July 2005

NET CONTROL

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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

The Next
OCRACES
Meeting is

June 27th
1900 Hours

840 N. Eckhoff St.
Orange, CA

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

We're a-slidin' and a-shakin', and ready to respond! On Wednesday morning, June 1, 2005, several homes in Bluebird Canyon in Laguna Beach were destroyed or heavily damaged by a devastating landslide. Laguna Beach RACES Radio Officer John Kountz, KE6GFF, activated that city's RACES group, at the request of Assistant RACES Coordinator Lt. Mike Hall, KF6RNI.

At 0915, OCSD Emergency Communications Coordinator Marten Miller, KF6ZLQ, asked me to put County of Orange RACES on alert. Radio Officers Jim Carter, WB6HAG, Harvey Packard, KM6BV, and Joe Selikov, KB6EID, alerted their squad members. At 0930, Marten announced that our EOC was activated, and sent an activation page to all members to check in on our 2-meter RACES repeater. I ran the RACES net until Radio Officer Scott Byington, KC6MMF, arrived at the EOC and assumed net control duties. Harvey soon joined Scott at the EOC, to run the net and coordinate our RACES activities with Marten.

All in all, 12 OCRACES members responded on 2 meters or by telephone to the call-up, although no further deployments were required. State OES Emergency Services Coordinator Chris Sundlee, KC6UIQ, checked in on his

way to the Southern Region EOC in Los Alamitos. Newport Beach Radio Officer Ed Karagozian, K6JGN, checked in and offered communications assistance. Tom Mackay, W6WC, checked in from American Red Cross/Orange County. Later, Red Cross Communications Function Lead Mel Goldberg, N6MEL, checked the status of our activation.

NEXT CITY/COUNTY RACES MEETING

The next City/County RACES meeting is Monday, June 27, 2005 at 1900 hours at 840 N. Eckhoff Street in Orange. The meeting will feature a guest speaker, Catherine Deaton, from the Federal Communications Commission. Catherine is the local district director and will provide us with an update on FCC items specific to amateur radio and public safety emergency communications, including a Gerritsen case update. We will also discuss final plans for the October City/County RACES exercise.

Captain's Corner Continued from Page 1

Our RACES net concluded at 1512. Thanks to our members who responded on 2 meters, and especially to Harvey and Scott who spent several hours at the EOC during our activation.

On Sunday morning, June 12th, at 0841, I was suddenly aware that the church pew I was sitting on seemed to acquire a life of its own! Things were really shaking (5.6 magnitude) in Anza. Within minutes, OCSD/Communications Assistant Director Robert Stoffel, KD6DAQ, paged all OCRACES members, advising us of the quake's magnitude and location, but not requesting an activation.

On Tuesday evening, June 14th, at 2052, Robert paged all OCRACES members, advising us that a tsunami warning had been issued for the west coast, including Orange County, due to a 7.2 magnitude earthquake 90 miles off the coast of Eureka, CA. At 2118, Robert advised that the warning had been canceled.

On Thursday afternoon, June 16th, at 1353, a 4.9 magnitude earthquake struck Yucaipa, and was felt in Orange County. Cellular and other communications in the Yucaipa area were disrupted, due partly to overload from relatives and friends calling "Aunt Mandy" to ask, "Did you feel that one?" You can imagine the disruption if a "big one" hit Orange County. Whether it's landslides, earthquakes, or other disasters, we must always be fully prepared to render communications assistance. Let's make sure our gear bags are ready, and that all our communications equipment is in perfect working order.

Disasters often require mutual assistance between agencies. We will study our mutual-aid readiness at the next OCRACES meeting, which is combined with the next City/County RACES meeting on Monday, June 27th, at 840 N. Eckhoff Street in Orange. The meeting is at

1900 hours (one-half hour earlier than our usual OCRACES meeting). Due to the 4th of July holiday, we will not have an OCRACES meeting in July.

Tony Sanchez Appointed Assistant Radio Officer

Tony Sanchez, AE6QT, a one year member of Orange County RACES has been promoted to Assistant Radio Officer. Tony received his Novice and Technician license in 1990 and then became a member of Fountain Valley RACES. He served about three years with Fountain Valley RACES while working on his degree in photography at Art Center, College of Design in Pasadena, California. After attending Art Center, Tony worked in the commercial photography field. He worked on many photo shoots from cars to stars! His amateur radio activities waned for some years until Tony decided to pursue his amateur extra license and applied with Orange County RACES in 2004, at which time Tony jumped into the amateur radio service at full speed.

Tony is also a member of the South Orange Amateur Radio Association and is the Ways & Means Committee Chairman. His other interest in addition to Ham Radio includes stand-up comedy. Tony is employed at LandAmerica Lawyers Title, as a sales representative. Congratulations Tony!

Commemorative Broadcast Marks Birth of FM Broadcasting
By Ray Grimes, N8RG

A special commemorative FM broadcast took place on Saturday, June 11, at noon (EDT) to mark the 70th anniversary of Major Edwin H. Armstrong's first public demonstration of wideband frequency modulation (FM). The transmission from Experimental Station WA2XMN (reminiscent of Armstrong's own call sign of W2XMN) occurred on the original 42.8 MHz frequency, and was made from his landmark 400 ft. Alpine Tower in New Jersey, overlooking the Hudson River.

The replica of the Armstrong FM transmitter used for the commemorative transmission was built and operated by Steve Hemphill, WA3ZAE under a FCC Special Temporary Authorization (STA). This transmitter operated at only 250 watts in comparison to the 50 kW used originally by Armstrong. As we tune to music, weather, and sports on the 88 MHz to 108 MHz band, very few of us recognize the many contributions of Edwin H. Armstrong, or the fact that this spectrum has only been around in its present form since 1945.

The original FM band designated in 1940 was 42 MHz to 50 MHz (TV Channel 1 was 44 MHz to 50 MHz). This spectrum was undesirable for use by the fledgling TV stations because of difficulties with long-distance skip and both manmade and atmospheric noise. The 30 MHz to 42 MHz spectrum was designated by the FCC as Low Band Land Mobile Radio in the late 1930's and later became populated by commercial, industrial, and public safety operators. Low band is still in use by many rural fire departments and by the California Highway Patrol (CHP).

The change to the present 88 MHz to 108 MHz band (originally 88 MHz to 106 MHz) came in 1945 when the FCC reacted to political pressure from RCA's Sarnoff (Armstrong's former friend and ally) and to poor technical decisions, reallocating the FM broadcast spectrum, causing around 26 FM stations and half a million consumers to scrap their respective transmitting and receiving equipment to reestablish in the new 88 MHz to 108 MHz band.

Sarnoff considered FM broadcasting to be a serious competitor to his broadcast TV interests, fighting Armstrong in decades of legal battles over RCA's unlicensed application of Armstrong's FM detector patents, without royalties. Armstrong, a man who enjoyed sitting atop of his 400 ft. Alpine Tower to contemplate his problems, ironically, committed suicide by jumping from his 13th floor New York City apartment window, shortly after advising his attorney to settle with RCA (which eventually paid Armstrong's estate $1,040,000 and the case was finally closed).

FM was proven by Armstrong to be superior to amplitude modulation (AM) in that it had superb noise rejection ability, and thanks to the wideband nature of the +/- 75 KHz deviation (modulation) was high-fidelity. We can also thank Armstrong for his early invention of regenerative feedback detectors, and for the highly sensitive superheterodyne receiver which is the building block of most modern radio and television receivers today, including public safety radio equipment.

Thanks to:
Foundation for Economic Education, http://www.fee.org/vnews.php?nid=2213

ARRL News, http://www.arrl.org/news/features/2005/06/17/2/?nc=1

TV Channel 1, http://members.aol.com/jeff560/tvch1.html

The National Incident Management System
Adapted by Will Schulz, Huntington Beach Assistant Emergency Services Coordinator

On February 28, 2003, President Bush issued Homeland Security Presidential Directive–5. HSPD–5 directed the Secretary of Homeland Security to develop and administer a National Incident Management System (NIMS). NIMS provides a consistent nationwide template to enable all government, private-sector, and non-governmental organizations to work together during domestic incidents.

So what exactly is the National Incident Management System?
NIMS is a comprehensive, national approach to incident management that is applicable at all jurisdictional levels (levels of government) and across all disciplines (Fire Services, Police, Lifeguards, etc.). The intent of NIMS is to:
- Be applicable across a full spectrum of potential incidents and hazard scenarios, regardless of size or complexity.
- Improve coordination and cooperation between public and private entities in a variety of domestic incident management activities.

Why Do We Need a National Incident System?
As you are well aware, emergencies occur every day somewhere in the United States. These emergencies are both large and small and range from fires to hazardous materials incidents to natural and technological disasters. The events of September 11 have underscored the need for and importance of national standards for incident operations, incident communications, personnel qualifications, resource management, and information management and supporting technology. Each of these incidents requires a response. Whether from different departments within the same jurisdiction, from mutual aid partners (neighboring cities or counties), or from State and Federal agencies, responders need to be able to work together, communicate with each other, and depend on each other. Until now, there have been no National standards for domestic incident response that reach across all levels of government and all emergency response agencies. California, however, has had the Standardized Emergency Management System (SEMS) in place since 1996. SEMS was used as a model for the development of NIMS, and so California already meets the large majority of the criteria of NIMS.

What Are The NIMS Concepts and Principles?
NIMS provides a framework for interoperability and compatibility by balancing flexibility and standardization.
- NIMS provides a flexible framework that facilitates government and private entities at all levels working together to manage domestic incidents. This flexibility applies to all phases of incident management, regardless of cause, size, location, or complexity.
- NIMS provides a set of standardized organizational structures, as well as requirements for processes, procedures, and systems designed to improve interoperability.

Orange County is currently working with other cities in Orange County to strategize how best to implement NIMS according to the timeline given by HSPD-5. As a first step, training classes will be provided for our emergency response personnel (employees and volunteers) who will be asked to work in the Emergency Operations Center during a disaster. For more information, or to take an online overview course of NIMS, go to: **http://www.fema.gov/nims/index.shtm**

Watching The Web – By Ken Bourne, W6HK

Each month, we feature a Web Site of interest to RACES personnel, as located by Ken Bourne, W6HK, Chief Radio Officer, County of Orange RACES. Featured this Month: RF Café

RF Café is a Web site that provides ready access to commonly needed formulas, calculators, and reference material, as well as headline news, RF software, factoids, and links to other high-tech Web sites.   The URL for RF Café is http://www.rfcafe.com.

Categories of reference material and links include amateur radio, app notes, blogs and wikis, books, calculators, crosswords, definitions, education, electronics, engineering, event calendar, factoids, forums, free stuff, humor, job postings, magazines, mathematics, mechanics, museums, newsletters, organizations, patents, physics, quizzes, resumes,

school projects, software, special interest, standards, tech papers, tech services, test notes, translations, U.S. defense, and vendors.

Engineering forums on RF Café cover antennas, circuits, components, employment—jobs, polls, swap shop, and systems.

Calculator spreadsheets are provided, covering such electrical calculations as A/D converter noise and power, attenuators ("T" and pi), cascaded components, cavity resonant frequency, inductors, noise conversions, path loss (radio and radar), voltage divider, and VSWR. Other calculator spreadsheets cover Butterworth and Chebychev lowpass, highpass, bandpass, and bandstop filters.

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

Program Coordinator
Marten Miller, KF6ZLQ
(714) 704-7917

Chief Radio Officer
Ken Bourne, W6HK
(714) 997-0073

Radio Officers
Scott Byington, KC6MMF
Jim Carter, WB6HAG
Harvey Packard, KM6BV
Joe Selikov, KB6EID

Assistant Radio Officers
Jack Barth, AB6VC
Tony Sanchez, AE6QT
Ralph Sbragia, W6CSP

County of Orange RACES

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

Telephone – (714) 704-7917
Fax – (714) 704-7902
E-Mail – OCRACES@ocgov.com

RACES News from Around the County

HUNTINGTON BEACH RACES

HBRACES member Tim Sawyer, WD6AWP, was selected by the Huntington Beach EOC staff as their choice for Volunteer of the Month. Tim is the RACES repeater liaison and works with the CERT Communicators for their weekly check-ins.

Tim is also the founding father of RACES in Huntington Beach and the owner, builder and/or trustee of all four repeaters used by the CERT Communicators. Congratulations Tim!

HDSCS

On May 20th Orange County Emergency Medical Services (EMS) recognized many individuals and organizations in conjunction with National EMS Week.

April Moell, WA6OPS, was presented the 2005 Vision in EMS Award, and HDSCS, comprised of more than 80 volunteer amateur radio operators, received a service award in recognition of 25 years of hospital disaster communications support in Orange County.

The awards were presented at a ceremony held at Western Medical Center in Santa Ana. Congratulations to April and the entire HDSCS organization!

LAGUNA BEACH RACES

The Laguna Beach RACES team was activated for the Bluebird Canyon landslides on June 1st at 0820 hours.

RACES Chief Radio Officer John Kountz, KE6GFF, reported that in response to the activation request, a portable solar powered 50 watt, 2 Meter station was set up on the porch outside the city's EOC.

The primary focus of the activation was communications coordination with the Orange County Chapter of the American Red Cross, County of Orange RACES, and SOARA.

Throughout the morning, several transmissions regarding the response of Red Cross personnel were conducted between Laguna Beach RACES and the Red Cross.

With the situation stable by late afternoon, the RACES activation was secured at 1745 hours, and members returned to a stand-by status.

"RACES News" provides an opportunity to share information from all City & County RACES organizations in Orange County.

Please send your news to:

OCRACES@ ocgov.com

July 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	*2*
3	*4* *No Net* *&*	*5*	*6*	*7*	*8*	*9*
10	*11* *Weekly Net*	*12*	*13*	*14*	*15*	*16*
17	*18* *Weekly Net*	*19*	*20*	*21*	*22*	*23*
24/31	*25* *Weekly Net*	*26*	*27*	*28* *Anaheim MMRS Exercise*	*29*	*30*

Upcoming Events:

- **June 27**: City/County RACES meeting, 1900 Hours

- **July 4**: No OCRACES meeting in July

- **July 28**: Anaheim MMRS Exercise, OCRACES activation

- **August 1**: OCRACES monthly meeting, 840 N. Eckhoff Street, Orange, 1930 Hours

- **August 25 & 26**: Disaster Ready! Conference

DISASTER READY! CONFERENCE COMING TO O.C.

The County of Orange, Health Care Agency, will be hosting an exciting and informative two-day conference on Thursday and Friday, August 25 and 26, 2005. Attendees will learn how diverse responsibilities will combine forces to effectively respond to mass casualty events, natural disasters and weapons of mass destruction events. These include fire, EMS, health, ambulance, hospitals, hazmat, law enforcement, military, and RACES. The conference will develop an understanding among attendees of where they, and their respective services areas, fit into the big picture for preventing, responding to and recovering from these types of incidents.

The OCRACES emergency communications response vehicle will be on display as a part of the conference. The site of the event is the Hyatt Regency Hotel in Garden Grove, 11999 Harbor Blvd. Visit the event web site at www.ocready.com for more information.

"W6KRW …
Serving
Orange County"

Meet your County of Orange RACES Members!

| Ken Bourne W6HK | Scott Byington KC6MMF | Jim Carter WB6HAG | Harvey Packard KM6BV | Joe Selikov KB6EID | Marten Miller KF6ZLQ | Robert Stoffel KD6DAQ |

| Jack Barth AB6VC | Bill Borg KG6PEX | Ernest Fierheller KG6LXT | Nancee Graff N6ZRB | Ray Grimes N8RG | Bryan Hovde KD7CRA | Walter Kroy KC6HAM |

| Martin LaRocque N6NTH | Carol Matthews KF6ERZ | John Roberts W6JOR | Tony Sanchez AE6QT | Ralph Sbragia W6CSP | Steve Sobodos KN6UX | Tom Stroud N6FDZ | Tom Tracey KC6FIC |