

October 2007



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Captain's Corner

by Ken Bourne, W6HK, Chief Radio Officer

Almost 70 radio amateurs from 21 ACS/RACES, ARES, and SKYWARN units participated in the Orange County California Citizen Corps Council (OCCCC) Volunteer Mutual Aid Drill (VMAD) on Saturday and Sunday, September 15 and 16, 2007. Each day began with NIMS training for all drill participants. Communicators provided drill support for the event (including registration, parking, display area, etc.), and for the afternoon scenarios held in the mock buildings of the Orange County Sheriff's Department Training Facility's "Laser Village." The County of Orange RACES emergency communications response vehicle was used as the Field Communications Command Post, feeding mes-



OCRACES Chief Radio Officer Ken Bourne, W6HK (left), leads VMAD communications while conferring with Operations Chief Steve Stempniak (photo by Linda Marie, KE6SPT, Brea RACES)

sages to the Incident Command Post (ICP) from communicators on scenario teams in "Laser Village" in the Orange County Sheriff's Department's Training Facility. Besides voice communications on VHF and UHF frequencies, we also sent printed messages to the ICP and Logistics via Winlink, set up by OCRACES Radio Officer Scott Byington, KC6MMF, and we fed live images via Amateur Television (ATV), thanks to OCRACES Assistant Radio Officer Jack Barth, Martin La Rocque, N6NTH, and Orange County Red Cross Members Gordon West, WB6NOA, and Ken Leake, KB6EVR. An alternate net control was set up in a communications trailer in the Display Area, belonging to



OCRACES Assistant Radio Officer Ernest Fierheller, KG6LXT (left), and Radio Officer Joe Selikov, KB6EID, at Winlink station set up at VMAD Incident Command Post (photo by Linda Marie, KE6SPT, Brea RACES)

**The Next
OCRACES
Meeting is**

**October 1, 2007
1930 Hours**

**840 N. Eckhoff St.,
Suite 104, Orange**

**Guest Speaker:
Brandin Grams,
KG6RWV, on 2.4 GHz
HSMM System**



Orange County Sheriff's Department
Michael S. Carona, Sheriff-Coroner

Continued on page 2

Captain's Corner *Continued from page 1*



At the VMAD Field Communications Command Post (OCRACES communications response vehicle) are (left to right) OCSD PSR and OCRACES Member Chuck Dolan, KG6UJC, Radio Officer Scott Byington, KC6MMF, Martin La Rocque, N6NTH, Radio Officer Harvey Packard, KM6BV, and OCSD Emergency Communications Coordinator Marten Miller, KF6ZLQ

OCRACES Radio Officer Ralph Sbragia, W6CSP.

Thanks to the Hospital Disaster Support Communications System (HDSCS) for providing three members each day at the Medical Treatment Area, and to Dr. Julia Heng, KI6AEA, from Huntington Beach RACES, for assisting in that area.

Participating units included Brea RACES, Buena Park RACES, City of Orange Amateur Radio (COAR), Costa Mesa RACES (MESAC), Fountain Valley RACES, Fullerton RACES, Hospital Disaster Support Communications System (HDSCS), Hunt-

ington Beach RACES, Irvine Disaster Emergency Communications (IDEC), Laguna Beach RACES (LBECT), Laguna Niguel ACS, Mission Viejo RACES, Newport Beach RACES, County of Orange RACES, Laguna Niguel ACS, Los Alamitos RACES, Orange County SKYWARN, Placentia RACES American Red Cross/Orange County, Seal Beach RACES, and Westminster RACES.

VMAD communications will be reviewed at the next City/County RACES and MOU meeting on Monday, October 29, 2007, at 840 N. Eckhoff Street, Suite 104, in Orange.



OCRACES Assistant Radio Officer Ernest Fierheller, KG6LXT (seated) and Chuck Dolan, KG6UJC, receive message at Winlink station at VMAD Incident Command Post, to give to Operations Chief Steve Stempniak, Anaheim Police Department (in red vest) (photo by Linda Marie, KE6SPT, Brea RACES)

SONGS Siren Drill: October 24th

OCRACES will participate in a SONGS Siren Drill on Wednesday, October 24, 2007, between 9:00 AM and 1:00 PM. We will report the effectiveness of sirens at three locations—Oglebay Norton Industrial Sands east of San Juan Capistrano and two Northrop Grumman test sites east of San Clemente. We will communicate from the siren locations to the Orange County EOC on an OCRACES UHF repeater. An OCRACES member will be at the siren switching location in Control One, and will communicate via HT to OCRACES net control in the RACES Room. OCRACES Net Control (subnet) will communicate with the Drill net control (operated by Red Cross at Southern California Edison/San Onofre) on the CLARA repeater. Overall, we will need at least five OCRACES members for this drill.

Next OCRACES Meeting: October 1st

The next County of Orange RACES meeting will be on Monday, October 1, 2007, at 7:30 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. Our guest speaker is Brandin Grams, KG6RWV, who will demonstrate his 2.4 GHz system based on a Linksys 802.11 wireless router modified for amateur use, providing a backbone for a network of wireless laptops for HSMM (high-speed multimedia) modes such as digital voice, digital video, text messaging, and file transfers (such as images, spreadsheets, etc.). He will communicate during the demonstration with a similar system operated by Brad Russo, KB6GPM, about 7.5 miles away, part way up Loma Ridge. The applications for emergency communications with this system are enormous.

Prior to this meeting, at the start of the 7:00 PM OCRACES net, SKYWARN will read a message about an assumed storm that will contribute to flooding conditions caused by a breach of Prado Dam, which is the scenario for the October 6th City/County RACES & MOU ACS Drill. Procedures for this drill will be reviewed at this meeting.

OCFA Open House: October 13th

The Orange County Fire Authority is holding its 2nd Annual Open House on Saturday, October 13, 2007, and OCRACES has been invited to exhibit our emergency communications response vehicle, which we did at their Open House last year. This event is popular with families, and is an excellent opportunity to introduce children to amateur radio. Families will enjoy touring our van, and learning about how we work with the Orange County Sheriff's Department and other agencies such as OCFA in providing additional communications resources during an emergency. The event is from 9:00 AM to 2:00 PM at OCFA's Regional Fire Operations and Training Center (RFOTC), 1 Fire Authority Road (Jamboree and Tustin Ranch Road), in Irvine.

City/County RACES & MOU Meeting: Oct. 29th

The next City/County RACES and MOU meeting will be on Monday, October 29, 2007, at 7:00 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. At this meeting we will review the September 15th and 16th Citizen Corps Volunteer Mutual Aid Drill (VMAD) and the October 6th City/County RACES & MOU ACS Drill. Each RACES/ACS and MOU unit is invited to give a report of its recent activities at this meeting.

RACES Academy: November 17th

County of Orange RACES will hold a "RACES Academy" on November 17, 2007, at the Orange County Sheriff's Department training facility in Orange. This Academy is open to all radio amateurs involved in emergency communications, including RACES, ACS, ARES, SKYWARN, etc. Courses will be offered by instructors from County and City RACES and ACS units, OCSD, MOU organizations, and others. They will cover such topics as ATV, High-Speed Multimedia (HSMM) using 2.4 GHz 802.11 routers, NIMS (probably IS-200), 800-MHz public-safety trunked system, Winlink, APRS, backup communications for hospitals, power-supply safety, net protocol, digital communications (such as D-STAR and PSK31), and much more. Please e-mail OCRACES Chief Radio Officer Ken Bourne, W6HK, at w6hk@ocraces.org to register for the Academy or if you wish to teach a class. (Include your telephone number.) Space is limited, so first-come first-served. If, after registering, it appears you cannot attend, be sure to send another e-mail to cancel your registration, thereby allowing someone else to attend...

OCRACES Exhibits at HAMCON

County of Orange RACES was a big hit at HAMCON, the ARRL Southwestern Division Convention in Torrance, on Saturday, September 8, 2007. We had a table directly across from the entrance to the exhibit hall, and next to the glass doors that led directly to our emergency communications response vehicle parked a few steps away.



Two HAMCON visitors hear about OCRACES emergency communications response vehicle from Radio Officer Harvey Packard, KM6BV

The many visitors who stopped by our table and vehicle were greeted by O C S D / Communications Director Robert Stoffel, KD6DAQ, OCSD

Emergency Communications Coordinator Marten Miller, KF6ZLQ, Chief Radio Officer Ken Bourne, W6HK, Radio Officer Harvey Packard, KM6BV, Assistant Radio Officer Jack Barth, AB6VC, Chuck Dolan, KG6UJC, and Martin La Rocque, N6NTH. Several OCRACES applications were handed out at HAMCON, and, as a result, five prospective members attended the OCRACES meeting two days later.



Assistant Radio Officer Jack Barth, AB6VC (left), and Martin La Rocque, N6NTH, at OCRACES table at HAMCON

City/County RACES & MOU ACS Drill: Oct. 6th

The next City/County RACES & MOU ACS Drill will be on Saturday, October 6, 2007, from 9:00 AM to 11:00 AM. Note that we are conducting this drill as an ACS (Auxiliary Communications Service, as defined by State OES) exercise, to allow all MOU participants (HDSCS, Red Cross, and SKYWARN) who do not have an MOU with all City RACES units to communicate with those Cities, which otherwise would not be allowed under the strict regulations of FCC RACES rules. This will still be a controlled net, in accordance with FCC Amateur Radio Service rules, prohibiting interference from non-participating amateurs..

The scenario for this exercise will be severe flooding resulting from a failure of the Prado Dam. SKYWARN will launch its participation first by reading a message on the October 1st OCRACES net, setting the stage for the "storm" that will "occur" during the week. SKYWARN's second message (flood warning) will be read at the beginning of the drill on October 6th. Messages should be prepared ahead of time that reflect the possible needs public safety might have, such as evacuating citizens, requests for resources, or resources that can be offered, such as care & shelter facilities or police/fire/public-works personnel and equipment. each City will send one message to County RACES, three messages to at least four other Cities, one message to HDSCS, and one e-mail to County RACES (RACES.EOC@ocgov.com) Cities will also receive messages from other Cities, the County, and HDSCS, Red Cross, and SKYWARN..

Watching The Web

*Web Sites of Interest to RACES Personnel
by Ken Bourne, W6HK, Chief Radio Officer*

The Basics of Radio Wave Propagation

<http://ecjones.org/propag.html>



Ed Jones, MD, PhD, AE4TM, Department of Physics and Astronomy, University of Tennessee, produced a scholarly Web page at <http://ecjones.org/propag.html> on “The Basics of Radio Wave Propagation.” Sections of this page cover radio wave propagation, the ionosphere, solar events, fluxes and indices used for forecasting, glossary of solar/propagation terminology (which is encyclopedic in length and content), and appendices on acronyms and initialisms and units.

The section on radio wave propagation covers aurora, backscatter, blind zone, Es (sporadic E), F2, gray-line, LUF (lowest usable frequency), meteor scatter, MUF (maximum usable frequency), TA (trans-Atlantic), TEP (trans-equatorial propagation), tropospheric scatter, and ducting. I will quote his dissertation on aurora, to give you an example of the fascinating information he provides on all of the above propagation modes:

“Aurora: A favorite propagation. When more than the usual levels of charged particles arrive at the earth (i.e., increased solar wind), as a result of a CME (coronal mass ejection) or coronal stream, many of these charged particles penetrate the weakest parts of the GMF (geomagnetic field) near the polar regions. This is because the GMF field lines guide these charged particles into these regions; at these polar regions, extreme ionization can result at altitudes up to 1000 km. Due to this increased ionization, a dynamic curtain-shaped layer develops instead of the more typical horizontal shaped F2 layer. This auroral layer may reflect radio waves from the HF band (3-30 MHz) all the way up to and including the entire UHF band (300-3000 MHz). However, due to its very irregular shape and constant movement, heavy fading (QSB) is common in the reflected radio signals. This QSB can also result from multiple reflections within these auroral layers, causing rapid phase shifting. An auroral signal is easily recognized at 30 MHz as a bubbling sounding modulation or “underwater-like” modulation. Finally, because of the extreme and sudden phase shifts, narrowband modes such as CW and digital are the most reliable modes for DX contacts.”

Dr. Jones also provides fascinating details on the ionosphere, which he defines as “A collection of ionized particles and electrons in the uppermost portion of the earth's atmosphere which is formed by the interaction of the solar wind with the very thin air particles that have escaped the earth's gravity. These ions are responsible for the reflection or bending of radio waves occurring between certain critical frequencies with these critical frequencies varying with the degree of ionization. As a result, radio waves having frequencies higher the lowest usable frequency (LUF) but lower than the maximum usable frequency (MUF) are propagated over large distances. Finally, predictions for the LUF and MUF at different times and regions around the world can be found by searching the World Wide Web for propagation forecasts.” He covers the D, E, Es, F, F1, and F2 layers and the geomagnetic field (GMF).

Solar events described on this page include the active region, coronal mass ejections (CME), coronal stream, filament, prominence, proton flares, solar flares, solar wind, and sunspot.

Fluxes and indices used for forecasting include the A and K index, background X-ray level, solar flux, and T index. These and many other terms are described in great detail in the extensive glossary. For example, a filament is defined as “A mass of gas suspended over the chromosphere by magnetic fields and seen as dark ribbons threaded over the solar disk. A filament on the limb of the sun seen in emission against the dark sky is called a prominence. Filaments occur directly over magnetic-polarity inversion lines, unless they are active.

RACES News from Around the County

"RACES News" provides an opportunity to share information from all City & County RACES organizations in Orange County. Please send your news to: w6hk@ocraces.org

Laguna Beach

Laguna Beach Emergency Communications Team (LBECT), the City's RACES unit, scheduled its first amateur radio exam session for Sunday, September 30, 2007, from 2:00 PM to 4:00 PM, at the Laguna Beach Relief and Resource Center, 3305 Laguna Canyon Road. Examinees were asked to bring a photo ID and photocopy of any existing amateur radio license to the session. LBECT is conducting the session under the auspices of the ARRL VEC. The cost of the exam is \$14. Those passing the Technician exam may take the additional exams at no additional charge. Similarly, those passing the General exam may take the Extra exam at no additional charge. The volunteer examiners are Robert Lawson, N6RW, Lynn Taylor, WB6UUT, John Kountz, KE6GFF, and Arlene Schwartz, KE6GFI.

The Laguna Beach Disaster Preparedness Committee held an LBECT/FRS community-wide communications drill on Saturday, September 22, 2007, from 0900 to 1100 AM. The drill consisted of Neighborhood Watch block captains using FRS channel 5/privacy code 1 to communicate with LBECT members. For example, they called for amateur assistance and, when acknowledged, gave the first two integers of their house address and street name. Following the drill, LBECT Radio Officer John Kountz, KE6GFF, polled the participants (Bob Lawson, N6RW, Lynn Taylor, WB6UUT, Arlene Schwartz, KE6GFI, and Marc Morin, KI6APG) on their 2-meter simplex frequency for logged information. As a result of this event, the first 30 minutes of LBECT's weekly exercise will be open for FRS communications.

Orange County Amateur Radio Club

OCARC's annual ham radio auction is scheduled for Friday, October 19, 2007, at 7:00 PM. Bring your gear to sell or bid on equipment being auctioned. This auction is

at the American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, Santa Ana.

South Orange Amateur Radio Association

OCRACES Radio Officer Scott Byington, KC6MMF, assisted by Chuck Dolan, KG6UJC, demonstrated Winlink radio e-mail at the last SOARA meeting on Monday, September 17, 2007.

The next SOARA meeting is on Monday, October 15, 2007, at 7:00 PM, at the Mission Viejo Community Center, at the end of Veteran's Way, in Mission Viejo.

Anaheim Radio Club

Margaret Signorelli, WA6PZO, will enlighten members and visitors on the Mysteries of the Receiver at the next Anaheim Radio Club meeting, October 23, 2007, at the Anaheim Utility Service Center, 909 E. Vermont Avenue, in Anaheim. The meeting starts at 7:00 PM.

Los Alamitos

The Los Alamitos Area Chamber of Commerce and Professional Helicopter Pilots Association will present the Sixth Annual Wings, Wheels, Rotors & Expo on Sunday, October 28, 2007, from 10:00 AM to 4:00 PM, at the Joint Forces Training Base on the Los Alamitos Army Airfield, Katella at Lexington, 4522 Saratoga Avenue, in Los Alamitos. Various civilian, public-safety, and military helicopters, including media aircraft, will be on display. Also featured are live entertainment, Kid's Corner, two food courts, over 650 classic cars and motorcycles, and more than 150 vendors, exhibits, special displays, a photo contest, and more. Parking and spectator admission are free. For more information about the event, visit the Web site at <http://www.wwrexpo.net>.

October 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 <i>Monthly Meeting & Weekly Net</i>	2	3	4	5	6 <i>City/County/MOU ACS Drill</i>
7	8 <i>Weekly Net</i>	9	10	11	12	13 <i>OCFA Open House & SWACS Meeting</i>
14	15 <i>Weekly Net</i>	16	17	18	19 <i>Orange County Amateur Radio Club Auction</i>	20
21	22 <i>Weekly Net</i>	23	24 <i>SONGS Siren Drill</i>	25	26	27
28	29 <i>City/County/MOU Meeting & Weekly Net</i>	30	31			

Upcoming Events:

- Oct 1: OCRACES Meeting, 840 N. Eckhoff St.
- Oct 6: City/County RACES & MOU ACS Drill
- Oct 13: OCFA Open House
- Oct 13: Southwest ACS Meeting, Riverside
- Oct 24: SONGS Siren Drill
- Oct 29: City/County RACES & MOU Meeting
- Nov 17: RACES Academy



www.ocraces.org

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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Harvey Packard, KM6BV
Joe Selikov, KB6EID
Ralph Sbragia, W6CSP

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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

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It's Where It's @!

Questions or Comments?
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**“W6KRW ...
Serving
Orange County”**

Meet your County of Orange RACES Members!



Ken Bourne
W6HK



Scott Byington
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Harvey Packard
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Ralph Sbragia
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Randy Benicky
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Bill Borg
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Chuck Dolan
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Walter Ruy
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Martin La Rocque
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Steve Sobodos
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Tom Stroud
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Tom Tracey
KC6FIC