Service rules, the FCC describes the fundamental purpose of the Amateur Service, which includes these five principles:

1. Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.
2. Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
3. Encouragement and improvement of the amateur radio service through rules which provide for advancing skills in both the communications and technical phases of the art.
4. Expansion of the existing reservoir within the amateur radio service of trained operators, technicians and electronics experts.
5. Continuation and extension of the amateur's unique ability to enhance international goodwill.

The Emergency Communications Plan of the Yolo County Amateur Radio Emergency Service (ARES) endorses and promotes all of the above statements. The Emergency Communications Plan addresses the role of Yolo County ARES activities in potential emergency situations, and with the various government and non-government agencies, which may request its services. It will establish emergency response procedures for Yolo County ARES members to follow, depending on the type of emergency, and the agency being served.

Most important, this emergency plan is an ever-evolving guide for Yolo County ARES members to follow in emergency situations. Since each situation is unique, flexibility to provide an adequate response to each is a necessity.

The members of the Yolo County ARES conduct periodic drills, training and instruction to ensure readiness in implementing the Yolo Country ARES Emergency Response Plan.

The Yolo County ARES Emergency Plan is a resource for served local agencies to use to enlist Yolo County ARES services in emergency response situations.

## **1. Description of the Yolo County Amateur Radio Emergency Service**

- 1.1** The Yolo County Amateur Radio Emergency Service (ARES) is composed of FCC-licensed amateur radio operators who have voluntarily registered their capabilities and equipment for public communications duty.
- 1.2** Yolo County ARES operates under federal regulations, which state that amateur radio public service communications is to be rendered without compensation of any kind.
- 1.3** A goal of ARES is to provide trained amateur radio operators to provide emergency communications for civilian and government agencies and the general public under the guidance of the Yolo County Amateur Radio Relay League (ARRL) Emergency Coordinator (EC) and leadership team.
- 1.4** The Yolo County ARES seeks to develop and maintain cooperative relationships with the: Yolo County Office of the American Red Cross; Yolo County Office of Emergency Services (OES); the Yolo County Sheriff's Department; the California Department of Forestry and Fire Protection (CDF); Woodland Health Care Clinic and Hospital; the City of Davis Fire Department, the University of California at Davis EOC, and with volunteer units that work with these agencies (see Appendix C).
- 1.5** The Yolo County ARES, under existing agreements of understanding between the American Radio Relay League (ARRL) Sacramento Valley Section, and the Yolo American Red Cross, will provide emergency communications services for the American Red Cross in Yolo County.
- 1.6** The Yolo County ARES has established a base station in the Chapter House of the Yolo County American Red Cross, 120 Court Street, Woodland. This base station may be used by the appointed net control for an emergency response.
- 1.7** The Yolo County ARES uses the Berryessa Amateur Radio Club's KE6YUV, located on Berryessa Peak as its primary repeater. The Service's

secondary frequency is 2 meter simplex channel. All of these facilities are for emergency preparedness nets, training, drills, and emergency situations. The operating frequencies for the repeaters are listed in Attachment A, Band Plan for Yolo County ARES.

## **2. ACTIVATING THE EMERGENCY RESPONSE PLAN**

- 2.1** In an emergency in Yolo County, Yolo County ARES can be notified by a private or public service agency, by an ARES member or other amateur radio operator. The Emergency Coordinator (EC) or assistant EC (AEC) should be notified by radio or telephone as soon as possible.
- 2.2** Once an emergency or potential emergency condition has been identified, the EC, AEC, or designated net control station (NCS), will send out an e-mail page and phone call to Yolo County ARES members. Through out this call up period the NCS will announce the appropriate emergency level over the Yolo County ARES repeater system. All Yolo County ARES members will stand by and monitor the frequency. If indicated, a roll call will be conducted.

## **3. MOBILIZATION PROCEDURE**

- 3.1** Upon awareness or notification of an emergency requiring emergency communication, members of the Yolo County ARES will monitor the 146.970 - (PL 123.0) repeater, and be ready to check in when called by the Net Control Station.

146.550 MHz is the designated alternate simplex, county-wide ARES frequency. The EC, AEC, or designated net control station (NCS) will designate one Yolo County ARES member to monitor 146.550 MHz as liaison to direct Yolo County ARES members to the primary repeater or other alternate frequency. Appendix A, Band Plan for Yolo County ARES shows the back-up frequencies on the 2 meter band.

The High Frequency Bands of 75M phone frequency of 3.987 MHz +/- 1 KHz will also be used for communicating outside the range of the repeaters.

The alternate 40M emergency frequency of 7.230 MHz +/- KHz daytime, or 3987 KHz +/- 1 KHz, night time, may also be used. ARES units throughout the Sacramento Valley Section use these HF frequencies. If they are being used the ARES operator is to move up about 10 KHz or more to find an open frequency.

- 3.2** The EC or AEC “in charge” may assume net control, or he or she may assign a Net Control Station operator. The NCS usually shall not be located in the

area affected by the emergency. The Yolo County ARES NCS station may be located at the Yolo American Red Cross Office, a member's home station, or a mobile communications van.

- 3.3 The Yolo County ARES may activate an Emergency Control Center of Yolo County ARES operators, when appropriate, for wide-scale emergencies. The designated site of the Emergency Control Center of Yolo County ARES operators is the Yolo County American Red Cross Chapter House, located on 120 Court Street, Woodland. Wide-scale emergencies may require assistance from operators from outside Yolo County, on a mutual assistance basis to ensure adequate staffing. For ARES, all requests for outside assistance must go through the Emergency Coordinator (EC) and/or the Section Emergency Coordinator (SEC).
- 3.4 When an emergency exists outside Yolo County, the EC may ask for volunteer ARES operators to stand by and be available to respond if and when requested by another EC or official agency. However, adequate emergency coverage for Yolo County must be maintained.

#### 4. DUTIES OF THE NET CONTROL STATION (NCS)

- 4.1 Initial duties of the NCS will be to develop a roster of available ARES members and coordinate the assignment of these operators (with the EC or AEC in charge).
- 4.2 The NCS will maintain a list of assignments and establish shifts of no greater than 12 hours duration.
- 4.3 The NCS will also develop and maintain a list of amateur radio operators who are not registered ARES, but who volunteer their assistance. Assignments from this list will be coordinated with the EC, after a brief orientation and proper registration.
- 4.4 Liaison stations will be assigned to the following repeaters:
  - 4.4.1 Outside of Yolo County (if required)
    - 4.4.1.1 The Sacramento Amateur Radio Communications Reserves (K6IS)
      - 4.4.1.1.1 N6ICW Located in Sacramento Area, 147.195 MHz + PL 123
      - 4.4.1.2 The Sacramento Valley Noon Net (W6AK)
        - 4.4.1.2.1 W6AK Located downtown Sacramento, 146.910 MHz – PL100.0
      - 4.4.1.3 The Yuba/Sutter ARC and ARES (WD6AXM)
        - 4.4.1.3.1 WD6AXM located in Sutter Buttes , 146.085 MHz + PL 127.3

- 4.5 The NCS will maintain on-the-air discipline to ensure efficient and effective operation.
  - 4.5.1 Tactical call signs will be used to denote location or function, to facilitate communications. To conform to FCC rules and regulations, FCC assigned calls need only be used at the end of each communication, and at least every 10 minutes during a communication.
- 4.6 The NCS operator(s), assistant NCS, or an assigned monitor, will establish and maintain the Incident Radio Communication Plan for the Emergency (APPENDIX D), and maintain a log of all traffic and relevant incidences which will serve as a permanent record of the emergency.
- 4.7 If communications cannot be maintained due to poor propagation or signal strength, the NCS will assign relays at suitable locations to be determined by the nature and extent of the emergency.

## 5. OPERATIONS

- 5.1 Stations will normally direct all communications through the NCS, except when the traffic is classified as an **emergency**. The use of good judgment in determining what constitutes an emergency is essential.
- 5.2 Formal message traffic should be in writing and signed by the originating official, to ensure authenticity and accuracy.
  - 5.2.1 Message handling and precedence will be according to ICS Form 213 (APPENDIX E). The protocol for Yolo ARES is to use plain language in all communication conducted on its assigned VHF frequencies.
  - 5.2.2 Communications conducted on the HF frequencies will use the procedures as described in APPENDIX F. The specific Form used is the ARRL FSD 244 Amateur Radio Disaster Welfare Message
  - 5.2.3 Formal message (record) traffic should always be in standard ARRL form, and numbered consecutively by the originating station.
  - 5.2.4 When processing Disaster Welfare Inquiries (DWI's), the standard Red Cross protocol and format contained in Red Cross Client Information and Release Form 2079I-1 (APPENDIX I) may be used and will be converted to ARRL/NTS DWI format before transmitting.

5.2.5 Digital modes may be preferred for high volume point-to-point communications, between network “hubs” and as part of an integrated all-mode network.

**6. ARES MUTUAL ASSISTANCE FREQUENCIES (SACRAMENTO VALLEY SECTION - ARES Mutual Assistance and Traffic Frequencies APPENDIX B. (See APPENDIX G for additional information))**

6.1 For inter-county “command and control” communications, mutual-aid, and administrative purposes; whether it be operational, or (more likely) logistical, the frequencies listed below are designated for use by ARRL leaders. (AECs, ECs, DECs, SECs, SMs, Official Emergency Stations, Official Relay Stations, and other appropriate EMCOMM traffic.) For local tactical and all routine and welfare traffic please make your contact and move to another frequency when possible. Use simplex whenever possible. Appendix B shows the ARES Mutual Assistance Frequencies.

**7. DRILLS, TESTS, TRAINING**

7.1 The Yolo County ARES net meets, on the air, every Monday at 2000 hours local time on 146.970 MHz - (PL 123.0). This repeater system is available to ARES for the dissemination of information such as ARES bulletins, drills, tests, training, and actual emergencies.

7.2 Yolo County ARES meets monthly for a meeting of members and/or training every third Tuesday of the month (1900 hours local time) at the Yolo Chapter of the American Red Cross, 120 Court Street in Woodland.

7.3 The EC, or an AEC, may activate an unannounced drill, test or simulated call up to test for readiness.

7.4 Training functions may include participation in local public service events and other activities that improve skills in communication, organization, operating discipline, and judgment; and formal meetings, classes, drills, and training sessions.

7.5 Yolo ARES strongly encourages participation in public service events to both provide service to communities and to allow members to gain operating experience.

**8. EMERGENCY CONDITION NOMENCLATURE**

**8.1 Level**

8.1.1 **Level One** - All Clear. No potential or actual emergency conditions that may require ARES operations have been identified.

**8.1.2 Level Two** - A potential emergency activation may occur in Yolo County or elsewhere. Stand by and prepare for possible activation.

**8.1.3 Level Three** - An emergency or disaster exists. A net has been activated. Monitor the net frequency for further instructions.

## **8.2 Watches and Warnings**

**8.2.1 Severe Thunderstorm Watch** - A Severe Thunderstorm Watch will be issued when conditions are favorable for development of severe thunderstorms. Stand by and prepare for possible activation.

**8.2.2 Severe Thunderstorm Warning** - A Severe Thunderstorm Warning is issued when severe thunderstorms are occurring and have been spotted or detected by radar. The National Weather Service (NWS) defines a severe thunderstorm as having winds 50 kts (58 mph) or hail greater than  $\frac{3}{4}$ " in diameter (about dime-sized). A net may be activated. Monitor the net frequency for further instructions.

**8.2.3 Red Flag Fire Watch** – A hazardous condition issued by the NWS equivalent to a Level Two emergency and implemented by the CDF. All ARES/VIP volunteers stand by for possible activation.

**8.2.4 Red Flag Fire Warning** – Same as “Watch” above, but RED FLAG PATROLS and LOOKOUTS will be activated at the discretion of the CDF.

APPENDIX A

## Yolo County ARES Band Plan

Approved: November 21, 2006

Revised: 1/21/09

### Repeaters

| Level   | No. | Frequency | Off Set | PL    | Organization  |
|---------|-----|-----------|---------|-------|---------------|
| Primary | R-1 | 146.9700  | +       | 132.9 | KE6YUV - BARK |
|         | R-2 |           |         |       |               |
|         | R-3 |           |         |       |               |
|         |     |           |         |       |               |

### Simplex - VHF

| No  | Frequency  | Organization            |
|-----|------------|-------------------------|
| S-1 | 146.5500** | ARES Secondary          |
| S-2 | 146.970*** | ARES KE6YUV-Bark Output |
| S-3 | 147.4200   | Red Cross/ARES          |
| S-4 | 146.475    | UC Davis/ARES           |

**Note: \*\* Go to this frequency 1st if R-1 is not working**

**\*\*\* Monitor this Frequency if R-1 is not working**

### Other Repeaters

| Level        | No. | Frequency | Off Set | PL    | Organization     |
|--------------|-----|-----------|---------|-------|------------------|
| Sacramento   | R-1 | 146.910   | +       | 100.0 | Sac ARC Noon Net |
| Northern CA  | R-2 | 147.195   | +       | 123.0 | Sac ARC Reserves |
| Yuba/ Sutter | R-3 | 146.085   | +       | 127.3 | Yuba ARES/ARC    |

### Other Simplex Frequencies

| Frequency | Organization                           |
|-----------|--|
| 147.5100  | Yolo ARES Third Alternate              |
| 147.5200  | Yolo ARES Fourth Alternate)            |
| 146.5200  | National Calling & Wilderness Protocol |
| 446.0000  | National Calling Frequency             |



## APPENDIX B

### Yolo County ARES Mutual Assistance Frequencies January 21, 2009

#### VHF/UHF

- 146.55 MHz FM **simplex** is the SV Section tactical frequency.
- 147.42 MHz FM **simplex** is the unofficial national frequency for ARES / American Red Cross communications.
- 146.52 MHz - **simplex** is the National Calling & Wilderness Protocol.
- 146.085 MHz + (PL 127.3) ARRL Sacramento Valley Section Net, and Yuba/Sutter ARES Net, WD6AXM Repeater
- 147.195 MHz +(PL 123.0) other Sacramento valley counties, Sacramento Amateur Radio Communications Reserve Net, N6ICS Repeater
- 145.190 MHz- (PL162.2, Folsom Lake or 123 Zomora) North Hills Amateur Radio Club Net, K6IS Repeater.
- 146.910 MHz -(PL 100) Sacramento Valley Noon Net for California State OES and other Sacramento valley "state" and "local" agencies, W6AK Repeater

#### High Frequency SSB:

- 7232 KHz (up) daytime. (Traffic up 5-10 KHz)
- 3987 KHz (down) nighttime. (Traffic down 5-10 KHz), 1982 KHz (+ or -) alternate frequency
- NOTE: 3992, 7230, & 1987 KHz are California OES - ACS frequencies.
- 5332 KHz (up) NTS/ARES. Traffic/ Calling. Alt. 5348 KHz, (Note: also known as ENCOMM NET-A)
- 5348 KHz Nominal, 5346.5 KHz Carrier EMCOMM Net-B
- 5368 KHz Nominal, 5366.5 KHz Carrier EMCOMM Net-C
- 5373 KHz Nominal 5371.6 KHz Carrier EMCOMM Net-D
- 5405 KHz Nominal 5403.5 KHz Carrier EMCOMM Net-E

### **High Frequency CW**

- 7111 KHz (up) daytime - (NTS / other formal traffic)
- 3711 KHz (up) nighttime - (NTS /other formal traffic) Alt. 1916 KHz (up)

DIGITAL communications will be on normal established channels selected by the digital operators on duty and approved by the EC. The Beacon Frequency for Yolo Red Cross is 145.050 MHz on the 2 meter band.

## APPENDIX C

### Served Agencies

#### **American Red Cross Sacramento-Yolo/Lake Chapter**

120 Court Street  
Woodland, CA 95695  
(530) 662-4669

#### **California Forestry and Fire Protection District**

Brooks Fire Station  
14023 State Route 16  
Brooks, CA  
(530) 796-3506

#### **City of Davis Fire Department**

Main Fire station  
1818 5<sup>th</sup> Street  
Davis, California 95616  
(530) 765-3400

#### **University of California, Davis Campus**

Emergency Operations Communication  
279 Hoagland Hall  
1 Shields Ave  
Davis, CA 95616  
(530) 754-2559 office

#### **Woodland Health Care and Clinic**

1325 Cottonwood Street  
Woodland, CA 95695  
(530) 669-5308

#### **Yolo County Emergency Communications**

Yolo County Office of Emergency Services  
120 West Main Street, Suite E  
Woodland, CA 95695  
(530) 666-8920

#### **Yolo County Sheriff**

2500 Gibson Road  
Woodland, CA 95695  
(530) 668-5287

**APPENDIX D**

| <b>Incident Radio Communication Plan</b>  |                  |   |                                  | 1. Incident Name                   |                                    | 2. Date/Time Prepared |                | 3. Name of Preparer |  |
|---|------------------|---|----------------------------------|------------------------------------|------------------------------------|-----------------------|----------------|---------------------|--|
| <b>4. Basic Radio Channel Utilization</b> |                  |   |                                  |                                    |                                    |                       |                |                     |  |
| <b>Repeaters</b>                          | <b>Frequency</b> | <b>Off Set and Tone (if applicable)</b> | <b>Call Sign of NCS/ Liaison</b> | <b>Name of Operator</b>            | <b>Date and Time of Assignment</b> |                       | <b>Remarks</b> |                     |  |
| Primary, 2 meters                         | 146.970 MHz      | -PL123.0                                |                                  |                                    |                                    |                       |                |                     |  |
| Liaison, 2 Sac Area                       | 147.195 MHz      | +PL123.0                                |                                  |                                    |                                    |                       |                |                     |  |
| Liaison, 2 M Sac Area                     | 146.910 MHz      | +PL100.0                                |                                  |                                    |                                    |                       |                |                     |  |
| Liaison, 2 m Yuba/Sutter                  |                  |   |                                  |                                    |                                    |                       |                |                     |  |
|   |                  |   |                                  |                                    |                                    |                       |                |                     |  |
| <b>Simplex</b>                            | <b>Frequency</b> | <b>Call Sign of NCS/ Liaison</b>        | <b>Name of Operator</b>          | <b>Date and Time if Assignment</b> |                                    | <b>Remarks</b>        |                |                     |  |
| Primary, 2 meters                         | 146.550 MHz      |   |                                  |                                    |                                    |                       |                |                     |  |
| Red Cross/ ARES Freq.                     | 147.420 MHz      |   |                                  |                                    |                                    |                       |                |                     |  |
| UC Davis/ARES                             | 146.475 MHz      |   |                                  |                                    |                                    |                       |                |                     |  |

|                          |                |  |  |  |  |  |  |  |  |  |
|--------------------------|----------------|--|--|--|--|--|--|--|--|--|
|                          |                |  |  |  |  |  |  |  |  |  |
| ARES<br>Calling<br>Freq. | 146.550<br>MHz |  |  |  |  |  |  |  |  |  |
|                          |                |  |  |  |  |  |  |  |  |  |
|                          |                |  |  |  |  |  |  |  |  |  |
|                          |                |  |  |  |  |  |  |  |  |  |
|                          |                |  |  |  |  |  |  |  |  |  |

## APPENDIX E

### General Message (ICS FORM 213-OS)

**Purpose.** The General Message is used by:

- Incident personnel to record incoming messages which cannot be orally transmitted to the intended recipients;
- Command Post and other incident personnel to transmit messages to the Incident Communications Center for transmission via radio or telephone to the addressee;
- Incident personnel to send any message or notification to incident personnel which requires a hard-copy delivery;
- Incident personnel to place resource orders.

**Preparation.** This form is prepared by any incident personnel needing to transmit a hard-copy message. The recipient should send a timely reply to the originator, as necessary.

**Distribution.** Upon completion, the General Message may be hand-carried to the addressee or to the incident Communications Center for transmission. Originator retains a copy of the form. All completed original forms **MUST** be given to the Documentation Unit.

| Item # | Item Title                               | Instructions  |
|--------|--|---|
| 1.     | Incident Name                            | Enter the name assigned to the incident.  |
| 2.     | Date and Time of Message                 | Enter the date and time of message origination.   |
| 3.     | To                                       | Enter name and ICS position of message recipient.   |
| 4.     | From                                     | Enter name and ICS position of message sender.  |
| 5.     | Subject                                  | Indicate the message subject.   |
| 6.     | Message                                  | Enter message.  |
| 7.     | Reply                                    | This section to be used by the unit/person who receives the message to reply to your message.                                   |
| 8.     | Signature/Position<br>Date/Time of reply | Enter name and position of person replying to this message.<br>Enter date (month, day, year) and time of reply (24-hour clock). |

| ICS-213 (ARES VERSION)                |                                |                            |                 |                 |            |                         |
|---------------------------------------|--------------------------------|----------------------------|-----------------|-----------------|------------|-------------------------|
| NUMBER                                | PRECEDENCE (CIRCLE ONE)        | FROM STATION               | CHECK           | PLACE OF ORIGIN | TIME FILED | DATE FILED              |
|                                       | EMERGENCY Priority H&W Routine |                            |                 |                 | :          | / /                     |
| TO:                                   |                                | POSITION:                  |                 |                 |            |                         |
| FROM:                                 |                                | POSITION:                  |                 |                 |            |                         |
| SUBJECT:                              |                                |                            |                 |                 |            |                         |
| MESSAGE BODY:                         |                                |                            |                 |                 |            |                         |
|                                       |                                |                            |                 |                 |            | 5                       |
|                                       |                                |                            |                 |                 |            | 10                      |
|                                       |                                |                            |                 |                 |            | 15                      |
|                                       |                                |                            |                 |                 |            | 20                      |
|                                       |                                |                            |                 |                 |            | 25                      |
|                                       |                                |                            |                 |                 |            | 30                      |
|                                       |                                |                            |                 |                 |            | 35                      |
|                                       |                                |                            |                 |                 |            | 40                      |
|                                       |                                |                            |                 |                 |            | 45                      |
| RECEIVED FROM:                        |                                | INITIALS:                  |                 | POSITION:       |            |                         |
| <small>Print name</small>             |                                |                            |                 |                 |            |                         |
| RECEIVED BY:                          |                                | RECEIVED TIME:             |                 | RECEIVED DATE:  |            |                         |
|                                       |                                | <small>(Call sign)</small> |                 | :               |            | <small>mm/dd/yy</small> |
| REPLY                                 |                                |                            |                 |                 |            |                         |
| REPLY TO MESSAGE NUMBER               | FROM STATION                   | CHECK                      | PLACE OF ORIGIN | TIME FILED      | DATE FILED |                         |
| <small>(Message number above)</small> |                                |                            |                 | :               | / /        |                         |
|                                       |                                |                            |                 |                 |            | 5                       |
|                                       |                                |                            |                 |                 |            | 10                      |
|                                       |                                |                            |                 |                 |            | 15                      |
|                                       |                                |                            |                 |                 |            | 20                      |
|                                       |                                |                            |                 |                 |            | 25                      |
|                                       |                                |                            |                 |                 |            | 30                      |
|                                       |                                |                            |                 |                 |            | 35                      |
| RECEIVED FROM:                        |                                | INITIALS:                  |                 | POSITION:       |            |                         |
| <small>Print name</small>             |                                |                            |                 |                 |            |                         |

Every formal radiogram message originated and handled should contain the following component parts in the order given

#### I. Preamble

- a. Number (begin with 1 each month or year)
- b. Precedence (R, W, P or EMERGENCY)
- c. Handling Instructions (optional, see text)
- d. Station of Origin (first amateur handler)
- e. Check (number of words/groups in text only)
- f. Place of Origin (not necessarily location of station of origin.)
- g. Time Filed (optional with originating station)
- h. Date (must agree with date of time filed)

#### II. Address

(as complete as possible, include zip code and telephone number)

#### III. Text

(limit to 25 words or less, if possible)

#### IV. Signature

**CW:** The prosign  $\overline{AA}$  separates the parts of the address.  $\overline{BT}$  separates the address from the text and the text from the signature.  $\overline{AR}$  marks end of message; this is followed by B if there is another message to follow, by N if this is the only or last message. It is customary to copy the preamble, parts of the address, text and signature on separate lines.

**RTTY:** Same as CW procedure above, except (1) use extra space between parts of address, instead of  $\overline{AA}$ ; (2) omit cw procedure sign  $\overline{BT}$  to separate text from address and signature, using line spaces instead; (3) add a CFM line under the signature, consisting of all names, numerals and unusual works in the message in the order transmitted.

**PACKET/AMTOR BBS:** Same format as shown in the cw message example above, except that the  $\overline{AA}$  and  $\overline{AR}$  prosigns may be omitted. Most amateur and packet BBS software in use today allows formal message traffic to be sent with the "ST" command. Always avoid the use of spectrum-wasting multiple line feeds and indentations.

**PHONE:** Use *prowords* instead of prosigns, but it is not necessary to name each part of the message as you send it. For example, the above message would be sent on phone as follows: "Number one routine HX Golf W1AW eight Newington Connecticut one eight three zero Zulu July one Donald Smith Figures one six four East Sixth Avenue North River City Missouri zero zero seven eight nine Telephone seven three three four nine six eight Break Happy birthday X-ray see you soon X-ray love Break Diana End of Message Over. "End of Message" is followed by "More" if there is another message to follow,



“No More” if it is the only or last message. Speak clearly using VOX (or pause frequently on push-to-talk) so that the receiving station can get fills. Spell phonetically all difficult or unusual words--do not spell out common words. Do not use CW abbreviations or Q-signals in phone traffic handling.

### Precedence

The precedence will follow the message number. For example, on CW 207R or 207 EMERGENCY. On phone, “Two Zero Seven, Routine (or Emergency).”

**EMERGENCY**--Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief of stricken populace in emergency areas. During normal times, it will be *very rare*. On CW, RTTY and other digital modes this designation will always be spelled out. When in doubt, *do not* use it.

**PRIORITY**--Important messages having a specific time limit. Official messages not covered in the Emergency category. Press dispatches and other emergency-related traffic not of the utmost urgency. Notifications of death or injury in a disaster area, personal or official. Use the abbreviation P on CW.

**WELFARE**--A message that is either a) an inquiry as to the health and welfare of an individual in the disaster area b) an advisory or reply from the disaster area that indicates all is well should carry this precedence, which is abbreviated W on CW. These messages are handled *after* Emergency and Priority traffic but before Routine.

**ROUTINE**--Most traffic normal times will bear this designation. In disaster situations, traffic labeled Routine (R on CW) should be handled *last*, or not at all when circuits are busy with Emergency, Priority or Welfare traffic.

### Handling Instructions (Optional)

**HXA**-- (Followed by number) Collect landline delivery authorized by addressee within... miles. (If no number, authorization is unlimited.)

**HXB**-- (Followed by number) Cancel message if not delivered within... hours of filing time; service originating station.

**HXC**--Report date and time of delivery (TOD) to originating station.

**HXD**--Report to originating station the identity of station from which received, plus date and time. Report identity of station to which relayed, plus date and time, or if delivered report date, time and method of delivery.

**HXE**--Delivering station get reply from addresses, originate message back.

**HXF**--(Followed by number) Hold delivery until... (date).

**HXG**--Delivery by mail or landline toll call not required. If toll or other expense involved, cancel message and service originating station.

For further information on traffic handling, consult the Public Service Communications Manual or the ARRL Operating Manual, both published by ARRL.

### ARRL QN Signals For CW Net Use

- QNA\*** Answer in prearranged order.
- QNB\*** Act as relay Between \_\_\_\_\_ and \_\_\_\_\_
- QNC** All net stations Copy. I have a message for all net stations.
- QND\*** Net is Directed (controlled by net control station).
- QNE\*** Entire net stand by.
- QNF** Net is Free (not controlled).
- QNG** Take over as net control station.
- QNH** Your net frequency is High.
- QNI** Net stations report In.\*.  
I am reporting into the net. (Follow with a list or traffic or QRU).
- QNJ** Can you copy me?  
Can you copy \_\_\_\_\_?
- QNK\*** Transmit message for \_\_\_\_\_ to \_\_\_\_\_
- QNL** Your net frequency is Low.
- QNM\*** You are QRMing the net. Stand by.
- QNN** Net control station is \_\_\_\_\_  
What station has net control?
- QNO** Station is leaving the net.
- QNP** Unable to copy you. Unable to copy \_\_\_\_\_
- QNQ\*** Move frequency to \_\_\_\_\_ and wait for \_\_\_\_\_ to finish handling traffic. Then send him traffic for \_\_\_\_\_
- QNR** Answer \_\_\_\_\_ and Receive traffic.
- QNS\*** Following Stations are in the net. \*(Follow with list.)  
Request list of stations in the net.
- QNT** I request permission to leave the net for \_\_\_\_\_ minutes.
- QNU\*** The net has traffic for you. Stand by.
- QNV\*** Establish contact with \_\_\_\_\_ on this frequency. If successful, move to \_\_\_\_\_ and send him traffic for \_\_\_\_\_
- QNW** How do I route messages for \_\_\_\_\_?
- QNX** You are excused from the net.\* Request to be excused from the net.
- QNY\*** Shift to another frequency (or to \_\_\_\_\_ kHz) to clear traffic with \_\_\_\_\_
- QNZ** Zero beat your signal with mine.

\* For use only by the Net Control Station.

#### Notes on Use of QN Signals

The QN signals listed above are special ARRL signals for use in amateur CW nets only. They are not for use in casual amateur conversation. Other meanings that may be used in other services do not apply. Do not use QN signals on phone nets. Say it with words. QN signals need not be followed by a question mark, even though the meaning may be interrogatory.

#### International Q Signals

A Q signal followed by a ? asks a question. A Q signal without the ? answers the question affirmatively, unless otherwise indicated.

**QRA** What is the name of your station?  
**QRG** What's my exact frequency?  
**QRH** Does my frequency vary?  
**QRI** How is my tone? (1-3)  
**QRK** What is my signal intelligibility? (1-5)  
**QRL** Are you busy?  
**QRM** Is my transmission being interfered with?  
**QRN** Are you troubled by static?  
**QRO** Shall I increase transmitter power?  
**QRP** Shall I decrease transmitter power?  
**QRQ** Shall I send faster?  
**QRS** Shall I send slower?  
**QRT** Shall I stop sending?  
**QRU** Have you anything for me? (Answer in negative)  
**QRV** Are you ready?  
**QRW** Shall I tell \_\_\_\_\_ you're calling him?  
**QRX** When will you call again?  
**QRZ** Who is calling me?  
**QSA** What is my signal strength? (1-5)  
**QSB** Are my signals fading?  
**QSD** Is my keying defective?  
**QSG** Shall I send \_\_\_\_\_ messages at a time?  
**QSK** Can you work break-in?  
**QSL** Can you acknowledge receipt?  
**QSM** Shall I repeat the last message sent?  
**QSO** Can you communicate with \_\_\_\_\_ direct?  
**QSP** Will you relay to \_\_\_\_\_?  
**QSV** Shall I send a series of V's?  
**QSW** Will you transmit on \_\_\_\_\_?  
**QSX** Will you listen for \_\_\_\_\_ on \_\_\_\_\_?  
**QSY** Shall I change frequency?  
**QSZ** Shall I send each word/group more than once? (Answer, send twice or \_\_\_\_\_)  
**QTA** Shall I cancel number \_\_\_\_\_?  
**QTB** Do you agree with my word count? (Answer negative)  
**QTC** How many messages have you to send?  
**QTH** What is your location?  
**QTR** What is your time?  
**QTV** Shall I stand guard for you \_\_\_\_\_?  
**QTX** Will you keep your station open for further communication with me?  
**QUA** Have you news of \_\_\_\_\_?

#### Abbreviations, Prosigns, Prowords

**CW PHONE (meaning or purpose)**  
**AA** (Separation between parts of address or signature.).

**AA** All after (used to get fills).  
**AB** An before (used to get fills).  
**ADEE** Addressee (name of person to whom message addressed).  
**ADR** Address (second part of message).  
**AR** End of message (end of record copy).  
**ARL** (Used with "check," indicates use of ARRL numbered message in text).  
**AS** Stand by; wait.  
**B** More (another message to follow).  
**BK** Break; break me; break-in (interrupt transmission on CW. Quick check on phone).  
**BT** Separation (break) between address and text; between text and signature.  
**C** Correct; yes.  
**CFM** Confirm. (Check me on this).  
**CK** Check.  
**DE** From; this is (preceding identification).  
**HH** (Error in sending. Transmission continues with last word correctly sent.)  
**HX** (Handling instructions. Optional part of preamble.) Initial(s). Single letter(s) to follow.  
**IMI** Repeat; I say again. (Difficult or unusual words or groups.)  
**K** Go ahead; over; reply expected. (Invitation to transmit.)  
**N** Negative, incorrect; no more. (No more messages to follow.)  
**NR** Number. (Message follows.)  
**PBL** Preamble (first part of message)  
**N/A** Read back. (Repeat as received.)  
**R** Roger; point. (Received; decimal point.)  
**SIG** Signed; signature (last part of message.)  
**SK** Out; clear (end of communications, no reply expected.)  
**TU** Thank you.  
**WA** Word after (used to get fills.)  
**WB** Word before (used to get fills.)  
**N/A** Speak slower.  
**N/A** Speak faster.

APPENDIX G

## AMATEUR RADIO DISASTER WELFARE MESSAGE

| Number | Precedence<br><b>W</b> | HX | Station of Origin | Check<br><b>ARL</b> | Place of Origin | Time filed  | Date |
|--------|------------------------|----|-------------------|---------------------|-----------------|---|------|
| TO     |                        |    |                   |                     |                 | Message Receipt Or Delivery Information<br>Operator and Station _____<br>Sent To _____<br>Delivered To _____<br>Date _____ Time _____ |      |

Telephone Number \_\_\_\_\_

(CIRCLE NOT MORE THAN TWO STANDARD TEXTS FROM LIST BELOW)

- ARL ONE            Everyone safe here. Please don't worry.
- ARL TWO           Coming home as soon as possible.
- ARL THREE        Am in \_\_\_\_\_ hospital. Receiving excellent care and recovering fine.
- ARL FOUR        Only slight property damage here. Do not be concerned about disaster reports.
- ARL FIVE        Am moving to new location. Send no further mail or communications. Will inform you of new address when relocated.
- ARL SIX           Will contact you as soon as possible.
- ARL SIXTY FOUR Arrived safety at \_\_\_\_\_.

| Time | Date | Telephone | Signature |
|------|------|-----------|-----------|
|      |      |           |           |

**THE AMERICAN RADIO RELAY LEAGUE**  
**RADIOGRAM**  
**VIA AMATEUR RADIO**

| Number | Precedence | HX | Station of Origin | Check | Place of Origin | Time Filed  | Date |
|--------|------------|----|-------------------|-------|-----------------|---|------|
| TO     |            |    |                   |       |                 | This Radio Message Was Received At<br>Amateur Station _____ Phone _____<br>Name _____<br>Street Address _____<br>City and State _____ |      |

Telephone Number \_\_\_\_\_

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
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| REC'D  | SENT   |
|--|--|
| From   | To   |
| Date   | Date   |
| Time   | Time   |
| This message was handled free of charge by a licensed Amateur Radio Operator whose address is shown in the box at right above. As such messages are handled solely for the pleasure of operating. No compensation can be accepted by a "Ham" operator. A return message may be filed with the "Ham" delivering this message to you. Further information on Amateur Radio may be obtained from A.R.R.L. Headquarters 225 Main Street, Newington, CT 06111 | The American Radio Relay League, Inc., is the national membership society of licensed radio amateurs and the publishers of QST Magazine. One of its functions is promotion of the public service communications among amateur operators to that end. The League has organized the National Traffic System for daily nationwide message handling. |

## **APPENDIX H Sacramento Valley Section**

### **AMATEUR RADIO EMERGENCY SERVICE MUTUAL ASSISTANCE GUIDE MARCH 2004**

#### **SACRAMENTO VALLEY SECTION ARES MISSION STATEMENT**

The mission of the Sacramento Valley Section ARRL/ARES is to prepare for and provide emergency communications to both public and private agencies and the general public. The ARES recruits licensed amateur radio operators and maintains rosters of trained, skilled, disciplined and equipped individuals and teams experienced in fixed, mobile and field station operation. This free service is provided in a coordinated and organized manner. Our goal is to provide the best possible emergency communications radio networks capable of handling third party tactical and formal message traffic locally, regionally, nationally, and internationally anytime normal means of communications fail or are overloaded.

#### **PREFACE**

This guide is not intended to supersede, replace, or negate any local ARES plans. It is intended primarily for ECs, AECs, DECs, SECs, and others who serve in a leadership capacity. It is recommended, however, that all EMCOMM personnel be familiar with its contents.

It is assumed that persons reading this guide are trained, disciplined operators, are familiar with "FCC Part 97" ARRL operating procedures, local emergency plans, and the Incident Command System (ICS).

The A.R.R.L.'s ARES FIELD RESOURCES MANUAL has an excellent guide [Appendix Seven] that will provide additional information on the ARESMAT concept. For FEMA home study courses (including ICS) go to: <http://training.fema.gov/IS/>.

#### **OPERATIONAL AREA**

The Sacramento Valley Section is a 20 county area.

District 1: Lassen, Modoc, Siskiyou, Trinity;

District 2 Butte, Glenn, Shasta, Tehama;

District 3: Colusa, Sacramento, Yolo, Yuba and Sutter;

District 4: Alpine, Amador, El Dorado, Sierra, Placer, Nevada, Plumas.

This section is bordered on the north by the Oregon Section, on the east by the Nevada Section, on the west by the San Francisco Section, and on the south by the San Joaquin Valley Section and East Bay Sections. ARRL and other EMCOMM Officials in adjacent, sections, divisions and states are invited to familiarize themselves with this plan. 2

#### **THE AMATEUR RESOURCE**

As any EC knows, trained, disciplined, and dedicated volunteer amateur radio operators are in short supply. Your ARES team could be quickly overwhelmed, even in a relatively minor emergency activation. This guide will help you decide when, and how, to summon assistance.

### **THE LEADERSHIP STRUCTURE**

The Emergency Coordinator is the leader of the ARES team at the local level. It is his or her role to ensure that the amateur radio operator volunteer resource is utilized to the best advantage. The EC may have any number of AEC's. An AEC may function as a liaison person with a "served agency," may provide coordination in a remote locality, or (more typically) is a "specialist" (e.g. digital communications, public information, computers, etc.) Ideally, all AEC's will be capable and ready to function as an alternate EC. The EC has many "bosses". He (or she) works in cooperation with the director or manager of a "served agency" Within the ARES structure, the EC (or "acting EC") reports to the DEC. The DEC reports to the SEC. The SEC reports to the Section Manager. If your immediate superior is not available, report to the person at the next highest level. An EC may occasionally work under the direction of another EC. (E.g. - when an EC has responded into another EC's jurisdiction with a team of ARES operators.)

### **MUTUAL ASSISTANCE PROTOCOL**

When an emergency or disaster event requiring auxiliary communications appears imminent, or has occurred, the EC should alert or activate the team immediately. It is better to "scramble" everyone and not be needed, than to be too late. "Denial" that an event may occur, or has occurred, is not uncommon. A so-called "false alarm" provides training, promotes awareness, and will help to evaluate a team's ability to respond.

The same principles apply with reference to summoning outside help. The "we can handle it" syndrome is common. As soon as you suspect that mutual assistance may be needed, notify your DEC or SEC. If agency authorities are reluctant or disagree, you as the EC, may still notify your DEC or SEC that a Mutual Assistance request may be forthcoming. [NOTE: In jurisdictions where the EC is also the RACES Officer, and/or the CDF-VIP HAMCO, this will be relatively easy; but in places where the RO or HAMCO are not coordinating with the ARES, this may be awkward.] ALSO: be sure to notify everyone to "stand down" when the threat or emergency has subsided.

### **COORDINATING YOUR RESOURCES**

As an EC, DEC, or SEC, your primary job is to "coordinate" the amateur radio resource for your area. During an actual event, be sure to THINK...AND PLAN AHEAD. Talk to local officials and attempt to determine what will be needed for emergency or auxiliary communications in 12, 24, 48, 72, or more hours down the road. Develop a plan, and put it into motion.

The FIRST RESOURCE is the locally registered, trained, and equipped ARES team members. The SECOND RESOURCE is the registered and trained ARES members or a team from a nearby jurisdiction. The THIRD RESOURCE are the amateur operators who just "show up" This phenomenon, known as "convergence" is common in emergency and disaster situations. These helpers are usually undisciplined and unfamiliar with ARES procedures and the emergency plan; and they often cause more problems than they solve. However, there are exceptions, so it is important that each individual be evaluated and judged on his or her own merits. This can be time consuming, so it is suggested that you delegate that task to an AEC (or possibly a visiting EC.) Those that are selected to work should be given an orientation to the ARES plan and procedures, and be briefed on the incident. Then, they must be registered with ARES and the served agency.

### **CALLING FOR ASSISTANCE**

The maximum shift (work period) should be 12 hours. This includes you! As soon as you decide that outside help will be needed in order to provide relief for your operators, MAKE THE CALL. Follow the "chain of command" and get the "wheels in motion"! If you are unable to contact

your DEC, SEC or the SM, it is acceptable to contact a neighboring EC and summon help. But, since the DEC or SEC will be looking at "the larger picture", regarding Mutual Assistance, it is imperative that you notify your DEC, SEC, or SM as soon as possible. When you make the call for assistance, inform the DEC or SEC about how long the assistance will be needed. State the name the agency that they will be serving, the name of the authorizing official, and advise if the agency will be providing meals, sleeping accommodations, and mileage reimbursement. All responding volunteers are required to log times and mileage. Volunteers from outside California must log their odometer readout when they enter the state.

**REMEMBER:**

1. Only skilled, disciplined, equipped and registered ARES personnel should respond in Mutual Assistance situations; and all personnel should be directed to a command post or staging area to "sign in". If not already registered, every volunteer must be registered with the "served agency", before they are assigned to the field. Be sure to have the registration forms or logs readily available.
2. Responding teams should be given clear directions to the command center or staging area. Inform them of a "talk-in frequency" (it could be shared with operations, but ideally it will be a frequency dedicated to logistics.)
3. As a general rule, an ARESMAT (ARES Mutual Assistance Team) should come with its own leader(s). (The ICS recommends a 1-to-5 ratio). A team may be given a specific task and utilized as a team. Or, individuals may be assigned to work with your team members, or (once oriented to the operation) they may be given independent assignments.
4. Circumstances usually change rapidly. But, if at all possible, use the outside help you have summoned; and utilize their skills as much as possible. Some may be leaders, others may have technical skills, computer skills, traffic handling, clerical or other valuable skills.

**SCHEDULES**

The preferred modes of communication for mutual assistance requests, coordination, and scheduling are telephone and e-mail. In events where these commercial services are inoperable or unavailable, use packet or other amateur digital modes if possible. Voice radio communications are the least preferred for these administrative purposes. "QSTs" ARES bulletins, updates, mobile, and tactical communications are, of course, appropriate on SSB or FM phone. Nets or schedules are necessary to ensure that the flow of information is maintained, and to manage resources effectively. During events that may require mutual assistance, these recommended schedules be implemented for "command and control". 10 minutes before the bottom of every hour (e.g. 1320 to 1330) a VHF ARES leadership net will convene. Ten minutes after the bottom of every hour (e.g. 1330 to 1340) there will be a HF ARES leadership net. The "top of the hour" is then available for local nets. (Please see next page for the designated frequencies)

**ARES MUTUAL ASSISTANCE FREQUENCIES -SECTION LEVEL  
(SV SECTION - ALL DISTRICTS)**

Each county's emergency plan will list the designated, frequencies for intra-county communications. For inter-county "command and control" communications, mutual-aid, and administrative purposes; whether it be operational, or (more likely) logistical, the frequencies listed below are designated for use by ARRL leaders. (AECs, ECs, DECs, SECs, SMs, Official Emergency Stations, Official Relay Stations, and other appropriate EMCOMM traffic.) For local tactical and all routine and welfare traffic please make your contact and move to another frequency when possible. Use simplex whenever possible.



145.45- Red Bluff - District 1 and 2 (north Central Valley). Alternate: 444.950+ (110.9) Red Bluff  
146.91- (91.5) -Fredonyer Peak - District 1 and 2 (northeastern CA - Lassen / Modoc).  
146.085+ (127.3) MHz Sutter Buttes - District 3 and 4 (south central valley).  
3987 kHz (+ or -) LSB is the primary HF frequency.  
7232 kHz (+ or -) LSB is the secondary HF frequency.  
3987 kHz (+ or -) LSB is the alternate nighttime HF frequency.

NOTE: 3992, 7230, and 3987 kHz are California OES -ACS frequencies.  
147.42 MHz FM simplex is the unofficial national frequency for ARES / American Red Cross communications.

147.57 MHz FM simplex has been adopted in some areas as the ARES / SAR frequency  
DIGITAL communications will be on normal established channels selected by the digital operators on duty.

**APPENDIX I (To be inserted)**  
**American Red Cross Client Information and Release Form 2079I-1**