October 2014

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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The Next OCRACES Meeting Is

October 6, 2014
1930 Hours

840 N. Eckhoff Street, Suite 104, Orange

Guest Speaker:
Don Hill, KE6BXT
Broadband-Hamnet

Orange County Sheriff's Department
Communications & Technology Division

Captain's Corner

by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

Power Outage to the Max

Some of us OCRACES members have read the terrifying novel, *One Second After*, by William R. Forstchen, which is a story of how a man struggles to save his family and his small town in North Carolina after America loses a war in one second, after an Electromagnetic Pulse (EMP) attack that sent our nation back to the Dark Ages.

According to an interesting Web page at http://www.empcover.com/example-emp-attacks.html, a large (multi-megaton) nuclear missile bursting between 112 and 310 miles above the United States would destroy the power grid and most electronic devices between 900 and 1,500 miles from the blast center, by peak ground-level voltages above 50,000 volts per meter. Even a small nuclear device (20 kilotons) bursting just 31 miles high would generate peak ground-level voltages around 20,000 volts per meter over a radius of 400 miles from the blast center.

Imagine what would happen if we lost our power grid for several months. No computers. No e-mail. No television. No Facebook. No repeaters (no electricity to pump fuel to transport to repeater-site generators). No cell phones (which would be zapped by an EMP burst or could not communicate through cell sites that could not be refueled). No refrigerators. No Pepsi (aarrgghh!).

You might think that an EMP attack is far-fetched, and maybe it is. But what if just a few power stations were attacked during a coordinated attack. (Don't rule out coordinated attacks. Look what happened at 9/11.) An article by Mark Landsbaum in the September 6, 2014, issue of the *Orange County Register* is quite disturbing, and the following quotes are taken from that article. Peter Fry, former CIA officer and former member of the House Armed Services Committee, served on a congressional commission that studied the potential effects of an ISIS attack on the U.S. electrical grid. He warned, "There is an imminent threat from ISIS to the national electric grid and not just to a single U.S. city." He referred to a U.S. Federal Energy Regulatory Commission report leaked in March that said a coordinated terrorist attack on only nine of the nation's 55,000 electrical power substations could cause nationwide blackouts for up to 18 months. Can you imagine what that would do to our economy? An EMP blast would cause an even worse calamity.

Fry said, "We discovered to our own revulsion that critical systems in this country are distressingly unprotected. We calculated that, based on current realities, in the first year after a full-scale EMP event, we could expect about two-thirds of the national population—200 million Americans—to perish from starvation and disease, as well as anarchy in the streets."

Terrorists don't seem to care about blowing themselves up. Consider the many commercial aircraft that went missing recently from Libya. What if one of those confiscated aircraft were equipped with a nuclear device and detonated it above a large city, such as Los Angeles, Dallas,

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Captain's Corner *Continued from page 2*

Chicago, or New York? Even though it wouldn't be 30 to 310 miles high to cover hundreds or thousands of miles with an EMP blast, it could still mess up the local power grid as well as cause other unimaginable damage and deadly radiation.

Several nations (such as North Korea, Russia, Iran, and ISIS-controlled territories) are capable of (and maybe desirous of) launching an EMP attack against the United States now, if not from their homelands, then possibly from a mysterious barge that suddenly shows up in the Gulf of Mexico. Clay Wilson of the Congressional Research Service was quoted in a book, *A Nation Forsaken*, by Michael Maloof, as saying, "Several nations, including reported sponsors of terrorism, may currently have a capability to use EMP as a weapon for cyberwarfare or cyberterrorism to disrupt communications and other parts of the U.S. critical infrastructure."

After an EMP attack, power lines will be fried, gas stations won't be able to pump fuel, first-responders won't be able to respond, food won't be delivered to grocery stores, news broadcasters will be silenced, and all electronics manufactured during the last 50 years will be toast—possibly for years! Then looting and riots begin.

Why am I writing this "The Sky Is Falling" article? An EMP attack would wipe out all of our communications capabilities (except possibly for old boat-anchor radios more than 50 years old), so even a drill based on this scenario would be useless. But at least we could prepare for a power-grid wipe-out caused by a coordinated attack on nine power substations. Our communications equipment would work, except for repeaters and cell-sites that depend on generator fuel. Our simplex drills, in that case, will prepare us for knowing our coverage areas. We should get serious about equipping ourselves with solar cells to keep our batteries charged and our Pepsi-filled refrigerators working. If we can't pump gas, we should at least have bicycles for transportation (although old geezers like me might find it challenging to peddle up to the top of Loma Ridge). So in our drill on October 4th, let's respect the importance of the simplex component. According to several credible warnings, ISIS is coming to America. Some are probably here already. We just don't know when they will attack, or which nine or more of the 55,000 power substations will be their targets.

Many of us are tired of receiving countless telephone calls from scammers who want to sell solar power systems. However, due to potential attacks on our power grid, we should all be thinking about installing solar panels (which probably won't survive an EMP blast, but will keep functioning after other types of power-grid attacks), at least to keep our food refrigerated and our radio batteries charged. I invite anyone with experience in setting up such a home solar system to give a presentation at an OCRACES meeting.

OCRACES Alerted for Silverado Canyon Fire

OCRACES members were on standby on Friday, September 12, 2014, for possible activation for a fire that broke out inside Silverado Canyon shortly after 10:00 AM. Smoke could be seen from Loma Ridge, and the Orange County Fire Authority dispatched a full assignment, including ground and air resources. OCRACES Chief Radio Officer Ken Bourne, W6HK, and Assistant Radio Officer Bob McFadden, KK6CUS, received notifications simultaneously within minutes after the fire began, and immediately communicated with each other. American Red Cross Planning & Information Specialist Tom Woodard, KI6GOA, informed Ken that their EOC was activated at Level 1. The Orange County EOC was also at a Level 1, as of 10:45 AM. A request was made to activate the Alert and Warning/Communications Coordinator position at the EOC. This position is staffed by OCSD's Communications & Technology Division. Members of the Division's Communications Response Team (CRT) were notified, and Emergency Communications Manager Delia Kraft, KF6UYW, was assigned to the first shift that ran until 7:00 PM that evening. Delia notified Ken of the Level 1 EOC activation, but RACES activation was not required at that time. Several OCRACES members advised Ken of their availability via e-mail, telephone, and the 2-meter repeater. At 7:00 AM on Saturday, CRT members Joe Saddler, WA6PAZ (Division Assistant Director), and Peter Jimenez, KI6UTE (Communications Technician II), reported to the EOC for the next operational period.

The fire continued burning inside the Cleveland National Forest and the incident was transferred from OCFA to the United States Forest Service. During the weekend some evacuations were ordered, streets were closed, and parts of Santiago Canyon lost power. By 5:00 PM Saturday, the Alert and Warning Communications Coordinator position was released and the EOC was deactivated at 9:00 PM. At that time, an estimated 1,000 acres had burned, with approximately 730 fire and 20 law-enforcement personnel assigned to the incident. In addition to EOC support, the Division's Jer Kahala (Telecommunications Engineer III) assisted with deploying the Samantha I trailer to the command post inside Irvine Regional Park. Heide Aquirre, KB6YHJ (Senior Communications Technician), was assigned as a PSR observer in the OSCD Aero Squadron Reserve Unit airplane that provided an airborne ITAC repeater.

Next OCRACES Meeting: October 6th

The next County of Orange RACES meeting is on Monday, September 8, 2014, at 7:30 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. Our guest speaker will be Don Hill, KE6BXT, who will give an interesting presentation on Broadband-Hamnet, a high-speed, self-discovering, self-configuring, fault-tolerant, wireless computer network, mostly operating with Linksys WRT54GS wireless routers on Channels 1-6 in the amateur radio portion of the 2.4 GHz band.

Next Cooperative T-Hunt: October 13th

A cooperative T-hunt will be held on Monday, October 13, 2014, immediately following the 2-meter net (about 7:20 PM). The fox will be Tom Riley, K6TPR, hiding somewhere in the Tustin area. His fox box will transmit on the input of the repeater, so take your bearings on 146.295 MHz. Hunters will compare bearings on the 449.100 MHz repeater and are encouraged to beacon their locations via APRS. This is not an official RACES event, and participants are not DSW-covered. Hunters participate for their personal enjoyment, but gain valuable practice in working together to quickly locate interference, not only to RACES and other repeaters, but also to public-safety frequencies.

Reserve Bureau BBQ: October 19th

OCRACES will exhibit its emergency communications response vehicle at the OCSD Reserve Bureau BBQ on Sunday, October 19, 2014. The event will be at Irvine Lake, 4621 Santiago Canyon Road, from 1130 to 1600 hours, with the BBQ lunch being served at 1230 hours. The event is open to all Sworn Reserves, Professional Services Responders (PSRs), Chaplains, and their families. OCRACES members and their families are also invited. OCRACES members who are Sworn Reserves and PSRs need to register for the BBQ at the Reserve Office, and indicate the number of your guests. Other members should notify OCSD Emergency Communications Manager Delia Kraft, KF6UYW, immediately. All personnel shall attend in civilian clothes, not in uniform. Food, water, and soft-drinks will be provided. If you would like to fish, the pond will be open but you must bring your own gear. A band or DJ will be performing. There will be numerous displays, demos, and a raffle. Tom Riley, K6TPR, will drive the van to the Reserve BBQ.

General Election Ballot Comms: November 4th

City and County RACES and MOU units will provide communications for ballot transportation from the Collection Centers to the Vote Tally Center on Tuesday, November 4, 2014, at the close of the General Election. Training for this activity will occur at the November 3rd OCRACES meeting at 7:30 PM at 840 N. Eckhoff Street, Suite 104, in Orange.

MARRITE: November 18th

The California Statewide Interoperability Executive Committee (CalSIEC) Southern Planning Area (SPA) is planning for a third annual regional interoperability exercise on November 18, 2014. Previously known as “Radio Rodeo,” the exercise is now called the “Multi-Agency Regional Radio Interoperability Training Exercise” (MARRITE), and OCRACES will participate. The Orange County location has not yet been determined. Besides our RACES vehicle, OCSD Communications & Technology Division Director Robert Stoffel, KD6DAQ, anticipates participation from Samantha II and the Division’s Support Trailer.

The primary purpose of the MARRITE is to conduct radio tests from communications command post vehicles within an Operational Area, and with adjoining participating Operational Areas. It allows participants to learn about the various interoperable systems and to confirm that their radios are programmed correctly. It also provides a “one stop shop” for viewing of these assets by any public-safety agency on the day of the event.

City RACES units who wish to participate with their vehicles are invited to contact OCSD Communications & Technology Division Program Support Manager Denis Marin, K6OLU, at Denis.Marin@comm.ocgov.com or 714-704-8540.

City/County RACES & MOU Drill: October 4th

The next City/County RACES & MOU Drill will be on Saturday, October 4, 2014, from 9:00 AM until 11:00 AM. All OCRACES members are asked to report to the EOC RACES Room by 8:30 AM that morning for orientation.

Generally, the purpose of this exercise is to stress the emergency amateur radio communications network, discovering the best and worst of amateur radio emergency radio traffic protocols, communications equipment linkage, message corruption, and exchange rates, while providing each City RACES unit a platform to work with other organizations such as the Hospital Disaster Support Communications System (HDSCS), American Red Cross, and Orange County SKYWARN.

The City/County RACES & MOU drill is a scenario-driven protocol, providing context for message exchanges among Cities while setting minimum standards for the quantity of messages received and transmitted. The disaster scenario for the October 4th exercise will be a terrorist attack on the Southern California power grid.

Key exercise measurements shall include but not be limited to communications protocol stability, the speed of message traffic, the accuracy of the message transfers, and the quality of radio communications between OCRACES and the Cities. The test design package shall enable these measures by requiring each participating City to provide copies of their sent messages as well as copies of the received messages. The test design package shall outline a post test survey where Cities can provide their perspective on the quality of the radio traffic, who they could hear and how clearly, who did not respond to radio requests, and any unexpected radio interference.

The event shall exercise the Orange County amateur emergency communications system and determine the quality of its performance set against a disaster event. The exercise will demonstrate the use of the ICS 213 form message exchange protocol with information ranging from routine, priority, or urgent. This two-hour event shall focus on message exchange quality. The focus of the exercise is to determine quality and quantity of radio message exchanges and the digital capability of the system through radio-aided e-mail or Winlink message exchange. Each City shall generate at least eight outgoing messages (including perhaps an e-mail message and one Winlink message) while exchanging message traffic with other Cities, MOUs, and OCRACES.

Outgoing messages shall use the RACES-modified ICS 213 form, with a specific recipient requiring a reply or as a broadcast message not requiring a reply. The recipient in the "TO" header shall be the OC EOC Emergency Manager or OCRACES radio coordinator, and the "FROM" header shall be signed as the City or OCRACES radio coordinator. The place of origin shall always be "EOC." The signature shall be the City's radio coordinator and position shall be EOC radio coordinator. The from/to station shall be the call sign of the City RACES repeater or radio coordinator.

The scenario will involve a coordinated terrorist attack on the electrical power grids that occurred at 0850 that morning, causing major power outages throughout 70 percent of Orange County and surrounding counties. Temperatures will be estimated to reach the mid-90s for the next three days. The 800-MHz Countywide Coordinated Communications System will be operational at 80 percent, due to backup generator failures at several sites. Communications will be poor in several pockets of Orange County.

Several modes of communications will be used during this drill. The plan will include general messages, simplex, Winlink, and HF NVIS (Near Vertical Incidence Skywave). The primary focus will be communicating by voice between City EOCs, with MOUs, and with the County EOC. Each agency must monitor their primary channel for incoming message traffic. City/County RACES to City RACES voice communications will use the City's primary frequency as published in the January 2014 *Official RACES Guidebook* ("Yellow Book"). (Anaheim will use their alternate repeater.) City RACES to County RACES voice communications will use the OCRACES primary repeater of 449.100 MHz (-), 110.9 Hz PL or the secondary repeater of 146.895 MHz (-), 136.5 Hz PL. City RACES to HDSCS voice communications will use the primary HDSCS repeater of 146.970 MHz (-), 136.5 Hz PL. (HDSCS may direct the calling station to another frequency, using the "frequency numbers" listed on page 5 in the "Yellow Book.")

The simplex communications plan is retained, based on the scenario that repeaters could fail during a terrorist-caused power outage that could extend several weeks or even months, during which fuel could not be pumped for the repeater generators. City/County/MOU agencies will use primary simplex frequencies (as published in the "Yellow Book") to communicate by voice with City/MOU agencies. City RACES will communicate by voice with County RACES on 147.480 MHz (primary RACES) or 146.520 MHz (secondary RACES). HF communications between all agencies will be on 7195 kHz lower sideband.

On Winlink, all agencies should use their tactical Winlink addresses only (such as CAORCO for OCRACES). Each agency should send an e-mail with an attachment to at least one other organization. Do not send messages to "all" or "reply all." The Winlink RMS sites are Loma Ridge (W6ACS-10, 431.475 MHz), Olinda ((W6ACS-11, 431.125 MHz), and San Clemente (W6ACS-12, 431.075 MHz).

Great California ShakeOut Drill: October 16th

The ShakeOut Drill, scheduled for Thursday, October 16, 2014, at 10:16 AM, is not an OCRACES drill, but involves individuals, schools, and many types of organizations. Wherever you are at 10:16 AM on October 16th, you should **Drop, Cover, and Hold On** as if there were a major earthquake occurring at that very moment, and stay in this position for at least 60 seconds. There will not be any freeway closures, power outages, or other simulated effects of the hypothetical earthquake, unless your local government or utility company specifically notifies you about something of this nature. The ShakeOut is not something you need to leave work to participate in—in fact, participating at work is encouraged! Businesses, organizations, schools, and government agencies can register at http://www.shakeout.org/california/ and have their employees practice **Drop, Cover, and Hold On** or have a more extensive emergency drill.

The main goal of the ShakeOut is to get Californians prepared for major earthquakes, so use the ShakeOut as an opportunity to learn what to do before, during, and after an earthquake. Here are seven steps to earthquake safety:

Step 1: Secure your space by identifying hazards and securing moveable items.

Step 2: Plan to be safe by creating a disaster plan and deciding how you will communicate in an emergency.

Step 3: Organize disaster supplies in convenient locations.

Step 4: Minimize financial hardship by organizing important documents, strengthening your property, and insuring.

Step 5: Drop, Cover, and Hold On when the earth shakes.

Step 6: Improve safety after earthquakes by evacuating, helping the injured, and preventing further injuries/damage.

Step 7: Restore daily life by reconnecting with others, repairing damage, and rebuilding community.

Delia Kraft Becomes an Extra Class Ham!

Congratulations to OCSD Emergency Communications Manager Delia Kraft, KF6UYW, who passed her Amateur Extra Class examination in early September. We are very proud of Delia. She is the first County of Orange RACES Program Coordinator to achieve the highest class of amateur radio license. She studied hard and sets an example for all of us to reach for the top in our knowledge of amateur radio technology and operations. She is always eager to share her knowledge with us, as was evident in the excellent training class she gave on OCSD 800-MHz operating procedures at the September 8th OCRACES meeting.

OCRACES Welcomes Jeff Yost, KE7EWG

OCRACES welcomes its newest member, Jeffrey Yost, KE7EWG. Jeff is an intern in the Emergency Communications section of the OCSD Communications & Technology Division. He is a Political Science major at California State University Fullerton. Prior to moving to Southern California for college, Jeff lived in Southern Nevada and was an active member of Clark County ARES/RACES. He participated in numerous activities during his years with the unit, including Point of Dispensing (POD) activations and providing emergency communications support to local events.

Thanks to Chuck Dolan for His Service

OCRACES bids farewell to Chuck Dolan, KG6UJC, who submitted his letter of resignation on September 11, 2014. Due to a family health matter, Chuck said he has been unable to devote the time and attention that he feels OCRACES membership demands and deserves. Chuck has been an exemplary member since August 2005, devoting countless hours to serving in many ways, including installation of equipment in the EOC RACES Room, maintaining the RACES van, attending most events (including cooking the world's greatest hamburgers at Field Day!) and activations, helping at Eckhoff (partly as his OCSD PSR responsibilities), participating in Fire Patrols, and so much more. We will sincerely miss Chuck and his warm friendship.

RACES/MOU News from Around the County

"RACES/MOU News" provides an opportunity to share information from all City & County RACES/ACS units and MOU organizations in Orange County.

Please send your news to *NetControl* Editor Ken Bourne, W6HK, at:

w6hk@ocraces.org

Anaheim RACES

Anaheim RACES Program Coordinator Mary Jo Flynn, KI6OIY (Assistant Director, Emergency Management Division, Anaheim Fire & Rescue), has issued an activation request for volunteers to donate time and service during the week of October 20-25, 2014, to assist the Anaheim Fire & Rescue Department and additional fire jurisdictions in supporting the Phoenix Society for Burn Survivors, World Burn Congress, at the Hilton Anaheim, 777 W. Convention Way. (See http://www.phoenix-society.org/.)

Volunteers may be a part of any Citizen Corps Program: CERT, VIPS, RACES, Fire Corps, Neighborhood Watch, and Medical Reserve Corps. Additionally, friends and family are welcome to sign up as a volunteer during this event. While there is a range of activities and abilities needed, some are specified for individuals who have the ability to lift 25 pounds. Please ensure you include your status for this ability on the application form.

Phoenix World Burn Congress is an annual international conference that brings together more than 800 burn survivors, their families, care givers, burn care professionals, and firefighters. It is a forum in which they encourage and facilitate the sharing of stories, provide support, and increase knowledge of burn recovery. For many it is the first opportunity to meet and share with others who have experienced a burn trauma. The conference also serves as a learning experience for burn care professionals to better understand the issues that impact burn survivors' lives. Many firefighters that have attended discuss the closure it brings for them as they witness burn survivors and their families living meaningful lives.

The Phoenix Society has a program called Sign-up Genius that they use to register volunteers. All interested volunteers are asked to use this portal and provide the day times they are available to assist. Included in this sign-up process is a liability declaration and waiver. (Disaster Service Worker status will not be used for this event, as it is not an approved activity by the state.)

The WBC 2014 volunteer application may be accessed at http://form.jotform.us/form/23168055378156. When the application asks for affiliation, select "Other" and type in "CERT." Then select the days and time to volunteer at: http://www.signupgenius.com/go/60b0945aba622a31-world1?uToken=26EFC7FFFB00F3075EC2DFCC02E8. Survivors have unique needs, and volunteers are expected to complete prior sensitivity training. Call 714-765-6951 for registration assistance. Snacks and light meals are provided.

Hospital Disaster Support Communications System (HDSCS)

HDSCS Coordinator April Moell, WA6OPS, gave a presentation on "Realistic Drills Lead to Optimum Outcomes" at the 2014 ARRL Southwestern Division Convention in San Diego on Saturday, September 13, 2014.

Orange County SKYWARN

Orange County SKYWARN Coordinator Scott O'Donnell, WX6STO, said that, historically, Orange County is activated far less than the San Bernardino, Riverside, and San Diego SKYWARN units. Regardless of whether Orange County SKYWARN is officially activated or not, the National Weather Service San Diego always appreciates accurate and timely storm reports if a spotter experiences severe weather. While commenting on a beach hazards statement in early September, Scott said, "Reporting any severe activity along our beach communities and shoreline is very important to the forecasters at NWS and this is where OC SKYWARN spotters shine! To report severe weather and/or damage, please use this link to file a report: http://www.srh.noaa.gov/StormReport/SubmitReport.php?site=sgx. If OC SKYWARN is activated, we will send an activation e-mail and we will also monitor our primary repeater, WD6AWP, 448.040 MHz (-), 136.5 Hz PL (primary tactical repeater). Please visit our procedure page for a refresher on our activation procedures including a review of the reporting criteria that will assist the NWS San Diego. Here is the link: http://www.ocskywarn.org/activationprocedures.htm."

October 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4 City/County RACES & MOU Drill
5	6 OCRACES Meeting & Weekly ACS Net	7	8	9	10	11
12	13 Weekly ACS Net & Cooperative T-Hunt	14	15	16	17	18
19 OCSD Reserve Bureau BBQ	20 Weekly ACS Net	21	22	23	24	25
26	27 Weekly ACS Nets & SWACS Freq Test	28	29	30	31	

Upcoming Events:

- **October 4:** City/County RACES & MOU Drill, 0900-1100
- **October 6:** OCRACES meeting (presentation on Broadband-Hamnet by Don Hill, KE6BXT), 1930, 840 N. Eckhoff Street, Suite 104, Orange
- **October 13:** Cooperative T-Hunt, 1920, Tustin
- **October 19:** OCSD Reserve Bureau BBQ, 1130-1600, Irvine Lake
- **October 20-25:** Phoenix World Burn Congress, Hilton Anaheim
- **October 27:** 2-m/70-cm/6-m/1¼-m ACS nets and SWACS frequency/radio test
- **November 4:** Communications for General Election ballot transportation, 2000
- **November 18:** Multi-Agency Regional Radio Interoperability Training Exercise (MARRITE)

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

6 m: 52.620 MHz output, 52.120 MHz input, 103.5 Hz PL
2 m: 146.895 MHz output, 146.295 MHz input, 136.5 Hz PL*
2 m: 147.480 MHz simplex
1.25 m: 223.760 MHz output, 222.160 MHz input, 110.9 Hz PL
70 cm: 446.000 MHz simplex
70 cm: 449.100 MHz output, 444.100 MHz input, 110.9 Hz PL (private)
70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 Hz PL (private)
23 cm: 1287.650 MHz, 1287.675 MHz, 1287.700 MHz, 1287.725 MHz, 1287.750 MHz, and 1287.775 MHz outputs, –12 MHz inputs, 88.5 Hz PL

*Primary Net—Mondays, 1900 hours

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Assistant Radio Officers (Sergeants)
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"W6ACS ... Serving Orange County"

Meet your County of Orange RACES Members!


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Scott Byington
KC6MMF


Harvey Packard
KM6BV


Ralph Sbragia
W6CSP


Delia Kraft
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