

**Santa Clara County District**

**American Radio Relay League**

**Amateur Radio Emergency Service  
Radio Amateur Civil Emergency Service**

# **EMERGENCY RESPONDER MANUAL**

Rev. 2.1

08/10/02



## **FOREWORD**

When I became Emergency Coordinator (EC) of Mountain View ARES in 2001, I found a lack of good information for new hams about how to become an effective Emergency Responder or how a veteran ham who has decided to get active again with ARES/RACES can refresh his or her skills. Fortunately, my predecessor included in his package of turnover items a copy of a Santa Clara Valley Section ARRL ARES/RACES Emergency Responder Manual. This manual, dated 11/11/90, written by Steve Wilson, KA6S, fits the need very nicely. I have decided to do some light editing and updating and, with Steve's permission, to republish it. Its guidance and advice was timely in 1990 and is even more so now.

P.G. (Jerry) Haag, KF6GAC  
08/10/02

# Table of Contents

<b>FOREWORD.....</b>	<b>1</b>
<b>Part One: How to be an Emergency Responder.....</b>	<b>3</b>
<b>Introduction.....</b>	<b>3</b>
<b>What is ARES? .....</b>	<b>4</b>
<b>ARES Organization .....</b>	<b>5</b>
<b>Duties of the Section Emergency Coordinator (SEC) .....</b>	<b>6</b>
<b>Duties of the District Emergency Coordinator (DEC) .....</b>	<b>7</b>
<b>Duties of the Emergency Coordinator (EC) .....</b>	<b>8</b>
<b>Site Supervisor’s Duties .....</b>	<b>8</b>
<b>Emergency Responder’s Duties .....</b>	<b>9</b>
<b>Who does ARES help? .....</b>	<b>9</b>
<b>RACES or ARES? .....</b>	<b>10</b>
<b>How to Contact ARES.....</b>	<b>11</b>
<b>Types of Emergency Nets .....</b>	<b>11</b>
<b>Tactical Net.....</b>	<b>11</b>
<b>Resource Net.....</b>	<b>11</b>
<b>Command Net.....</b>	<b>11</b>
<b>Being Part of an ARES Net.....</b>	<b>12</b>
<b>ARES Message Form .....</b>	<b>12</b>
<b>How to Send the Message .....</b>	<b>14</b>
<b>Alerts.....</b>	<b>14</b>
<b>How To Respond.....</b>	<b>15</b>
<b>How are You Dispatched?.....</b>	<b>15</b>
<b>Responding to Your Assignment.....</b>	<b>16</b>
<b>Minimum Equipment List.....</b>	<b>18</b>
<b>Extended Equipment List.....</b>	<b>18</b>
<b>Part Two: ARES Operations/Types of Assignment.....</b>	<b>20</b>
<b>Special Events Communications — Are They Legal? .....</b>	<b>20</b>
<b>Shadow Duty.....</b>	<b>21</b>
<b>Public Service Events .....</b>	<b>21</b>
<b>If you’re going to be the NCS you’ll need.....</b>	<b>22</b>
<b>You’re on foot .....</b>	<b>22</b>
<b>Mobile in a car .....</b>	<b>22</b>
<b>Red Cross Operations .....</b>	<b>22</b>
<b>Red Cross Net on a Repeater.....</b>	<b>22</b>
<b>Red Cross Net on Simplex.....</b>	<b>24</b>
<b>Being a Red Cross Shadow .....</b>	<b>24</b>
<b>Duty at an Emergency Operating Center (EOC) .....</b>	<b>24</b>
<b>Equipment at the EOC .....</b>	<b>25</b>
<b>MCIP Operations (Santa Clara County).....</b>	<b>25</b>
<b>Safety as an ARES Emergency Responder.....</b>	<b>26</b>

**Conclusion**..... 26  
**Appendix 1 – Stress Management**..... 28

## **Part One: How to be an Emergency Responder**

### **Introduction**

Congratulations! You have just survived the latest 8.0 earthquake and decided it was time to dust off this manual and find out a little about ARES/RACES. Or, heaven forbid, you actually decided to read this manual before you need it. Or maybe you are new to ham radio and want to learn more about this thing called ARES/RACES. In any case, the SCC Emergency Responder Manual should supply you with the information you need to succeed as an ARES/RACES Emergency Responder.

The Emergency Responder Manual is divided into two major sections. The first part of the manual introduces what ARES/RACES is, how the organization is structured, and how the organization functions, i.e., how we do our thing. In this vein, the topics covered include items such as how to handle traffic, what equipment you should set aside for emergencies, etc. After you complete the first part, you should have the basic information you need to participate in an ARES/RACES function.

The second part of the manual is intended as a quick reference for each of the possible assignments you may encounter while working with ARES/RACES. That section is organized by activity to allow you to quickly locate information concerning a specific assignment. Information covered in each of those descriptions includes the type of traffic you can expect to see, special equipment needed, special training requirements, and safety considerations.

Well, that's it...Good Luck!

73's de Steve Wilson, KA6S

Section Manager,

SCV Section

11/11/90

Revision 2 edited by

P.G. (Jerry) Haag, KF6GAC

EC, Mountain View

08/10/02

## **What is ARES?**

Amateur Radio has a long and honored tradition of providing communications for both special events and during times of emergency. This is in keeping with a portion of the stated purpose for amateur radio found in Part 97 of the FCC rules which states:

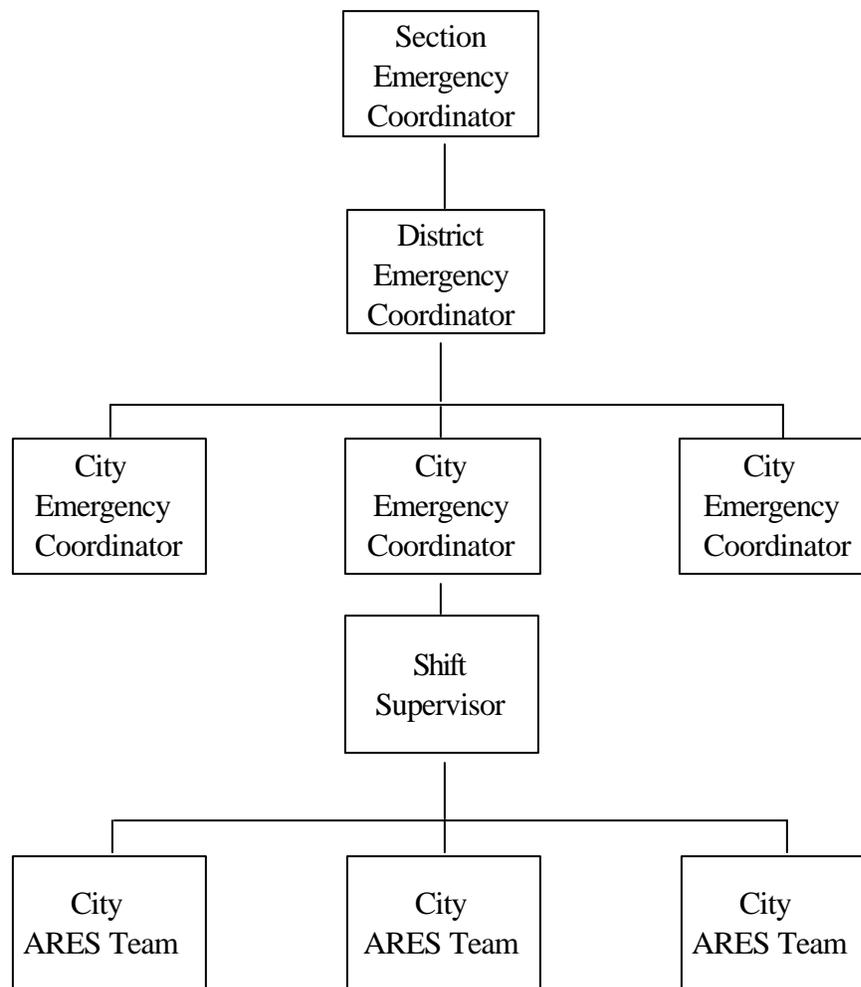
*97.1(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communications service, particularly with respect to providing emergency service.*

The Amateur Radio Emergency Service (ARES) is that part of the ARRL field organization responsible for providing a trained and disciplined pool of operators who are ready to render aid in times of emergency. ARES operations might involve anything from supplying communications for a bike-a-thon to providing the only working communications during a natural disaster. This wide spectrum of activity is in keeping with both the requirements of Part 97 and amateur radio's tradition of public service.

ARES activities also have the added benefit of providing a positive view of our hobby to the public. The public may see amateurs assisting as volunteers during special events, or as willing and capable assets to our communities during times of disaster. These images translate into a solid positive impression of our hobby. ARES is probably one of the best "Public Relations" tools we have!

## ARES Organization

ARES is a part of the ARRL field organization. Within that organization there is an “officer corps” of people who contribute their time and talents to making the various ARRL programs a success. ARES has an inverted tree management structure at the root of which is the Section Emergency Coordinator (SEC). Below the SEC are the District Emergency Coordinators (DEC) who are typically appointed at the county level by the SEC. Below each DEC is a group of Emergency Coordinators (ECs) who are responsible at the city level. Each EC may appoint several Assistant Emergency Coordinators (AECs) to fulfill various job functions within a city ARES organization.



## **Duties of the Section Emergency Coordinator (SEC)**

The SEC serves as the Assistant Section Manager for emergency preparedness. Thus the SEC is concerned with all issues relating to emergency communications and the ARES on a Section-wide level.

Some of the management functions performed by the SEC include:

- a) Making/canceling all ARES appointments within the Section.
- b) Coordinating ARES operations with other Section Leadership Officials, particularly the Public Information Coordinator (PIC) and the Section Traffic Manager (STM).
- c) Collecting and consolidating EC/DEC monthly reports for submission to ARRL HQ in a timely manner.
- d) Acting as final arbiter within the Section on matters relating to ARES policy.

An SEC also performs tasks that relate to promotion of the ARES within the Section such as:

- a) Promoting ARES membership drives, meetings, activities, tests, and procedures (such as this manual).
- b) Encouraging groups of community amateurs to establish local emergency organizations.

The operations role of the SEC involves acting at the Section level to:

- a) Maintain contact with other communications services and serve as liaison to agencies which have a jurisdiction above the county level such as the California State Office of Emergency Services, the Federal Emergency Management Agency (FEMA), and the National Weather Service.
- b) Coordinate mutual aid response both inside and outside the Section.
- c) Coordinate the communications structure established to support emergencies that have a Section-wide scope. This might involve making decisions about frequency usage, coordinating with repeater groups during an incident, etc.

## **Duties of the District Emergency Coordinator (DEC)**

Since ARES tries to match itself to the agencies we serve, our appointment structure below the SEC matches the political lay of the land. The DEC is charged with coordinating ARES programs at the county level. As a manager this involves:

- a) Acting as liaison to county government through the county Office of Emergency Services (OES) and other county level groups such as the Emergency Managers Association and the county Emergency Coordinating Council.
- b) Coordinating the training, organization and participation of Emergency Coordinators in the county. This includes organizing the county Simulated Emergency Test (SET) every year.
- c) Coordinating the interrelationship between local emergency plans such as frequency coordination.
- d) Recommending EC appointments to the SEC.
- e) Coordinating the reporting and documenting of ARES activities in the county.

A DEC also has a complex and varied role to play in any actual ARES operation. This involves items such as:

- a) Making local decisions concerning the allotment of available amateurs and equipment during an emergency.
- b) Providing direction in the routing and handling of emergency communications of either a formal or tactical nature.
- c) Coordinating with served agencies to determine their respective needs.
- d) General problem solver!

All of these are activities which must essentially remain in effect around the clock during extended ARES operations. No one person can be available 24 hours a day, thus the DEC or SEC may appoint "Shift Supervisors" to act in the DEC's place when the DEC isn't directly available. The Shift Supervisor may be any trained individual that the DEC feels is qualified to handle the function. This person carries the same load as the DEC during their respective shift and should be given all possible cooperation.

## **Duties of the Emergency Coordinator (EC)**

Within ARES, the Emergency Coordinator (EC) is the front line manager of an ARES team. Nominally each city within a county has a single individual assigned to act as EC for that city. This person is responsible for:

- a) Managing and coordinating the training, organization, and emergency participation of interested amateurs within their cities.
- b) Establishing an emergency communications plan for the community that will effectively support the city agencies.
- c) Establishing a viable working relationship with the city government and all private agencies operating within the city.
- d) Establishing local communications networks run on a regular basis and periodically testing those networks by conducting realistic drills such as the Simulated Emergency Test (SET).
- e) In times of disaster evaluating the communications needs of the city and responding quickly to these needs. The EC will assume authority and responsibility for emergency response and performance within the city.

ECs bear the brunt of the management load in times of disaster and are consequently given a wide area of authority within the ARES organization. They also, however, rely on the experience and advice of the entire Section Staff to help them perform their duties.

## **Site Supervisor's Duties**

Any time more than one ARES operator is placed at a specific location a Site Supervisor should be appointed for that shift. Nominally the EC will designate one operator at each location. The Site Supervisors will act as a liaison between the ARES operators and the group being served by the ARES team. The Site Supervisor should:

- a) Determine if any adjustments should be made in the staffing requirements for their location.
- b) Ensure that a new shift arriving is fully briefed on their assignments before the previous shift is relieved.
- c) Handle local questions about traffic routing.

## **Emergency Responder's Duties**

The individual ARES team member provides emergency communications under adverse conditions. To prepare, for this assignment, the ARES member should attempt to avail him or herself of all training opportunities, gather and prepare his or her equipment for extended field use, and practice traffic handling and net operations.

There is an implied commitment that an ARES team member will try to make him or herself and his or her equipment available during disaster situations. This is not to say that this obligation should come before work or family. Simply put, you cannot help others until your own house is in order.

## **Who does ARES help?**

ARES serves many masters, and each of these served agencies has different needs and expectations of ARES. Due to these varied requirements, ARES has developed a diverse set of capabilities to support our different missions.

When working with local governments, ARES/RACES teams nominally work with Police and Fire officials. Our missions might include supplementing city communications capability by setting up a station at an Emergency Operations Center (EOC), dispatching shadows with city executives, or providing communications between the EOC and various field locations such as shelters. As an example of some of the resources that have already been put in place in support of these missions, most city EOCs already have amateur antennas in place, along with antennas at several pre-identified schools and community centers intended for use as shelters.

At the county level ARES/RACES interacts with the county Office of Emergency Services. ARES/RACES might be asked to provide EOC to EOC communications links, communications between the county seat and city EOCs, or communications to state government entities.

Several agencies of the state government use amateur radio to supplement their capabilities. Perhaps the best known of these is the Volunteers in Prevention (VIP) program sponsored by the California Department of Forestry and Fire Protection (CDF). VIPs have received special training in fire line safety, and other aspects of fire prevention/suppression activities. CDF uses VIPs during large wildland fires to supply additional communications channels between the incident and the ranger unit headquarters, shadows for CDF officers, or in helping solve difficult communications problems induced by the surrounding terrain.

There is also a "Memorandum Of Understanding" (MOU) between the American National Red Cross and the ARRL that establishes a cooperative environment between the two organizations. Under the authority of this agreement, ARES/RACES provides needed communications on the

Red Cross's behalf. This might entail shadow duty, shelter communications, or providing other technical assistance.

## **RACES or ARES?**

RACES, the Radio Amateur Civil Emergency Service, is administered by the Federal Emergency Management Agency (FEMA), and is part of the Amateur Radio Service that provides communications for **civil preparedness purposes only**, during periods of local, regional or national civil emergencies. These emergencies are not limited to war-related activities, but can include natural disasters such as fires, floods and earthquakes.

As defined in the rules, RACES is a radio communications service, conducted by volunteer licensed amateurs, designed to provide emergency communications to local or state civil preparedness agencies. It is important to note that RACES operation is authorized by the FCC at the request of a state or federal official, and this operation is strictly limited to **official** civil preparedness activity in the event of an emergency communications situation.

Amateurs operating in a local RACES organization must be officially enrolled in that local civil preparedness group. RACES operation is conducted by amateurs using their own primary station license. The FCC no longer issues new RACES (WC prefix) station call signs. Operator privileges in RACES are dependent upon, and identical to, those for the class of license held in the Amateur Radio Service. All of the authorized frequencies and emissions allocated to the Amateur Radio Service are also available to RACES on a shared basis. But in the event that the President invokes his War Emergency Powers, amateurs involved with RACES would be limited to certain specific frequencies while all other amateur operations would be silenced.

While RACES was originally based on potential use for wartime, it has evolved over the years to encompass all types of emergencies. When operating in a RACES capability, RACES stations and amateurs registered in the local RACES organization may not communicate with amateurs NOT operating in a RACES capacity. Only civil preparedness communications can be transmitted.

Although RACES and ARES are separate entities, the ARRL advocates dual membership and cooperative efforts between both groups whenever possible. The RACES regulations now make it simple and possible for an ARES group whose members are all enrolled and certified by RACES to operate in an emergency with great flexibility. Using the same operators and the same frequencies, an ARES group can "switch hats" as required with no interruption of service. This attitude is the official policy of the SCV Section, and in most counties within the section, ARES and RACES are now indistinguishable.

As a practical matter, enrolling as a RACES member within the State of California requires registering with the county government as a Disaster Service Worker (DSW) and signing a loyalty oath. At the time of a civil emergency, amateur radio operators who have volunteered for

services with RACES and are registered as a DSW will be provided with an activation number and, once assigned to a specific duty or position, will be considered as unpaid employees of the activating agency for the duration of their assignment. This entitles the registrant to Worker's Compensation benefits for any accidents occurring during officially designated activities.

### **How to Contact ARES**

As described previously, each city has an Emergency Coordinator who is responsible for the ARES team in his respective city. An up-to-date list of ECs is available on the SCC Web site at [WWW.SCC-ARES-RACES.ORG](http://WWW.SCC-ARES-RACES.ORG). The list contains the phone number for each of the ECs in the Section. Emergency Coordinators also check into the Section Manager's Net held on Tuesday nights at 9:00pm every week. Common frequencies are WB6ADZ/R, 146.115+, 100.0 PL, W6ASH/R, 145.270-, and K1YJ/R, 440.100+, 100.0 PL.

### **Types of Emergency Nets**

There are three types of nets which might be set up during an ARES/RACES event. These are the TACTICAL NET, RESOURCE NET, and the COMMAND NET. Which net, or whether all three evolve during an event, is strictly a function of the size of the event.

#### **Tactical Net**

The "Tactical Net" is the "front line" net during an incident. This type of net is typically used by a single city to manage amateur radio operations within that city's boundaries. There may be several tactical nets for a single operation depending on the volume of traffic. Types of traffic which might exist on this net could be anything from traffic handling, to coordination of ARES/RACES efforts, to recruiting. When an event grows beyond the boundaries of a single city/agency to the point where mutual aid is necessary, it becomes necessary to create the next type of net, the "Resource Net".

#### **Resource Net**

A "Resource Net" is primarily used to recruit resources (both operators and equipment) in support of mutual aid operations. The "Resource Net" evolves as a natural outgrowth of the size of the incident. The "Resource Net" is also used as a check-in point before an assigned responder leaves for his/her assignment. As the size of an operation increases and more ARES/RACES jurisdictions become involved in the incident, a "Command Net" may become necessary.

#### **Command Net**

The "Command Net" allows the ARES/RACES leadership to communicate with each other to resolve amateur radio operations-related problems. This is also the net which would be used to

allow cities to talk to each other. It is conceivable that this net could become cluttered with a high volume of traffic; it may be necessary to create further tactical nets to allow this traffic to flow efficiently. As an added note, when other agencies such as Red Cross establish their own nets they are considered tactical nets. Each such tactical resource should have someone monitoring the main Command Net so that they can respond to Agency-to-Agency requests.

### **Being Part of an ARES/RACES Net**

Taking part in an ARES/RACES net and learning how to handle traffic are perhaps the two major qualifications required of an ARES/RACES team member. Being a successful participant of an ARES/RACES net requires exercising some discipline, and observing a few basic rules of the road:

- 1) Report to the Net Control Station (NCS) promptly as soon as you arrive at your station.
- 2) Ask the NCS for permission before you use the frequency.
- 3) Only use the frequency for traffic, not for chit-chat.
- 4) Answer promptly when called by the NCS.
- 5) Use tactical call signs whenever possible.
- 6) Follow the net protocol established by the NCS.

Getting on and off the net is important, but traffic handling techniques are important also. The first step in the process is getting all the information needed for the message:

- 1) Get the exact title/address of the addressee from the sender. This is **EXTREMELY** important to guarantee the accurate prompt delivery of the message.
- 2) Get an exact title of the sender. If a response is required, the exact name and title of the sender will become very important.
- 3) Make the message as short and concise as possible when originating your own message traffic. If handed a message originated by someone else, do not modify it. Send the message exactly as it is written. It is not as important that you understand the message content, as it is that the addressee receive an unaltered message.
- 4) Number, log and time stamp the messages as you send them. This will allow you to reference the messages more easily later.

### **ARES/RACES Message Form**

Following is a suggested message form that may be used on a tactical net or a command net. This should serve you under most circumstances. If an agency has created a different message form, then use that form instead.



## EOC MESSAGE FORM

<b>Date:</b>	<b>Priority (check one)</b> <input type="checkbox"/> 1 Life Threatening	<b>How Received (check one)</b> <input type="checkbox"/> Telephone <input type="checkbox"/> Communications Center	
<b>Time</b>	<input type="checkbox"/> 2 Property Threatening <input type="checkbox"/> 3 Routine	<input type="checkbox"/> City Radio	<input type="checkbox"/> FAX <input type="checkbox"/> Amateur Radio <input type="checkbox"/> Other _____

<b>To:</b>	<b>Name:</b>	<b>From:</b>	<b>Name:</b>
	<b>Position:</b>		<b>Position:</b>
	<b>Telephone #:</b>		<b>Telephone #:</b>
	<b>Location:</b>		<b>Location:</b>

**Check One**  
 TAKE ACTION       INFORMATION       OTHER \_\_\_\_\_

**Message: (what, when, where needed)**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<b>Disposition:</b>	<b>Date:</b> _____	<b>Time:</b> _____
---------------------	--------------------	--------------------

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<b>How Sent (check one)</b>	<b>Completed:</b>
<input type="checkbox"/> Telephone <input type="checkbox"/> Communications Center	
<input type="checkbox"/> City Radio <input type="checkbox"/> FAX	<b>Name:</b>
<input type="checkbox"/> Amateur Radio <input type="checkbox"/> Other _____	<b>Date:</b> <b>Time:</b>

**Message Originator:** Send the top two copies (white and yellow) to the receiver, goldenrod to Planning, keep the pink copy for file.  
**Receiver:** After acting on the request/info, return the white to the Originator, keep yellow for file.  
**Originator:** Upon receipt of the completed original message, note the info and forward the white copy to Planning for final closure.

## **How to Send the Message**

Now that all the information for the message has been acquired, check into the net and ask the Net Control Station for permission to pass traffic to the destination station. After the NCS tells you to go ahead with your traffic, make a directed call to the destination station. Once the destination station acknowledges your call, inform the station you have traffic for them and to let you know when they are ready to copy the traffic.

When the destination station acknowledges they are ready to receive the message, begin transmission of the message by **SLOWLY** stating to whom the message is addressed, along with any title. Perhaps the best way to pace your transmission rate is to write down the message as you are sending it.

After you have sent the addressee's name and title, pause to ensure that the receiving station has a solid copy. The receiving station may ask you to repeat a certain word or phrase that they were not able to copy accurately. Then send the signature and title of the originating official.

After sending the addressee header, send the main body of the message. Again, go slowly! Use phonetics to spell out difficult words as needed. Pause at the end of each sentence to give the receiving station a chance to ask you for a repeat of a word or phrase, called a "fill".

Finally, once the receiving station has acknowledged that they have received the message correctly, pass the frequency back to Net Control.

## **Alerts**

ARES/RACES begins to react **ONLY** when we've been alerted. Some situations are "self-alerting" like an earthquake — i.e. everyone knows it happened. However, under normal circumstances an agency needing our help will contact us by calling a responsible officer of ARES by phone, or calling a reverse autopatch to reach of us. Each of these alerting methods requires ARES to respond in a slightly different manner.

If you feel an earthquake the **FIRST** thing you should do is make sure your own location is secure. Once you're sure of your own situation turn your radio on and **LISTEN** to the resource net. Call net control **ONLY** if you have damage or injuries to report. During the initial minutes after a quake the resource net will be trying to determine what areas are damaged, and deal with anyone that needs immediate help. Stay off the frequency and listen for your EC to come up on the resource frequency and give instructions for your team. Your EC will give you the necessary information to allow you to respond. If you have the ability to listen to more than one frequency you might also monitor your city simplex frequency.

The other major way that you will be alerted to an emergency is by receiving a phone call from another amateur via your ARES/RACES team phone tree. This works differently in each of the

cities. One system involves you simply reacting to the phone call by turning on your radio to the city simplex channel and waiting for the EC to give you directions, another reaction might involve you passing the alert message to a small list of hams on your own mini phone tree before you finally turn on your radio.

The final system you might encounter is to hear the phone patch on your local repeater ringing. If you have the codes to answer the phone do so and write down the information the caller gives you. After you get all of the information, contact your EC or DEC immediately so that they can begin the appropriate alert procedure.

## **How To Respond**

Now that you've received an alert the first thing you have to do is ensure your own situation before you can render aid to someone else. Check that the building you're in isn't falling around you, etc. Next take care of your own home and family. This includes making sure that your family is ready to deal with the problems they are likely to encounter. The best way to do this is by preparation before the emergency. Talk about what you're likely to be involved with and how the family is going to deal with it.

Another aspect to consider is having food and equipment ready to go so that you're self-sufficient. Try to have sufficient supplies to last for 72 hours without outside help.

## **How are You Dispatched?**

There are two methods of dispatch employed by ARES/RACES. These are self-dispatch, and dispatch via assignment from the Resource net. How you are dispatched depends on the emergency plan for your city.

Self-dispatching means going to a pre-assigned location after you become aware of the emergency. Your responsibility might involve heading for the local hospital, or getting to the EOC as quickly as possible. Your EC would have established your responsibilities in prior training if your city plan employs self-dispatching. Self-dispatching has the advantage of putting trained individuals into critical spots quickly. The tradeoff for this form of dispatch is depending on specific individuals being available when the emergency is declared.

Self-dispatching DOES NOT mean heading to your position on a whim. You would respond under specific conditions — i.e., a severe earthquake occurred, or you were activated by phone tree. These conditions should be outlined in your city emergency plan. Ask your EC.

The Resource Net is the other mechanism employed by ARES/RACES for organizing manpower/hardware availability. Each county employs a single resource frequency where you can normally expect to find the net operating. The resource net's job is to recruit operators to fill job slots that have been requested for staffing by ARES/RACES.

If you are available (and trained) to fill a job that the resource net is trying to fill then simply call the Resource NCS and give NCS the information asked for. Nominally the NCS will ask for your name, call-sign, and a phone number where you can be reached. A VERY important step in this process is asking NCS what special equipment/training you might need for the job you're going to fill. Please DO NOT volunteer for a job for which you don't have the training/equipment. There will normally be plenty of positions that need filling, don't put yourself at risk by stepping into a situation you're not prepared for. Resource NCS will give you a time that you need to be on station. You should also find out who you should report to when you arrive. If there are any other special instructions, or if you have questions about how to get to the assignment, this is the time to ask Resource.

### **Responding to Your Assignment**

Before you travel to your assignment you should check in with Resource NCS and advise him/her that you are enroute to your assignment. Timely notification allows the Resource NCS to verify that all assignments are going to be filled as expected.

Plan on arriving at your assignment at least one half hour early. You want to relieve the previous shift on time because:

- 1) You expect the next shift to relieve you on time, thus, you should provide the same courtesy to the person you're relieving.
- 2) You need to receive a thorough briefing from the previous shift about the duties of the position you are taking over.

You want to arrive at the assignment safe and sound, so use care in driving to the assignment. Do NOT drive like an emergency vehicle with the lights and siren running.

If you have some form of identification for your car like the magnetic signs which say "Amateur Radio Communications", you should install them before you leave. This may help you get past road blocks, etc. a little more easily as you proceed to your assignment. Even with identification on your car you still might be stopped by law enforcement officials. Try to explain to the officer where you are going and why. If this doesn't work then call the Resource NCS and inform them of the situation. It may be necessary for them to contact the appropriate agency to get you past the road block. Just remain patient. The message will eventually get through and so will you.

Once you arrive at the assignment you should collect your gear and make contact with the person named by Resource NCS. This might be the operator you're relieving, the amateur radio Site Supervisor, or a liaison officer for the agency you're helping. This contact person should be able to either brief you on the job you are going to do, or direct you to the person who can. Once you get that briefing, you're ready to go!



## **Minimum Equipment List**

Anytime you respond for an ARES/RACES event, whether training or the real thing; there is a minimum set of equipment you should bring with you to get the job done. These items are:

1. A 2m HT.
2. A DSW ID card.
3. Radio license.
4. Message forms, log books, etc.
5. A 2m magnetic-mount antenna.
6. Spare batteries.
7. An ear/head-phone.
8. An ARES hardhat.
9. Appropriate clothing.
10. Paper and pencil.
11. County street map. (The Thomas Guide® recommended; assignments may be given in Thomas map coordinates.)

The majority of these items should be kept in a “Ready Box” so that all you need to do is pick up the box and you will be ready to go. You might also consider the items on the following list for inclusion in this ready box. This list is designed to allow you to stay in the field for up to 72 hours.

## **Extended Equipment List**

1. Toolbox (72 hours)
  - a. pliers
  - b. screwdrivers
  - c. socket wrenches
  - d. electricians tape
  - e. soldering iron and solder
  - f. VOM
  - g. power cord connectors
2. Radio gear
  - a. Rigs, i.e., other than 2m HT
  - b. microphones for the above radios
  - c. headphones
  - d. power supply
  - e. power extension cords (110V and 12V)
  - f. sealed lead-acid or gel-cell high cap. batteries (charged)
  - g. antennas with mounts
  - h. antenna feed lines
  - i. SWR bridge(VHF and HF)

- j. extra coax
  - k. antenna connection adapters
3. Personal gear (short duration)
- a. snacks
  - b. liquid refreshment
  - c. throat lozenges
  - d. personal medicine
  - e. aspirin
  - f. extra pair of prescription glasses
  - g. sunglasses
4. Personal gear (long duration)
- a. foul weather gear
  - b. 3 day supply of drinking water
  - c. 3 day supply of food
  - d. mess kit with cleaning kit
  - e. first aid kit
  - f. sleeping bag
  - g. toilet articles
  - h. alarm clock
  - i. flashlight with batteries
  - j. candles
  - k. 3 day change of clothes
  - l. waterproof matches

## **Part Two: ARES/RACES Operations/Types of Assignment**

This section of the manual describes some of the assignments you can expect to run into during ARES/RACES operations. A definition of each of the different jobs is given along with any special considerations for handling that assignment.

### **Special Events Communications — Are They Legal?**

The first question you should try to answer is whether the type of help that is being requested is appropriate use of ham radio. With the 1989 rewrite of Part 97 the rules are less vague about this issue than they use to be:

#### *97.113 Prohibited Transmissions*

*(a) No amateur station shall transmit any communication the purpose of which is to facilitate the business or commercial affairs of any party. No station shall transmit communications as an alternative to other authorized radio services, except as necessary to providing emergency communications. A station may, however, transmit communications to:*

*(1) Facilitate the public's safe observation of, or safe participation in, a parade, race, marathon or similar public gathering. No amateur station shall transmit communications concerning moving, supplying and quartering observers and participants for any sponsoring organization unless the principal beneficiary of such communications is the public and any benefit to the sponsoring organization is incidental.*

In practical terms this means that you can help the sponsor if your communications effort is primarily beneficial to the public. As an example assume that you are net control of a net working at a marathon. Water Station 1 calls and asks you to order 3 pizzas for them. This ISN'T appropriate because the primary beneficiary is not the general public but rather the hungry people at Water Station 1. Rover 2 calls in and informs you that a participant has collapsed. This IS appropriate use because someone's health is involved.

Personal safety of both you and the event participants is of paramount importance during any event. Always try to use common sense — i.e., don't put yourself into dangerous situations. (See the section on Safety) If a medical emergency should arise during the event you should do anything necessary in the realm of communications to assist. What this does mean is use your radio in any fashion that will help alleviate the problem. It's OK to hand the radio over to a paramedic or EMT to let them talk to a doctor. This is more efficient than having the amateur operator act as an intermediary. As a final word of caution you should always call for medical professionals to deal with any medical emergencies you may encounter.

The primary assignment of an amateur operator at any public service event is to provide communications. You are trying to act as a phone system for the different event officials. Do not make decisions on behalf of the event officials. Pass all the traffic on to appropriate officials AS WRITTEN; do not react to messages on their behalf.

### **Shadow Duty**

A Shadow is an amateur radio operator that is providing a communications channel between the person he or she is “shadowing” and other stations on the net. You have two duties here — one is to stick like glue to the person you’re shadowing without getting in their way. The second duty is to be prepared to communicate successfully from any place that your assignment might travel.

You need to ensure that you have the proper equipment to communicate on behalf of your shadow. As you take the assignment make sure that you ask Resource NCS about any special equipment you might need.

Quite often a shadow will have to talk from a moving vehicle as well as be able to move around in the field with the VIP. If this is the case then appropriate equipment would include a several-watt HT with alkaline batteries, as well as a mag-mount that can be placed on the exterior of the vehicle. If the official is expected to travel into very remote areas then a mobile 2m rig with 10-25 watts is also appropriate. Powering the larger 2m mobile rig can be tricky so you might also have to provide a 12 to 24 Amp-hour gel-cell if the vehicle doesn’t have a cigarette lighter where you might obtain power.

The last consideration and perhaps the most substantial is whether you have the appropriate training for the shadow assignment. Inquire with the Resource NCS as you take the assignment about such special circumstances. You should also make the VIP you are shadowing aware of your level of training so that you aren’t exposed to dangerous situations. An example might be shadowing the Incident Commander of a wildlands fire into the field. You should take this type of assignment only if you have had a formal fire line safety class.

### **Public Service Events**

There are several different types of events where ARES might be asked to assist with communications. You can expect to work at bike-a-thons, foot races such as 10Ks or marathons, car races, public festivals such as Cinco-de-Mayo, etc. The sponsors of any of these events might ask hams to help with communications.

You should ideally only be used as a communicator. It’s rather hard to turn down someone who asks for your assistance though. Perhaps the best advice here is to go ahead and lend a hand as long as it doesn’t interfere with the job you have to do as a communicator.

As with any event, the type of equipment you are going to need is a function of the job you expect to do.

### **If you're going to be the NCS you'll need**

1. A 10 Watt base radio.
2. A portable antenna such as a 2m J-pole with mount.
3. A battery with enough capacity to last your shift.
4. Table, chair, and writing implements.
5. Minimum ARES Equipment List items.

### **You're on foot**

1. An HT with at least a 1 Watt output level.
2. A hot-rod style gain antenna for the HT.
3. Minimum ARES Equipment list items.

### **Mobile in a car**

1. An HT with at least a 3 Watt output level or a mobile rig.
2. A mag-mount antenna mounted on the exterior of the vehicle.
3. Minimum ARES Equipment list items.

### **Red Cross Operations**

Amateurs have a LONG tradition of helping the Red Cross with their communications needs. In keeping with that tradition the ARRL formalized the relationship between the two organizations by signing a Memorandum of Understanding with Red Cross.

In providing communications for Red Cross you are most likely to operate either at a shelter, or at the Red Cross chapter headquarters. There is a different set of considerations for each of these assignments. When operating at a shelter site be aware of what are appropriate communications for amateur frequencies. Any message dealing with logistical or Health and Welfare is appropriate for amateur channels. Keep in mind that amateur frequencies are often monitored by news agencies. Traffic of a sensitive nature should be handled by a more secure communications medium such as the telephone. Equipment requirements for shelter duty may vary depending on whether the net is operating on a repeater or a simplex frequency. You should be prepared to bring:

### **Red Cross Net on a Repeater**

1. ARES Minimum Equipment List.
2. Hot-rod style gain antenna for the handheld.

3. Lots of blank message forms.

## **Red Cross Net on Simplex**

1. ARES minimum equipment list.
2. Base or mobile radio with a 10 to 25 watt output.
3. Portable antenna, such as a J-pole.
4. Lots of blank message forms.

Meals are usually provided at Red Cross shelter sites, so bringing your own food is usually not necessary.

When reporting for duty at the shelter, inform the shelter manager or amateur radio site supervisor of your level of training. This is to prevent being assigned a task for which you may not be qualified.

If you encounter any medical situations make sure that you notify the appropriate personnel instead of trying to deal with it yourself. Again, your primary responsibility is communications.

## **Being a Red Cross Shadow**

Shadow duty for the Red Cross will usually involve either providing communications for a Red Cross official, or acting as a radio operator for a Red Cross mobile unit such as a mass feeding station.

You will probably need both a mobile AND a handheld radio when shadowing a Red Cross official. If you are providing radio capability for a mobile unit a mobile radio system should be adequate.

When using a mobile amateur radio in a Red Cross vehicle remember that a 12 Volt source may not be available, and you may need to supply your own power source such as a gel-cell battery. Mobile unit duty is also likely to be a longer than average shift since you will be operating on the vehicle's shift assignment. It is conceivable to work as long as eight to ten hours on one of these assignments

## **Duty at an Emergency Operating Center (EOC)**

The government operates from an Emergency Operations Center (EOC) during an emergency, staffing the EOC with senior government officials to help administrate the event from one location. The EOC may be in a governmental building, at a police or fire department or other location. Amateur radio resources may also be operated from this location, and an Emergency Coordinator or other ARES/RACES official may operate from here.

As an emergency responder you may be asked to be a Net Control Station, a messenger, or a channel monitor. The Net Control Station may be handling one of the nets originating from the

EOC. Messengers move traffic between Red Cross or other officials and the EOC, or as spare hands as needed during the shift. The channel monitor position listens to public service frequencies to keep officials informed on the status of the incident.

The Net Control Station should utilize a fairly experienced operator. Special training should be taken before attempting this position during a major event.

The best background for someone filling a Messenger's position is a good knowledge of traffic handling. You can expect to take messages that are destined to go out via radio, and to deliver messages that have arrived from the radio circuit. It is also your responsibility to put any originating messages into proper format before they are sent. For more information, review the section on traffic handling earlier in this handbook.

A channel monitor listens to a public service frequency on behalf of the DEC/Shift Supervisor. You can expect to be briefed on the type of information to monitor as you start your shift. Generally anything that will help officials keep abreast of the event as it develops is of interest.

### **Equipment at the EOC**

There generally isn't any required equipment other than perhaps a handheld that might be used on a local intercom frequency. The EOC will normally be equipped fairly early in the event and the equipment can be expected to stay in place for the duration of the event.

### **MCIP Operations (Santa Clara County)**

The Multiple Casualty Incident Plan (MCIP) has been developed in Santa Clara County to deal with medical emergencies where there are many casualties. Management of such an event is expected to require multiple jurisdictions and mutual aid operations. Amateur Radio is a primary method used within the plan to allow responding agencies to communicate with each other.

There are three primary nets that will be used during an MCIP event. These are our standard Resource net, a Hospital Tactical Net, and an on-scene Tactical Net.

A Resource Net is established to begin the process of gathering amateur operators and equipment for response to the MCIP staging area. Under the MCIP plan the Resource net automatically has a set of amateur radio positions to be staffed. This will include sending two amateur radio operators to each of the area hospitals and a number of well equipped operators to respond to the MCIP staging area.

A NCS will also be required for the Hospital Net. This position can be staffed by any qualified amateur and operated from any convenient location. The Hospital Nets will coordinate information flow between the incident and the area hospitals.

As stated previously the MCIP calls for two member teams to staff each of the area hospitals. The first member of the team will operate a radio on the Hospital net while the second member of the team should position themselves near the emergency room. Locate the hospital net radio wherever the antenna drop is located. The second team member should notify the head of the Emergency Room that he is present and to what services can be provided, and ask where he may be located to provide communications in a place out of traffic. Both members of this team should choose a convenient intercom frequency that they can use within the hospital. It is suggested that 220, or 440 MHz is a good choice for this intercom channel.

### **Safety as an ARES/RACES Emergency Responder**

Within this manual we've stressed the importance of taking your safety as your own responsibility. There are several aspects to conducting yourself in a safe manner. The first step you can take is to be adequately trained. One way to extend your training is to take classes offered by other agencies.

The Red Cross offers classes in First Aid, CPR, etc. throughout most of the year. Any of these classes will enhance your own safety because you'll be more aware of how to take care of yourself.

CDF, through the VIP program offers an extensive training program in basic fire line safety. This training includes basic first aid, familiarity with how to equip yourself, what situations to watch out for during a fire, etc. This helps to improve your situational awareness as well as to be knowledgeable about what constitutes a dangerous situation.

With all this training it is still important to remember that you should only wear one hat during an ARES/RACES operation. You are there as a communicator, not a first aid provider, or a firefighter. This help avoid confusion about your role, and will prevent you from putting yourself into unsafe situations.

Safety is just as important at home. You should ensure that all is well at home before responding to an emergency. This allows you to keep your mind on the situation instead of worrying.

As you're working an emergency, you need to keep yourself aware of what is occurring around you. This is the only way you can expect to see a dangerous situation before it surrounds you! Keep your eyes open and your brain on full alert! Stay situationally aware.

### **Conclusion**

In this manual we have attempted to cover the basic requirements of being an emergency responder and how to go about that task. Just like any other endeavor the basis skills you need to develop require time and practice. Hopefully, the data presented here will help you in that

pursuit. If the only thing you gain from this manual is to BE CAREFUL and use common sense then the manual has succeeded.

## **Appendix 1 - Stress Management**

This section is extracted from a paper written by Sharon Moerner, N6MWD prepared after she gave a talk on Stress Management at the Emergency Response Institute on 6 May 1989 and at the Pacific Convention Division on 5 October 1989.

### **Types of Disasters**

Before discussing how to manage stress in disasters, it is important to provide a brief background on the nature of disasters. Riverine floods (flooding caused by excess precipitation over large land areas and/or by melting snow) are the most commonly occurring natural disasters in the United States, yet they do not cause the greatest difficulties for workers.

Research indicates that it is the disaster that strikes without warning that produces maximum social and psychological disruption for individuals. Typically, a flood gives people warning in the form of heavy rain or overfilled reservoirs; it rarely occurs as an absolute surprise. Technological disasters are thus more stressful for victims and workers than are natural disasters. This is both because such disasters often occur without warning and because both victims and workers have a feeling that a manmade or technological disaster “should have been” prevented. Last but not least, disasters that occur at night are reported to be more psychologically disturbing than those that occur in the day.

### **Community Reactions to a Disaster**

Contrary to popular belief, panic does not generally follow a major catastrophe! In other words, mental illness does not suddenly appear on the scene in full blown florid state. People rarely disintegrate and become incapable of coping nor do people become shells of their former selves—incapable, ineffective, self-centered, and thoughtless. If panic occurs at all, it is most likely during the period of threat; disasters that give warning may precipitate panic in some but it is relatively rare.

In a disaster, people respond to active interest and concern. It can not be emphasized enough that disaster stress reactions are a normal response to an abnormal event.

In a disaster, people experience problems of living and readjustment. Consequently, there are certain thoughts and feelings that are common to all who experience a disaster. If you are an emergency worker who is also a victim in a disaster, you may experience many of the following normal symptoms:

- a. concern for basic survival
- b. separation anxiety centered on the self and also expressed as fear for the safety of significant others

- c. regressive (immature) behaviors
- d. relocation and isolation anxieties
- e. the need to express feelings about experiences during the disaster
- f. the need to feel one is part of the community and its rehabilitation efforts
- g. altruism (the desire to help others).

There may also be grief over the loss of loved ones or loss of prized possessions. In such cases, there may be somatic distress (stomach disorders, shallow breathing, exhaustion), preoccupation with image of the deceased, guilt (especially if you felt the tragedy could have been prevented), hostile reactions (irritability, anger, avoidance of friends/relatives), changes in routine behaviors, and you or the other bereaved may take on the behaviors of the deceased person.

### **Stress Theory**

“So there are a few generic symptoms in a disaster—how does that effect my work as a communicator?” you wonder. To understand, a quick explanation of stress is in order. Basically, certain external events (stressors) can put extra demands on the individual (stress) which can lead to physical and/or emotional wear and tear (strain).

Hans Selye proposed a three stage General Adaptation Syndrome (GAS) to explain stress. In the Alarm Phase, the body gears up for stress or a “fight or flight” response. In this phase, there is an increase in the body’s heart rate, blood pressure, and muscle tension. This is very useful as it provides the body with additional strength, produces highly focused behavior, and assists in task performance.

The second phase is called the Resistance Phase and the above noted local physiological defense mechanisms in the system take over. The individual looks as though s/he has adapted to a stressful lifestyle. In the Exhaustion Phase, however, the body’s defensive resources are overtaken. Symptoms appear such as gastrointestinal tension, nausea, muscle tremors/cramps, heart palpitations, ringing in the ears, muffled hearing, or profuse sweating. If this continues for too much or too long, stress can culminate in death (think of Type A workers, early heart attacks, and ulcers to better understand the potential lethality of stress).

Clearly, stress is not all bad! People often perform at their best when a tad bit stressed or when aware of being under observation. The problem is when stress accumulates without respite. Unfortunately, this problem occurs to disaster workers and the following sections will discuss both the types of stress inherent in disaster situations and how to cope with stress.

### **Types of Stress on Workers**

There are three major types of stress that emergency responders face in a disaster: event stressors, occupational stressors, and organizational stressors.

Disasters that are particularly hard on responders contain event stressors that entail personal loss or injury, traumatic stimuli, and mission failure or human error. Stimuli such as painful deaths, gross violations of physical integrity, contact with mutilated bodies, or the death of children are especially traumatic, and it can be anticipated that an emergency responder dealing with such stimuli will have emotional problems at some point. Although it is unlikely that we, as communicators, would have responsibility for life and death decisions in triage, the research indicates that emergency responders with these responsibilities greatly suffer in the face of such traumatic situations. An additional event stressor is a manmade disaster where both victims and workers are often outraged that the event was allowed to occur. Mission failure or human error may generate a strong sense of powerlessness and helplessness among responders. There is consequently a high degree of anger which may interfere with the emotional recovery process (to be discussed below).

Occupational stressors faced by emergency responders include things such as time pressures, work overload, hazardous work environments, and conflicts or uncertainties in the work situation. Unfortunately, heavy work loads, long hours, and pressure to accomplish difficult tasks quickly are inherent in emergency and disaster work. There are often periods of low activity and little pressure that may then be interrupted suddenly by incidents that demand great concentration and physical exertion. The unpredictability of a disaster's workload is stressful as is the difficulty in controlling the environment. It is important to be aware of the fact that noise alone, especially with extended exposure, is stressful (wearing headphones thus decreases your stress while also enabling you to hear).

Organizational stressors are concerned with the conflicts and uncertainties in a worker's role or at the work site. Role conflict or role ambiguity are terms frequently used when describing organizational stressors and it has to do with the uncertainty surrounding the nature/purpose/responsibilities of one's job. Hams are frequently faced with this particular stress if we lose sight of the fact that communication, not decision-making, is usually our role in a disaster. Any uncertainty about our duties, however, may lead to emotional costs in the form of tension, dissatisfaction, and lowered self-esteem.

### **Disaster Worker Phases of Stress**

There are four major phases of stress: Alarm, Mobilization, Action, and Letdown. Each of these phases is associated with certain reactions that can be divided into four areas: physiological reactions, cognitive reactions, psychological/emotional reactions, and behavioral reactions.

In the Alarm Phase, we are having to comprehend and adjust to the news of the disaster. In other words, our energy is geared toward collecting and making sense of the available facts and

information. People initially feel shocked and stunned. The Alarm Phase is quickly followed by the Mobilization Phase. In this latter phase, the focus is on the development and coordination of plans. Supplies, equipment, and manpower are inventoried and mutual assistance may be requested at this time.

The physiological reactions to the Alarm and Mobilization Phases are such that our bodies gear up for a “flight or fight” response. Our bodies begin to mobilize for peak performance and so we find increases in our pulse, respiration, blood pressure, and perspiration rate. Our major cognitive reaction (cognitive means it deals with our thought processes) is one of disorientation. We may have difficulty in making sense out of all the information coming in; we have trouble comprehending the scope of the event.

The psychological/emotional reaction during the Alarm and Mobilization Phases is largely one of shock; there is often anxiety or fear about what will be found at the scene. Behavioral reactions include: difficulty communicating or putting thoughts into words, increased levels of activity, and decreased efficiency.

In the Action Phase of disaster worker stress, we see responders who are actively and constructively working at necessary tasks. There is a high level of activity and stress. The following physiological reactions are the first reactions to occur in acute stress reactions (but may be the last symptoms to appear in chronic stress or burnout so these may be seen at both the beginning of a disaster and at the end of a long, drawn-out disaster).

- a. increased pulse, respiration, blood pressure, perspiration (if this continues for too much or too long, there is often gastrointestinal tension, nausea, muscle tremors/cramps, heart palpitations, ringing in the ears, muffled hearing, and profuse sweating)
- b. trouble getting breath; increased problems with allergies, skin conditions, and asthma
- c. nausea, upset stomach, diarrhea
- d. sweating or chills; cold hands/feet; clammy skin; tremors (especially of hands, lips, and eyes)
- e. muffled hearing
- f. headaches
- g. feeling weakness, numbness, or tingling in part of the body; feeling uncoordinated
- h. muscle soreness or stiff neck; lower back pain
- i. lump in the throat
- j. chest pains (have this checked at the hospital)
- k. faintness/dizziness; fatigue
- l. exaggerated startle reaction

- m. appetite change; weight loss/gain

The cognitive reactions are the next to occur after the physical symptoms in acute stress situations. These include: (a) memory problems/short term memory loss, (b) disorientation, (c) difficulty naming objects, (d) trouble comprehending information—mental confusion, (e) difficulty calculating, (f) difficulty making judgments, decisions, and problem solving (g) poor concentration and limited attention span, and (h) loss of objectivity with an inability to use logic to solve problems.

The numerous psychological/emotional reactions and behavioral reactions during the Action Phase of disaster worker stress are outlined below:

<u>Psychological/Emotional Reactions</u>	<u>Behavioral Reactions</u>
feeling high/heroic/invulnerable	difficulty communicating
feeling grateful for being alive; euphoria	inability in expressing oneself verbally or in writing
anxiety/fear	hyperactivity
strong identification with the victim	effectiveness of activity
blaming and anger	outburst of anger
irritability, restlessness, hyperactivity	frequent arguments inability to rest or let down.
sadness, grief, depression, and moodiness	crying periods; may begin to cry with no reason; prior neutral stimuli take on new significance (BBQ meat reminds one of burned flesh)
recurrent dreams of event or other traumatic dreams	
guilt	wanting to do more to help
feelings of isolation, detachment, and estrangement	increased use of alcohol tobacco/drugs
feeling lost or abandoned	social withdrawal, distancing, or limiting contacts with others
apathy; diminished interest in usual activities	sexual problems
denial or constriction of feelings; numbness	increased accident-proneness
excessive worry about the safety of others	

Included under the Action Phase is that symptom known as *Burn-out*. This is a state of exhaustion, irritability, and fatigue which creeps up unrecognized and undetected upon an individual. Others around the worker can tell s/he is burned out as the worker's effectiveness

and capability markedly decrease, but the worker is often unaware of it. All of the previously mentioned symptoms may be apparent in Burn-out and it takes about 4-6 weeks for most of the symptoms to disappear.

The Letdown Phase is the transition from the disaster operation back into the normal routine of work/family life. This phase is often the most intense period of emotion for workers. There is difficulty letting go and resistance to ending the disaster operation. Responders report a restlessness or inability to get involved with regular work activities and many feel a lack of closure (hams may be dismissed once the communications emergency is over but the disaster isn't "over" for everyone else). There tends to be estrangement from peers who were not part of the disaster operation and this results in feelings of alienation and increased tension within the family or among co-workers. Many emergency responders withdraw during this period because they feel their families can't understand what happened or because they want to protect their family from the more terrible aspects of the disaster. Workers may respond in one of two directions, (a) they need to ventilate (repeatedly talk) of the event or (b) they withdraw and subsequently deny their feelings and they are very unwilling to talk about their experience.

### **Coping with Worker Stress**

Terrific, now that we know what kinds of stress we may encounter, what do we do about it? The first step is to become aware of what YOUR stress symptoms are. Many people can identify their physiological reactions to stress—just think about what you do in everyday life when under tension. Sweaty palms? Neck aches? Weight change? After thinking about your physical response to stress consider your other reactions. Do you have a tendency to get snappish or irritable when stressed? Do you tend to “zone out” or become a zombie when overwhelmed? Are you incredibly active without being effective?

It is essential that you become sensitive to and define your reactions to stress. When you then go into a disaster situation, develop a “buddy system” with another ham or emergency responder. Tell him/her what your signs are BEFORE you get stressed out (and ask them to tell you their signs of stress) and agree to tell each other when things are becoming a problem. The idea is to have someone be able to help you identify when you've reached your limit (or for you to help them notice they've reached their limit). As mentioned, one of the reactions during a disaster is an inability to rest which may also be combined with a feeling of being invulnerable or on top of things. The problem is that one of you may be feeling “great” and yet displaying multiple symptoms of stress such that you or your buddy are basically ineffective. Having agreed beforehand that you and your buddy can give each other a brief hint when it is time to take a breather will do wonders to decrease the stress.

As a general rule, it is helpful to maintain supportive interpersonal relationships during a disaster. A sense of teamwork and of everyone being “on the same side” helps to decrease personal stress levels.

Another useful trick is to use positive self-statements to help stabilize and reinforce yourself. Rather than thinking, “I’ve got to hurry and pass this traffic and then I’ve got to go check over here,” say things to yourself like, “you’re doing fine—keep on track, but don’t get rushed.” Give yourself positive feedback and reinforcement; “You’re doing fine—this is a piece of cake for you”, rather than, “I’m a terrible net control and everyone is laughing at me”. Use distraction or thought stopping techniques to deal with unwanted or irrational thoughts. For people who are visual, see a big red stop sign or the words “STOP” in your head. For those of you who are not visually oriented, say the word “STOP” (or anything else) to yourself.

If you are a supervisor or in a management position, it is important that you help to establish shifts that are reasonable for the disaster. People are far more effective working (for example) a six hour shift with five minute breaks between each hour than to work four hours non-stop. Although you may have workers who feel comfortable working 12 hour shifts back-to-back, BEWARE! It is unlikely that your workers will be effective and there is no point in pushing burnout among your volunteers. In addition, you must limit an emergency worker’s time in high stress environments. Some areas are more stressful than others; working on a fireline may be harder than working at a base camp whereas shadowing the Public Information Officer may be easier than shadowing the Triage Team Leader.

Although we have been involved in tests of the Multiple Casualty Incident Plan in which we see people made up to look injured, we still know it isn’t “real”. In a disaster, however, having to work in the morgue or among mortally injured humans is one of the most stressful positions to be in. (NOTE: it is recommended that people be rotated out of the morgue unit no less frequently than every two hours.) If you find yourself assigned to such a traumatic area, redefine the unsavory sights to make them less threatening. Consider the body parts as some kind of object, such as waxworks, scientific specimens, or mannequin parts. Doing this on the scene will decrease your stress and enable you to work more effectively although you will probably need assistance later in dealing with what you saw.

If you find yourself involved in a long disaster operation away from home, make every effort to stay in touch with your family and friends. Bring a small picture of your loved ones or something that reminds you of home (that old teddy bear?) to help remind you that this disaster isn’t “normality”.

Like many things, preparing now for a disaster in the future will benefit you. Being in good physical condition before a disaster means the physical reactions to stress will take less of a toll. Just because you are helping in a disaster does not mean you should stop exercising, eating right, and relaxing. There are many books available on how to take care of yourself in the area of nutrition, exercise, and relaxation so I won’t go into detail here except to note a few things: (a) a diet too low in calcium can leave one feeling anxious, irritable, or fatigued (sound like a familiar stress reaction?), (b) vitamin C is essential in the functioning of your adrenal glands (which help to keep emergency workers alert), (c) alcohol and caffeine can deplete the system

of B vitamins and minerals yet “B’s” are helpful in coping with stress, and (d) it is best to eat frequently and in small quantities during stressful situations.

Last but not least, I strongly encourage that a debriefing be held after a disaster operation. A debriefing is a time to provide information about normal stress reactions and a chance for people to express their feelings about the event. A debriefing is not the same as a critique; the former allows ventilation of feelings—while the latter provides feedback and constructive criticism about the event. “I was scared, nauseated, and loved every minute of it” may be said in a debriefing whereas “ATV would have been great in this event and how come I didn’t get to be net control” would be appropriate in a critique.

I hope this is helpful for you. Anyone interested in more information about stress responses or coping in a disaster can obtain several (free) useful booklets by writing to: National Institute of Mental Health, 5600 Fishers Lane, Rockville, MD 20857, <http://www.nimh.nih.gov/>.