February 2008

The Next OCRACES Meeting is

February 4, 2008

1930 Hours

840 N. Eckhoff St., Suite 104, Orange

Featured Speaker: Ralph Sbragia, W6CSP on APRS Systems and Operation

Orange County Sheriff's Department
Jack Anderson, Acting Sheriff-Coroner

County of Orange RACES

NetControl

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

Captain's Corner
by Ken Bourne, W6HK, Chief Radio Officer

I am writing this column and editing this issue with considerable emotion, a few days after my daughter Donna, KA6DSO, passed away. Carol and I sincerely appreciate the kindness shown to us by members of OCRACES, OCSD/Communications and EM, City RACES and MOUs, and State OES ACS..

Thanks to those who contributed material for this issue, to make my job easier, and to those who attended and ran meetings on my behalf.

It is not my intent, in the following paragraphs, to preach or proselytize, which would be inappropriate in a government publication. I just want you to know what keeps Carol and me going, especially after losing our beautiful daughter. And I want you to know that Carol and I love and respect all our friends, whether Christian or non-Christian.

On January 17th, Donna began her eternal life with Jesus. Carol and I, as well as Donna's brothers Bob, K6RBI, and Don, KB6TVK, and their wives and children, know that we will be with her again someday. But while we are still here on Earth, we have work to do. We know good works will not earn us the eternal life that Jesus Christ earned for us, but, with the faith and forgiveness He has given us, we have an overwhelming desire to serve and to love, unconditionally.

My desires are fulfilled so well in OCRACES, because all members have a desire to serve and rescue others when disasters occur. I don't know of a single member who is in this for his or her own benefit or glory.

Any of us could pass away at any time, unexpectedly, just as my daughter did. Eventually, all of us will pass away from this earthly life. We won't be able to take our transceivers, antennas, TNCs, ATV cameras, and other precious equipment with us. It's also disturbing, at first, to think that we are spending much of our time in training and acquiring technical and operating knowledge, which will "vaporize" someday too, when we pass away. Why are we doing this (acquiring equipment and training and knowledge, only to lose it all in the end)? The answer is easy, and important—to serve others. That's what we live for, and what gives us the greatest joy and excitement in our lives, to love and to serve others (including especially those in our own families).

So I dedicate this issue to my beloved Donna, as we work together, train together, learn together, be fascinated together with radio-electronics and operating ham and public-safety radios, and serve together as we help our agency rescue lives and property during emergencies.

RACES to Support Presidential Primary Election
by Marten Miller, KF6ZLQ, OCSD Emergency Communications Coordinator

On February 5, 2008, employees from several County of Orange agencies, including Resources & Development Management Department or RDMD (Transportation, Facilities Operations, and Planning and Development Services or PDS), Sheriff-Coroner Department (Control One, Communications, Emergency Management, Transportation, Reserves, Theo Lacy, Research & Development, and OCRACES), Hospital Disaster Support Communications System or HDSCS, and various city RACES units will form as Ballot Transportation Team members in support of the Registrar of Voters to provide transportation and security for electronic ballots from 1,118 polling places for the February 5, 2008, Presidential Primary Election. Election Communications team members will come from OCRACES, HDSCS, and members of the following City RACES units: Anaheim, Buena Park, Costa Mesa, Fountain Valley, Fullerton, Huntington Beach, Irvine, Laguna Beach, Laguna Niguel, Los Alamitos, Orange, Placentia, Westminster, and San Juan Capistrano.

Security is always a top priority with the Registrar of Voters, and our communications team is an integral part of that security effort. Our night begins when the precincts close at 8:00 PM and the ballots and election materials are brought to one of 23 designated collection centers. While transportation team members are sorting and loading ballots and supplies into their vehicles, our communications team members will be observing and documenting the precinct numbers that are loaded. This information will be provided to the ROV in real time to assist them in posting information on their website, keep-
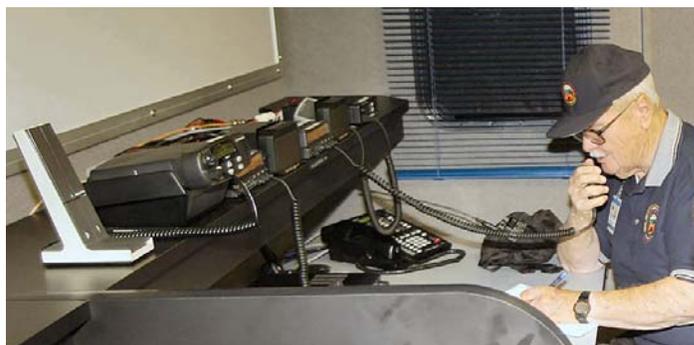
OCRACES Radio Officer Harvey Packard, KM6BV, operates net control at Vote Tally Center during a previous election

ing the voting public in the loop on the status of their precincts' ballots. Additionally, the communicators will inform the command post of ballot-box arrivals, ballot-transportation vehicle arrival, departures, and any activity around the Collection Center that may cause delay of the movement of ballot boxes.

More information will be provided at the February 4, 2008, OCRACES monthly meeting. A PowerPoint training session will be provided to cover all the details, ensuring all team members receive the same information. OCSD/Communications has managed the ballot transportation component of all major elections in Orange County for many years, and the "Communications Team" has been a key element to our success. My thanks to all those who are supporting this election and to those who have supported us in the past. If you didn't get to sign up for this election, don't worry; we will have two more major elections in 2008 (June and November), so you will have another opportunity!

Next OCRACES Meeting: February 4th

Radio Officer Ralph Sbragia, W6CSP, will give an interesting presentation on APRS systems and operation at the next County of Orange RACES meeting at 7:30 PM on Monday, February 4, 2008, at 840 N. Eckhoff Street, Suite 104, in Orange.

Also at this meeting, OCSD Emergency Communications Coordinator Marten Miller, KF6ZLQ, will provide training (including a PowerPoint presentation) for OCRACES, City RACES, and Hospital Disaster Support Communications System (HDSCS) members who will provide Ballot Transportation Team communications for the Presidential Primary Election on Tuesday, February 5th (see article above).

Intrinsically Safe Revisited
by Ray Grimes, N8RG, Engineering Manager, OCSD Communications Division

(This article is reprinted from the September 1999 issue of *NetControl*, when Ray was OCRACES Chief Radio Officer, and is an excellent follow-up to the training on "Health & Safety Considerations for First Responders" that Ray presented at the January 7th OCRACES meeting and at the November 17th RACES Academy)

.The topic of Intrinsically Safe Rated (ISR) portable radios had been discussed in the past but it is so important and so often overlooked or misunderstood that it deserves repeating. ISR simply means that a particular hand-held portable radio (or other portable device: flashlight, video camera, etc.) and its accessories have been tested and approved by a recognized testing and certification house as a device that will not produce an explosion in certain specific atmospheres. Most portable transceivers these days are solid-state, so worries about sparks from push-to-talk relays are mostly a thing of the past. A radio may have been certified to operate safely in certain atmospheres such as gasoline vapors, grain dust, methane, alcohol, pure oxygen, etc. This radio would not be approved for use in any other unlisted atmosphere. This is an important distinction. Also, this radio would never be certified to operate in proximity to blasting caps or other electric detonated explosive devices. Infrared communicators are often used in mining applications in lieu of RF equipment.

ISR Radio equipment must be repaired in manufacturer-approved service facilities, with any unauthorized modification voiding the ISR approval. Adding an ISR battery to a radio transceiver does not legally make an ISR radio, though the radio may technically meet all requirements and be electrically identical. The radio equipment manufacturer's paperwork is what makes the difference.

Underwriter's Laboratories (UL) and Factory Mutual (FM) are the major recognized safety testing and certification laboratories performing ISR testing, though others may also offer such services. Not all government agencies accept certification testing work by the smaller laboratories, but most all agencies accept UL and FM. There is also Federal Bureau of Mines specified ISR certification for the atmospheres found in mining applications (coal dust, metallic-powder dust, methane, etc.).

A portable radio often is no different than a standard product except for a special current-limited and fused battery that has been laboratory tested with its accessories. Some portable radios suffer transmitter power output de-rating when used with an ISR battery. Change of battery to a non-ISR rated battery, a battery which is ISR for a different product, or use of accessories which have not been tested and certified as ISR compatible, will void the ISR approval for that product. This can become a major safety and liability issue.

It is important to have an understanding of what an ISR radio is all about, and to know where it is required. As a point of reference, no amateur radio portable product bears ISR approval, though an ISR commercial radio could be used on amateur radio frequencies. This means that amateur radio portables must not be used in places such as hospital operating rooms (pure oxygen, ether), HAZMAT spill locations, mine shafts (methane), or at accident scenes where gasoline may be spilled (fuel vapors). All fire-department radios should be ISR models. Most police radios are not. This raises some concern about police responding to an incident and entering areas where the radio transceiver could induce an explosion. No base-station equipment is ISR. This small detail has been the downfall of those who had installed base-station equipment in shipyards where grain was being unloaded or where base stations were installed in grain silos in the Midwest (the tallest structure around).

The best policy regarding explosive atmospheres is: when in doubt, leave the radio behind.
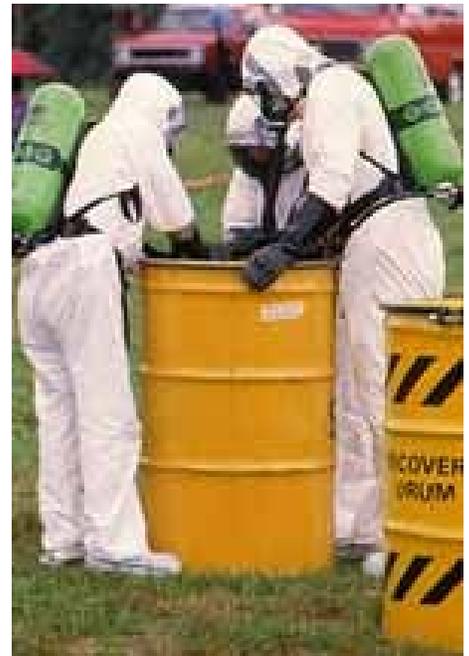
Hams to Help Mountain Bike Pow Wow 2008
by Scott Byington, KC6MMF, OCRACES Radio Officer

A mountain bike race, conducted by The Warrior's Society, covering 57 miles through the Orange County portion of the Cleveland National Forest (CNF), will take place on March 1, 2008. The course has as much as 11,000 feet of elevation gain through the rugged hills of the CNF. This year's registration has been sold out, with 350 race participants and an additional 35 to 40 support volunteers.

Event support is being provided by both bicycle mobile as well as four-wheel-drive type of support vehicles, mostly by amateur radio operators. Additional support is done at stationary check points along the trail. A limited amount of trail is not accessible to the vehicles but only on foot or bike.

Revenue developed by this event is on the behalf of local charities. The event organizers are listed as a non-profit organization for the support of these same charities.

Thus far, in the history of the event, injuries have ranged from minor fractures and open wounds to significant injuries up to and including heat stroke and broken bones. In most cases, injured participants have been transported via race support vehicles to predetermined rendezvous points with professional fire-department first responders.

Both the general ham radio population as well as hams from the south county RACES/ACS teams are supplying communications volunteers for the event. Due to the topography of the course, frequent holes in coverage are experienced. The course this year has been significantly damaged by the recent fires and resulting mudslides. This may present more opportunity for injuries to the participants.

Considering this information and speaking with Joe Lopez, W6BGR, who is both the race communications director and the Radio Officer of San Juan Capistrano RACES (one of the Tri-Cities RACES units), I propose that we consider this for OCRACES as an ACS activation. The event would be enhanced by our participation with deploying a limited staff and the OCRACES emergency communications response vehicle. Our van would be used as a command-post component to their event.

The van would permit emergency radio traffic directly with the Orange County Fire Authority (OCFA), law enforcement, and CAL FIRE personnel. Ham radio traffic into and out of the van could be facilitated by the volunteer communicators registered with the event, while emergency traffic to our served departments would be done by OCRACES personnel.

The event will begin at 0530. Riders proceeding up Black Star Canyon Road from the gate and go across Main Divide Road to and down Silverado Trail (Motorway) to Aid Station #1 at Maple Springs. Then they will follow Maple Springs Road to the Main Divide and Modjeska Peak and Santiago Peak and then down to the Holy Jim Trail, which they will take to Aid Station #2 at the parking area at the base of Holy Jim Canyon. Riders will then continue up Trabuco Road to the Trabuco Trail and the West Horse Thief Junction. They will hike up the West Horse Thief Trail, go across the Main Divide Road to and down the Trabuco Trail to the Trabuco Creek Trail and Road, which they will follow to the finish line at the intersection of Trabuco Creek Road and Trabuco Canyon Road. The conclusion of the race in the afternoon in the O'Neill Regional Park group camping area will include a barbecue and awards event.

The operation will deploy nine APRS tracker boxes supplied by OCRACES, providing the race support staff a tracking function with the support vehicles. An APRS viewing screen will be provided for race officials.

The communications deficits found along the event trail will be mitigated with the use of three OCRACES portable UHF repeaters with auxiliary batteries and gain-type omnidirectional antennas.

Further information is available from Warrior's Society Communications Director Joe Lopez, W6BGR (also San Juan Capistrano RACES Radio Officer), at w6bgr@cox.net or (949) 485-8876. Event information can be found at http://www.warriorssociety.org. Follow the link to the "2008 Vision Quest" event and also visit the "ham radio" link on the home page.

Watching The Web
Web Sites of Interest to RACES Personnel
by Ken Bourne, W6HK, OCRACES Chief Radio Officer

Sherwood Engineering Inc.
http://www.sherweng.com

Sherwood Engineering Inc.

Rob Sherwood, NC0B, founded Sherwood Engineering in 1974, offering upgrades to R.L. Drake amateur radio equipment. He is especially known as a filter guru, and the Sherwood-modified Drake R-4C is still considered by many to be the ultimate receiver. Sherwood's Web site at http://www.sherweng.com provides R-4C update information and lists products available for that purpose, such as filters, audio amplifier, third mixer, product detector, replacement power-supply board, front-panel switch, preamplifier, etc.

Other products are also available from Sherwood, including cooling kits for Icom equipment, synchronous detector for shortwave radios, speech processor for the Drake TR-7 transceiver, and filters for other brands.

Sherwood Engineering is famous for detailed receiver test data for a large number of different HF transceivers, tested in Rob Sherwood's own laboratory. Many radio amateurs wait for such data to be posted on the Sherwood Web site before deciding whether to purchase a recently introduced transceiver. Listed parameters include noise floor, AGC threshold, 100-kHz blocking, sensitivity, local-oscillator noise spacing, front-end selectivity, ultimate filter, wide-spaced dynamic range, and narrow-spaced dynamic range. A separate table is also provided, showing 20-kHz and 2-kHz dynamic range for many different models.

Los Alamitos Improves EOC-to-EOC Coverage
by Tom Rothwell, K6ZT, Los Alamitos RACES Assistant Radio Officer

Our experience with "Golden Guardian" showed us that there needs to be close coupling between the City's EOC and the OA1 EOC-to-EOC radio, as well as the RACES station.

The Los Alamitos EOC-to-EOC radio is located in the Police Department in a building separate from the EOC, and the RACES station is located in the city's Communication Van. Typically, the Comm Van will be moved to be in close proximity to the EOC in an emergency situation.

As a fact of history, Los Alamitos had an OA1 transceiver and large vertical antenna mounted on yet another of the city buildings. Therefore, RACES discussed with our Coordinator Cassandra Palmer, Support Division Manager for the Los Alamitos Police Department, the thought of moving the old (very old) OA1 transceiver into the Comm Van. That idea was approved.

Accordingly, we purchased from HRO Anaheim a Larsen NMO40 antenna, base coil matched, and with magnetic mount, and installed it on the Comm Van roof. Using an MFJ-259 VSWR antenna meter borrowed from one of our members, we were able to tune the antenna, in situ, to yield a 1.0 to 1 VSWR at 46.56 MHz (the OA1 simplex frequency) with five successive trims of the vertical whip of 10.7, 7.75, 5.4, 5.0, and 2.6 centimeters (total of 30.95 cm).

We then moved the old OA1 transceiver into the Comm Van, tested it by communicating with the new OA1 radio in the PD, and then with the OA1 radio at the Seal Beach PD. It worked beautifully with full quieting. Subsequently we used it to check-in with Orange County on the monthly OA1 Net, where OC Control One (Loma Ridge) copied the signal easily, but not quite full quieting.

Our thanks to Ken Bourne, W6HK, for his counsel and pointing us in the right direction for this perfectly successful conclusion.

ACS/RACES News from Around the County

Fullerton

Fullerton RACES Radio Officer Gene Thorpe, KB6CMO, needs 32 amateur radio operators to set aside Saturday and Sunday, February 2nd and 3rd, for the 2008 Fullerton Jr. Tennis Tournament. The tournament will involve approximately 2,000 players and 12 different sites. The sites are in North Orange County. Times are from 7:00 AM to approximately 5:00 PM. HTs will work at some sites, but most need a mobile radio in case of conditions changing. If you are available to work this event, please e-mail Gene at kb6cmo@arrl.net or call him at (714) 680-4258.

Hospital Disaster Support Communications System (HDSCS)

HDSCS was activated Friday evening, January 18, 2008, for a standby operation at Irvine Medical Center while that facility completed a major upgrade of its phone system and cutover to a new building. Work started around 10:00 PM, and for the first couple of hours phones were down in various areas of the hospital. With the increasing activity and admissions to hospitals recently due to flu, there were more than the usual late-night calls. HDSCS communicators facilitated numerous messages between the ED and ICU, relayed calls for respiratory therapy, and provided communications back up to the house supervisor regarding bed availability, along with periodic requests to verify phone status on several patient care units. At the request of the house supervisor, communicators stayed on site until the new system was up and working under load— 10:00 AM Saturday morning, January 19. Thirteen HDSCS members partici- pated in this activity. HDSCS is grateful to have some nightowls and early birds, since it took some of each to have a successful operation.

HDSCS will be holding its 2008 Orientation & Review Workshop on March 1, from 8:00 AM to 4:00 PM, at the County EOC at Loma Ridge. A few interested guests can be accommodated. If you would be interested in attending contact HDSCS Coordinator April Moell, WA6OPS, at emcom4hosp@aol.com

Laguna Beach

On January 5, 2008, John Kountz, KE6GFF, Chief Radio Officer, Laguna Beach Emergency Communications Team (LBECT), was the banquet speaker for Central Arizona DX Association's annual awards dinner in Phoenix, AZ.

He spoke about his DXpeditions to Kabul, Afghanistan. He updated the presentation he gave last fall at the ARRL Southwestern Division Convention to include his most recent operation in 2007, where he operated 22 days and made more than 1,100 contacts. He operated using the call sign of T6EE. During this time he was only able to work one station in the U.S., in Pennsylvania. He operated SSB only on 20 meters using a battery, with a power output from 20-100 watts. His presentation consisted of three parts—a video and a PowerPoint presentation followed by an additional video tour of Kabul after the awards were presented.

While he was in Kabul, he also gave a two-day course to employees of the Afghanistan Ministry of Communications and Information Technology on what is amateur radio.

John is keeping busy responding to many QSL card requests.

February 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2 *Fullerton Jr. Tennis Tournament*
3 *Fullerton Jr. Tennis Tournament*	4 *Monthly Meeting & Weekly Net*	5 *Presidential Primary Election*	6	7	8	9 *RACES Breakfast*
10	11 *Weekly Net*	12	13	14	15	16
17	18 *Weekly Net*	19	20	21	22	23
24	25 *Weekly Net*	26	27	28	29	

Upcoming Events:

- **Feb 2-3:** Fullerton Junior Tennis Tournament
- **Feb 4:** OCRACES Meeting, 1930, 840 N. Eckhoff St., Orange; APRS and Primary Election Training
- **Feb 5:** Presidential Primary Election
- **Feb 9:** ACS/RACES Breakfast, 0800, Katella Grill, Orange
- **Mar 1:** Mountain Bike Pow Wow 2008
- **Apr 19-20:** Baker to Vegas Challenge Cup Relay

www.ocraces.org

Mission Statement

County of Orange RACES has made a commitment to provide all Public Safety departments in Orange County with the most efficient response possible to supplement emergency/disaster and routine Public Safety communications events and activities. We will provide the highest level of service using Amateur and Public Safety radio resources coupled with technology, teamwork, safety, and excellence. We will do so in an efficient, professional, and courteous manner, accepting accountability for all actions. We dedicate ourselves to working in partnership with the Public Safety community to professionally excel in the ability to provide emergency communications resources and services.

County of Orange RACES Frequencies:

- ☐ 6m: 52.62 MHz output, 52.12 MHz input, 103.5 PL
- ☐ 2m: 146.895 MHz output, 146.295 MHz input, 136.5 PL *
- ☐ 23cm: 1282.025 MHz output, 1270.025 MHz input, 88.5 PL
- ☐ 1.25m: 223.76 MHz output, 222.16 MHz input, 110.9 PL
- ☐ 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 PL

* Primary Net - Mondays, 1900 Hours

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*"W6KRW ...
Serving
Orange County"*

Meet your County of Orange RACES Members!

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Jack Barth AB6VC	Jim Carter WB6HAG	Ernest Fierheller KG6LXT	Randy Benicky N6PRL	Bill Borg KG6PEX	Chuck Dolan KG6UJC	Nancee Graff N6ZRB	Ray Grimes N8RG
Walter Kroy KC6HAM	Martin La Rocque N6NTH	John Roberts W6JOR	Tony Sanchez AE6QT	Steve Sobodos KN6UX	Tom Stroud N6FDZ	Tom Tracey KC6FIC