



County of Orange RACES

NetControl

November 1998



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

Top Stories

Historic Proportions

by: Lt. Joe Selikov, KB6EID

On the morning of October 17, 1998 OCRACES activated the largest Simulated Emergency Test (SET) ever undertaken in the history of the organization. The event started at 8:00 AM and ended at 12:00 noon. Eighty eight (88) Operators, four (4) Counties, fifteen (16) Cities, two (2) State OES sites, and fifty seven (57) Agencies passed two hundred and seven (207) messages while using twenty three (23) different repeaters or simplex frequencies. Although OCRACES has conducted SETs before, this one was the first that tested the groups ability to pass large amounts of interagency radio traffic and coordinate large scale mutual aid request within and outside of the County.

The SET scenario was a wide-area

power failure which resulted in a black-out condition for most of Washington, Oregon, California, and Central and Southern Nevada. High temperatures and high wind conditions produced life-threatening situations for hundreds of



thousands of people. Some areas were expected to recover power within hours while most areas would soon require additional emergency personnel, medicine, food, water, and portable generators. Amateur Radio communication resources were called upon to help local and state

Nov. Meeting

Our November 2, 1998 General Meeting is one you won't want to miss. Paul Russell, KD6COP from the Orange County HCA/ Emergency Medical Services Agency and April Moell, WA6OPS of the Hospital Disaster Support Communications Service will present a fascinating look at Amateur Radio in the emergency medical service arena. Walter Wilson, K7WWW will also provide a briefing covering our duties during the General Election on November 3, 1998. This open meeting starts at 1930 hours at the usual meeting location, 840 N. Eckhoff Street in Orange.

officials obtain disaster status reports and to coordinate deployment of personnel, equipment, and emergency supplies.

All available OCRACES members were to report to the Emergency Operation Center (EOC) located on Loma Ridge. All radio

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Upcoming Events

Nov. 2	General Meeting, Alternate EOC
Nov. 3	General Election
Nov. 9	Staff Meeting, Alternate EOC, SET Critique, Open meeting
Nov. 14	La Palma Days Parade, Mutual Aid Requested
Dec. 7	General Meeting, Alternate EOC
Dec. 14	Staff Meeting, Alternate EOC
Jan. 4	General Meeting, Alternate EOC
Jan. 11	Staff Meeting, Alternate EOC
Jan. 25	City/County RACES meeting, Alternate EOC

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Captain's Corner

By Ray Grimes

This was another busy month, but if you think about it, it's the action that most of us wanted from OCRACES when we joined. The month included ERI, the California OES/ACS Emergency Response Institute, which was held at the Ben Clark Training Center at March Air Force Base, in Riverside County. Several OCRACES members made technical and operational presentations to an audience of emergency responders from all over Southern California. I think it is especially noteworthy that so many OCRACES members were asked to make presentations. This affirms what I already knew; that OCRACES members bring a wealth of high-tech knowledge and professional disaster communications and operations expertise to our organization, and we can be proud that others recognize our abilities and come to us for advice.

October 10 was the Brea Rally-Mountain Bike, Equestrian and Hikers event at Chino Hills State Park. Four OCRACES members signed up to support our friends in Brea RACES.

October 17 was the Simulated Emergency Test (SET). The scenario was a multi-state, area wide major power outage. Add high temperatures and high winds and you have a large-scale emergency scenario where entire cities and communities are in need of emergency food, water, portable generators, medical supplies and care, and

of course, radio communications. This exercise was a first for Southern California where neighboring cities, counties, the state, and other disaster agencies all joined together in a mutual-aid voice communications drill. There were moments where the radio traffic and message passing was intense, but we handled it well. We also had the opportunity to work alongside HDSCS operators in the Loma Ridge RACES room. That proved to be a valuable relationship which will undoubtedly be implemented should we activate for "the real thing". Several of us received training at the various OCRACES radio positions, handling traffic and filling-out message forms. Others learned to operate the State OASIS communications system. A side benefit of this exercise was that we also were able to observe how well the Loma Ridge RACES facility operated when every radio was turned on and transmitting. While there was some inter-modulation, no communications were lost, and all systems worked reliably. One interesting situation during this exercise was that the audible noise in the RACES room became intolerable, with 15 people in the room and every radio operating. This drove everyone to find the headsets which have been stored in each operating desk. That solved most of the noise problems. This quiet radio operation produced a new challenge though. It was not possible for a shift supervisor to

casually monitor radio operations at the radio positions when headsets were in use. I am in the process of obtaining dual headset plug adapters which will allow a supervisor to patch-in at any radio position as needed.

While OCRACES member involvement for the SET, was very good, it could have been better. There are a few members who missed this important exercise and past exercises. This becomes a concern in that OCRACES must always be ready to handle any emergency communications challenge. Quick response, accurate message handling, and effective field deployment only comes from training, and more training. It is the responsibility of every OCRACES member to take advantage of the training provided, and to take it upon himself (or herself) to seek new knowledge and information, not waiting for someone to make it available.

City Watch

Newport Beach

Assistant Chief Radio Officer Ken Mirabella, KM6YH, will speak at the November 9 meeting. For further information contact Marty Mitchell, N6ZAV.

ECC News and Views

by Robert Stoffel

October saw the largest single communications exercise in OCRACES history. This four hour drill included participation from OCRACES, HDSCS, and RACES organizations from Anaheim, Brea, Buena Park, Cal State Fullerton, Costa Mesa, Cypress, Fullerton, Huntington Beach, La Palma, Mission Viejo, Newport Beach, Placentia, Westminster, Yorba Linda, Los Angeles County, San Diego County, Riverside County and State OES. An open critique will be conducted Monday November 9, 1998 at 1930 hours at OCS/D/Communications, 840 N. Eckhoff Street in Orange. All participants are welcome

and encouraged to attend.

I would like to thank Ken Mirabella, John Roberts and Walter Wilson for responding to the Brea RACES Mutual Aid request and providing support to the Chino Hills State Park event. A Mutual Aid request for La Palma RACES is coming up on Saturday, November 14, 1998. Contact your Radio Officer if you are able to participate in the La Palma Days Parade from 0600 until 1400.

It may be hard to believe, but the first Baker to Vegas planning meeting was held in October. This meeting identified

the key positions OCRACES will establish for the 1999 race. Congratulations to the following OCRACES members who will fill these key positions. Mike Krueger, Coordinator; Dave Boehm, Assistant Coordinator; APRS Manager, Ken Mirabella; ATV Manager, Jim Carter; Personnel Manager, Steve Sobodos; Equipment Manager, Roger Woodcock; and Communications Manual, Walter Wilson. Monthly updates will be provided in each NetControl as the planning efforts continue. Baker to Vegas is scheduled for April 10 & 11, 1999.

Training

The Sky is Falling!

by: Ray Grimes, W6RYS

Chief Radio Officer, OCRACES

To quote the San Francisco Examiner, "a spectacular meteor storm will ignite the heavens in Mid-November, possibly sand-blasting satellites and threatening everyday services from cell phones to TV shows to data communications". This article notes that the last major meteor shower took place in 1966 when thousands of meteors per minute shot across the North America sky. Of course, there were very few space satellites then, so the impact to terrestrial communications was minimal.

In case you were wondering, a comet is composed of ice and dust particles. Some astronomers refer to comets as "dirty snowballs". Comets rarely come close to the earth. When a comet travels close enough to the sun to allow its ice to melt, a trail of dust is released which burns or glows. This is what we call the comet's tail. Comets may remain visible for weeks or months. Meteoroids are the smallest particles orbiting our sun, and are composed of minute dust particles from comets. The majority of these particles self-destruct as they enter earth's atmosphere, being visible for a matter of seconds.

The November 16-17 meteor shower is composed of debris from the Tempel-Tuttle comet. The earth passes through the path of this comet every November 17 and 18, but at approximate 30 year intervals the earth travels through a particularly dense segment of the particle cloud. Though the meteors are smaller than grains of sand, they travel at more than 155,000 miles per hour, with a density of 40 meteors per second, and sometimes 50,000 per hour. These high speed particles, though tiny, have sufficient velocity to damage or destroy delicate space satellites. When clusters of these particles invade the earth's atmosphere, it will appear at night as a large fireworks show as they

burn and glow.

NASA is taking this meteor threat seriously, turning the Hubble Space Telescope away from the storm so as to protect the delicate mirror. Other satellites may be reoriented so that the smallest cross-section is exposed to the meteor showers. Satellites turned away from their earth orientation will remain out of service until realigned. Damage to satellite systems could manifest itself in the form of electrostatic damage, though major mechanical destruction is not anticipated. The LEO's (low Earth orbiting satellites) with an orbit of 500-900 km and MEO's (medium earth orbit satellites) with an orbit of 5,000 to 12000 km will be least impacted. The GEO's (geo-stationary Earth orbit) are most at risk, with an orbit of 36,000 km, placing them outside of earth's atmospheric protection. GEO's include the TV direct broadcast satellites which also relay worldwide military and civilian voice and data transmissions on their sub-carriers. The lower Earth orbit satellites carry the bulk of mobile and portable voice and data communications systems. Located in geo-stationary orbit between the GEO's and MEO's is the GPS (Global Positioning System) at an altitude of 20,100 km.

You can now visualize the potential for worldwide communications and navigation chaos should even some of these satellites fail. The recent Galaxy satellite disruption inspired an important message for satellite-dependent communications systems users. Don't place all of your eggs in the same basket! No one knows what the actual impacts of this meteor shower will be. At minimum, there will be a planned temporary loss of service as satellite antennas are oriented away from the meteor shower. At worst, we may have depend upon more earthly communications systems for a while, returning to HF radio, point to point microwave, Land Mobile Radio, and yes, Ham Radio too.

**We have certainly become
satellite dependent!**

(SET from page 1)

consoles within the RACES room would be manned for the entire SET. In addition, the Hospital Disaster Support Communications System (HDSCS) provided an operator to monitor their coordination frequency from within the RACES room thus enhancing the ability to rapidly convey needed information to and from the County Hospital facilities.

County and City Participants:

Counties of:

Orange
Los Angeles

Cities of:

Fullerton
Seal Beach
Los Alamitos
Brea
Anaheim
Yorba Linda
Placentia
Huntington Beach
Orange
Fountain Valley
Stanton
Buena Park
Cypress
Costa Mesa
Westminster
Long Beach

Also:

Calif. O.E.S. Los Alamitos, San Diego
CSUF

Orange County Hospitals
Ben Clark Training Center, Riverside County

Agencies Receiving Messages/Support

Calif. State O.E.S. Southern ROC,
San Diego EOC
OC Sheriff
OCFA/HAZMAT
Orange County Public Works
L.A. County Sheriff
L.A. County Fire
L.A. County Public Works
L.A. County DCS
U.S. Congress
V.A. Hospital
Bellwood Comm. Hospital
Pacifica Hospital

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State Emergency Response Institute Report

OCRACES Provides Great Speakers for ERI '98

By Ken Bourne, W6HK
Deputy State ACS Officer
California Governor's Office of Emergency Services

Six members of County of Orange RACES gave outstanding presentations at the Emergency Response Institute on October 10 and 11, 1998. Their highly informative sessions were a major factor in the success of ERI '98.

ERI is an annual event of the California Governor's Office of Emergency Services, Auxiliary Communications Service, and is usually co-hosted by at least one other agency and/or RACES organization. This year ERI '98 was co-hosted by the Riverside County Fire Department/Riverside County RACES, and was held at the Ben Clark Public Safety Training Center near March Air Force Base.

The theme of ERI '98 was "D2K—Dealing with the Disasters of the Next Millennium." Many of the sessions dealt with potential emergencies resulting from "Y2K," when computer and other failures at the turn of the century could cause disruptions of critical communications systems and other vital services. Details were given of steps to be taken to prevent catastrophic failures. Other sessions covered available communications systems and services.

OCRACES Chief Radio Officer Ray Grimes, W6RYS, presented information on the planning, design, and installation of communications systems for high-seismic-



risk locations. These methods have been applied in California radio communications sites for over 15 years with great success, and undoubtedly will be applied to the sites of many of the attendees of Ray's session.

OCRACES Visual Communications Coordinator Jim Carter, WB6HAG, and Jack Barth, AB6VC, talked about the use of amateur television in RACES communications. They discussed ATV operating modes, the advantages for using ATV wireless transmissions during emergency events, and the various video equipment available for field use.

OCRACES Assistant Radio Officer/Training Officer Mike Krueger, N6MIK, gave a course on "Communications for Urban Disaster Response." Attendees who completed this course are now able to identify urban disasters and their unique need for specialized communications support, develop an initial response plan for their agency, establish on-site communications command posts, anticipate the changing communications needs of a long-term incident, design and deploy a successful on-site disaster communications infrastructure, and successfully demobilize their communications equipment and retain assets.

Dan Welch, W6DFW, had good attendance at his session on APRS (Automatic Position Reporting System), which is becoming increasingly popular in RACES

groups for tracking mobile and portable stations. Dan explained how an APRS system is configured. He also discussed MIC-E, a system that sends an APRS packet burst automatically at the end of a voice transmission.

Chris Storey, KA6WNC, and his father, Rene Storey, W6YBW, gave two highly informative courses. Their Saturday course was on SHARES (Shared Resources High Frequency Radio Program), which provides a single, interagency, emergency message-handling system by bring together existing HF radio resources of Federal and federally affiliated organizations when normal communications are destroyed or unavailable for the transmission of national security and emergency preparedness information. Their Sunday course was on the Military Affiliate Radio System (MARS), with emphasis on Navy-Marine Corps MARS.

Other ERI '98 courses were taught by personnel from State OES, Pacific Bell, Los Angeles Fire Department, American Mobile Satellite, Hospital Disaster Support Communications System, Glendale Emergency Amateur Radio Service, Salvation Army, and ARRL/Orange Section. Because of the Success of ERI '98, it is likely that State OES (and its co-hosts) will hold three ERIs per year, one in each Region (Southern, Inland, and Coastal). The next Southern Region ERI will be even better, and all OCRACES members are urged to attend. Thanks again to OCRACES for providing such excellent speakers for ERI '98.

ESP

Nov. '98

Windstorms



High winds, particularly the hot, dry Santa Ana winds that visit Southern California every year, are another force of nature with which residents must reckon.

Winds can reach speeds of more than 100 miles per hour and are capable of causing structural and nonstructural damage to homes, downing power lines and increasing the risk of wildfires.

Before the next windstorm, develop an emergency plan, assemble emergency supply kits and trim trees; during the storm, stay indoors and listen to your radio; afterwards check for and document damage.

For more information on the Earthquake Survival Program (ESP), contact your local Office of Emergency Services.

The Los Angeles County Office of Emergency Management has a program called ESP which stands for Earthquake Survival Program. As part of that program they supply a set of articles which focus on a different hazard each month. **NetControl** will publish each month's hazard through the end of the year.

Committee Reports

Visual



Communications

Coordinator: Jim Carter (WB6HAG)
Web page:
[http:// www.qsl.net/wb6hag/](http://www.qsl.net/wb6hag/)

Tri-Agency Update - SCRRBA was approached last month for obtaining frequency coordination in the 2GHz and higher frequency areas. Presently we are awaiting their response. Until such time, the Tri-Agency program is on hold.

ATV Communication Channel Frequency Change - TASMA is voting on an APRS proposed frequency change in the near future to allow their operating frequency to change from 146.79MHz to 144.39MHz. Presently, the 144.39MHz frequency is our simplex ATV voice communication channel. A new frequency of 144.34MHz will be used for ATV, once the proposal is accepted.

Emergency Response Institute (ERI) - OCRACES use of ATV was presented by

Jack Barth (AB6VC) and Jim Carter (WB6HAG) to ERI participants in Riverside on October 10th. Attendees were introduced to; the different ATV signal modes, ATV equipment used, and how beneficial ATV is to RACES communications. Their interest was overwhelming! Many participants missed the next scheduled presentation in order to seek answers to their many ATV questions.

2.4 GHz Project - Jack Barth project leader, reported obtaining another Wave-Com transmitter that was upgraded from 2Mw to 90 Mw. This gives us the capability for having two 90 Mw transmitters for field use.

Members Needed - If you would like to learn about ATV or provide assistance to the Ham Fax development. Please contact Jim Carter (WB6HAG) for additional information.

Uniforms



Coordinator: Roger Woodcock , KF6CJJ
Voice : # (714) 776 - 3567
Pager : OCAP # 7656
E-Mail : KML654@AOL.COM

Orders for the Official RACES class B polo shirts are now being taken. All orders must be submitted, by E-Mail, letter, or voice to me by Thursday, November 5th. Please include your full name, rank (if applicable) and full call-sign.

Prices (including tax) are as follows :
Small, Medium & Large -- \$ 23.72
XL and XXL sizes -- \$ 25.33

Payment for your order can be made during the November staff meeting on Monday, November 9th. All funds must be collected by, Thursday, November 12th. No late orders or payments can be accepted after the posted deadlines.

If paying by check, please make it payable to me.

Thank You & 73's
Roger

Net Control Assignments

by: Ray Grimes, W6RYS
Chief Radio Officer OCRACES



OCRACES members are reminded to mark your calendar with the dates you have net control duty. This information is published monthly in Net Control, and is also available on the OCRACES web page. There are a growing number of incidents where the assigned person fails to assume scheduled net control duties and no backup operator has been arranged.

While we all have busy schedules which can take us away from OCRACES obligations, it remains the duty of each member to arrange a replacement for net control or other assumed duties. If it is not possible to locate a replacement OCRACES member, then you should notify your sergeant, lieutenant, or myself as soon as possible.



Coordinator: Lt. Mike Krueger, N6MIK
E-mail: mikek@deltanet.com

The 1999 Baker to Vegas communications staff met on Wednesday, October 21 at the Eckhoff Facility to begin making plans for the race, to be held April 10-11 1999. The finish line will be at the Rio Hotel and Casino in Las Vegas, and the OCRACES Communications Command Post will be in Pahrump. We will again be providing voice communications for the OCSD teams, and APRS for up to 50 follow vehicles.

The communications coordinator this year is Mike Krueger, and assistant communi-

cations coordinator is David Boehm. Reporting to the coordinators will be three managers, each with their own responsibilities. Ken Mirabella is the APRS Technical Manager. He is responsible for designing, programming and testing the APRS beacons prior to the race, and interfacing with outside agencies that wish to use our APRS system to track their follow vehicles. Roger Woodcock is the Equipment Manager, responsible for securing all equipment, such as radios, antennas, TNC's etc., scheduling installation sessions, and maintaining equipment records. Steve Sobodos is the Personnel Manager, and will be responsible for scheduling volunteer communicators for all OCSD team vehicles and support positions and maintaining the master roster list.

We will have a short discussion about the new radio system and APRS system at the next OCRACES meeting. There are a lot of changes in the works that will make the event more fun, and less work for everyone.

(SET Continued from page 3)

Huntington Beach Med. Center
Huntington Beach PD & Fire
Huntington Beach Pacifica Hospital
Orange Coast Hospital
Placentia Linda Hospital
San Clemente Comm. Hospital
Saddleback Comm. Hospital
Santa Ana Comm. Hospital
St. Joseph's Hospital
St. Jude Hospital
Tustin Comm. Hospital
UCI Med. Center
West Med. Anaheim Center
Santa Ana Trauma Center
Anaheim General Hospital
Anaheim Memorial Med. Center
Brea Comm. Hospital
Chapman Comm. Hospital
CHOC
Coastal Comm. Hospital
College Comm. Hospital
Fairview Comm. Hospital
Garden Grove Comm. Hospital
Hoag Comm. Hospital
Huntington Beach Comm. Hospital
Irvine Comm. Hospital
Kaiser Anaheim
La Palma Comm. Hospital
Los Alamitos Comm. Hospital
Martin Luther
Mission Comm. Hospital
CSUF
HDSCS
L.A. Salvation Army
Santa Barbara Red Cross
KFWB News
City of Fullerton
City of Anaheim
City of Brea PD & Fire
City of Seal Beach Police
City of Los Alamitos
City of Placentia
City of Huntington Beach Police/Fire
City of Cypress Police
City of Long Beach Police



some public officials. Over the period from 1985 through 1994 the United States had an average of 2.2 million reported fires. Each year fires caused an average of 5,300 civilian deaths, 29,000 injuries, and a \$9.4 billion loss.

U.S. fire trends are largely what you might expect. Deaths from careless smoking dropped significantly (48%) over 10 years. This tracks the downward trend in smoking in this country, and perhaps an upward trend of residences having smoke detectors. Heating systems deaths peaked in 1985 then fell 52%; moving from 2nd to 3rd place in fire causes. Arson has been the second leading cause of fire deaths since 1986. Fire deaths from children playing with fire dropped from 1988 to 1990 but has trended upward since. Outdoors fires increased from 41% to 44%, however this may be the result of increased reporting by rural fire departments to NFIRS (the National Fire Incident Reporting System). The largest proportion of fire deaths in the U.S. still occur in residences (69-75%). Nearly 50% of fire deaths occur at night, from 11:00 PM through 6:00 AM. The probable causes are being overcome while sleeping; waking up too late; and being too disoriented and confused to escape. Fire incidence on the other hand, occurs mostly from 5:00 PM through 7:00 PM with cooking related fires. Deaths in vehicle incidents are increasing (perhaps along with an increase of highway speeds and traffic density). 17 percent of reported annual U.S. fire deaths occur in automobiles. There are nearly eight times more fires and three times more deaths associated with automobiles than trucks (this may also follow the relative proportions of automobiles and trucks in the U.S.).

Did You Know?

Fire Awareness

Source: A Profile of Fire
FEMA/USFA/NFDC FA 175, Sept. 1997

Fire kills thousands of Americans each year, injures hundreds of thousands, and destroys billions of dollars in property. You may be surprised to learn that the U.S. fire problem is one of the worst in the world, being much higher than Japan, Hong Kong, Australia, and most countries in Western Europe. Fire officials say that this problem is largely due to an unawareness by the public, a lack of publicity by the media, and inadequate attention by

The leading causes of residential fires are cooking, heating, and arson. Cooking fires are typically caused by unattended stoves, and from ignition of loose clothing such as bathrobes. Heating fires include central heating, fireplaces, wood stoves, portable space heaters, and water heaters. A rationale for the large number of residential heating fires is that these systems are maintained (or not maintained) by homeowners and not by professionals. Somewhat surprising is that the #1 cause

OCRACES would like to thank all those who made this SET the most productive and memorable. Many lessons were learned but the most valuable comes from the fact we were able to work with so many dedicated individuals towards the common goal of helping our families, friends and neighbors if and when we have a wide area emergency.

Meetings:

General: First Monday of Month
(open to public) @ 1930 hr

Staff: Second Monday of Month
(members only) @ 1930 hr

Meeting Location:

OCSD/Communications
840 N. Eckhoff St., Suite 104
Orange, Ca. 92868-1021

County RACES Frequencies

6 m: 52.62 MHz output, 52.12
MHz input, 103.5 Hz PL

2 m: 146.895 MHz output,
146.295 MHz input, 136.5 PL;
(primary net Mondays, 1900 hrs.)

2 m Packet: 145.07 MHz
(1830 – 1900 hours)

1.25 m: 223.76 MHz output,
222.16 MHz input, 110.9 Hz
PL

70 cm: 449.175 MHz output,
444.175 MHz input, 110.9 Hz
PL (private)

OCRACES Web Page:

<http://www.ocraces.org>

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Editor's Notebook

Doppler Weather Radar

Several people have shown interest in web page information for the National Weather Service Santa Ana Doppler radar site. This radar site is located atop Pleasant's Peak, behind Sierra peak, and provides a good view of Orange County and surrounding areas. The system offers a color map presentation of recent and present precipitation.

<http://www.intellicast.com/weather/bmc/nexrad/>

Proposed FCC Changes

The ARRL has a web page that outlines the history and proposed restructuring of Amateur Radio. Both the FCC and ARRL propositions are linked. I suggest every Amateur operator read the information.

<http://www.arrl.org/news/restructuring/>

Did You Know? (continued)

(Continued from page 6)

of non-residential fires is arson. This includes new construction, educational institutes, commercial properties, and vacant buildings.

The elderly and the very young are at the greatest risk of death from fire, with the risk for people over 80 increasing sharply. Men are twice as likely to die from fires as women. Some of the probable reasons are occupational; likelihood of intoxication; greater use of flammable liquids; and being more likely to fight a fire or return to the scene to attempt a rescue. The fire problem cuts across all ethnic, economic, and regional groups, though it is higher for some per location and environment. For example, people in rural areas and dense urban areas have higher fire death rates than those living in mid-size communities. Colder regions have more heating systems fires. The areas of greatest fire death risk in 1994 were Alaska, Mississippi, District of Columbia, and Kentucky.

There has been a significant downward trend in firefighter deaths in the U.S. in the past 10 years. More firefighter deaths occur in residential fires than in other property fires. Reported firefighter injuries steadily average about 100,000 per year, for the past 10 years. Most firefighters get injured outside of a structure rather than inside. These

injuries peak at night, in the winter (residential heating trends during cold weather may be a significant factor).

Do smoke detectors really work? Over two thirds of household fires reported to NFIRS for 1994 had either no detector or the detector was inoperative (no battery or intentionally disabled). Local codes now require installation of at least one smoke detector in apartments. This has already resulted in lowered fire death statistics for residences.

While the largest number of residential fires occur in other states, Californians cannot be complacent about these risks. We should also remember that the greatest property damage and loss of life in the 1906 San Francisco Earthquake was from fire and not from the earthquake itself (we as Californians should all relate to this). This is as good a time as any to discuss fire safety with your family; to develop an evacuation plan for your home which is understood by all who live in your home; to check the operation of your smoke detector(s) and to replace their batteries (write a replacement battery date on your calendar). You may also need to develop special fire evacuation procedures for the handicapped and elderly in your care. Don't turn a few moments of carelessness or inattention into a lifetime of regrets!

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