June 2021

County of Orange RACES
NetControl

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

OCRACES Online Meeting on Microsoft Teams:

Monday, June 7, 2021, at 7:30 PM

Orange County Sheriff's Department
Emergency Management Division

CRO's Nest
by Ken Bourne, W6HK, OCRACES Chief Radio Officer

Communications Unit Training

May 2021 was a month of training exercises for RACES units in Orange County, beginning with the May 1st City/County RACES & MOU ACS Exercise (see page 2), followed by the May 19th Radio Rodeo (see pages 3-5). Radio Rodeo was different this year, as much of the configuration of this exercise was influenced by the U.S. government's Cybersecurity and Infrastructure Security Agency (CISA). I urge you to visit the CISA website at https://www.cisa.gov, which is loaded with useful information. A publications library includes Cybersecurity, Disasters, Emergency Communications, First Responders, and much more.

CISA's SAFECOM improves emergency response providers' interjurisdictional and interdisciplinary emergency communications interoperability. SAFECOM works with existing federal communications programs and key emergency response stakeholders to address the need to develop better technologies and processes for the coordination of existing communications systems and future networks.

CISA has developed several documents and videos supporting the Communications Unit (COMU) training courses:

Auxiliary Emergency Communications Overview: Units 1, 2, and 10 includes the responsibilities, roles, and functions within COMU, as well as roles and functions of Auxiliary Emergency Communications (AEC).

Communications Unit Leader (COML): A Valuable Resource for Incident Commanders explains why including a COML in planning meetings, operational meetings, and/or tactical meetings can bring enormous benefit to the overall coordination of operations.

All-Hazards Communications Unit Self-Paced Briefing provides an overview of the COMU and focuses on its relationship to the National Incident Management System (NIMS) Incident Command System (ICS) structure and the skills and expertise of its personnel. It is intended for general audiences and responders who serve in all NIMS ICS positions.

An Overview of the Communications Unit (COMU).

All-Hazard Communications Technician (COMT) Pre-course Study Guide.

Auxiliary Communicator Position Task Book. AUXC is both the person (Auxiliary Communicator) and the Incident Command System (ICS) position used to provide auxiliary communications. Trained Auxiliary Communicators (AUXC) are a valuable communications resource tool that can be used by local, county, regional, tribal, or state agencies/organizations. Auxiliary Communications (AUXCOMM) is an all-inclusive term used to describe the many organizations that provide various types of communications support to emergency management, public safety, and other government agencies or describes the services themselves. This includes, but is not limited to, amateur radio, military radio, CB, etc. The AUXC PTB are the minimum tasks required to become certified (at a state level) as an auxiliary communicator.

227 Participate in May 1st ACS Exercise

On Saturday, May 1, 2021, OCRACES conducted a City/County RACES & MOU ACS Exercise. Because of concerns that emergency communications might be degraded or fail due to poor repeater coverage in some areas of the county, or due to possible repeater failure, this was a field-deployment exercise and focused on alternative means of communications in case of such repeater problems. These alternative means of communications consisted of simplex communications on 2 meters FM and Near Vertical Incidence Skywave (NVIS) on 60 meters. Relay stations were ready to assist net control with coverage. Net control was planned to be at a hilltop location in Orange or Anaheim Hills. However, at the last minute, Loma Ridge, which had been in a COVID lockdown for more than a year, suddenly became available for running the drill from the EOC RACES Room. OCRACES Chief Radio Officer Ken Bourne, W6HK, and Joe Selikov, KB6EID, operated net control, while members of county and city RACES units were in the field testing simplex coverage on 146.595 MHz and propagation on 60 meters. The exercise simulated failure of all OCRACES repeaters and focused on finding reliable locations throughout Orange County for communicating with Loma Ridge and between cities. NVIS propagation was tested on 60 meters for countywide coverage, using the same frequency as the weekly 10:00 AM Saturday OCRACES nets on 5371.5 kHz upper sideband (dial frequency). Out-of-county stations assisted with relays on 60 meters.

City, County, and MOU members set up portable stations during the May 1st exercise. This is the station that City of Orange Amateur Radio (COAR, the city's RACES unit) used for net control on its primary simplex frequency and to check into the OCRACES 2-meter simplex and 60-meter nets. The location was Belmont Estates, near Belmont Park in Orange, which is 830 feet above sea level. It overlooks 80 to 90 percent of Orange, with line of sight to Santiago Peak, San Clemente Island, and Palos Verdes. A contact was made with a station in Laguna Niguel. The location was so successful that COAR plans to use it for future exercises.

This was an open exercise, with any radio amateur welcome to check in. This simulated conditions where we need to communicate with any station that has emergency traffic. Although we are called "RACES," we are not required to operate under the FCC RACES Rules during our operations, but, rather, we follow the standard FCC Amateur Radio Service rules. The restrictive FCC RACES Rules require RACES operators to communicate only with those who are certified in RACES by a civil defense (emergency management) agency. Such rules are effective during the application of President's War Emergency Powers, when all other amateur radio activities must cease, but are not required otherwise. We welcome reports from all radio amateurs during exercises and emergencies, although we adhere to Incident Command System (ICS) procedures when appropriate.

During the first 15 minutes of the exercise, all RACES and MOU units checked in their own members on their primary simplex frequencies. Joe Selikov, KB6EID, called a roll of OCRACES members on 146.595 MHz simplex, and 13 checked in: Robert Stoffel, KD6DAQ; Joe Selikov, KB6EID (net control); Ken Tucker, WF6F; Tom Tracey, KC6FIC; Walter Kroy, KC6HAM; Ken Bourne, W6HK; Scott Byington, KC6MMF; Randy Benicky, N6PRL; Steve Livingston, NJ6R; Ray Grimes, N8RG; Fran Needham, KJ6UJS; Jack Barth, AB6VC; and Lee Kaser, KK6VIV. From 0915 to 1000 hours, Joe called the roll of city RACES and MOU units on 146.595 MHz, and asked each to report the number of its members who checked in on their primary simplex frequencies. Checking in were (with their checked-in members in parentheses): Anaheim (21), Brea (4), Costa Mesa (18), Cypress (6), Fountain Valley (5), Fullerton (4), Huntington Beach (12), Irvine (31), Laguna Niguel (9), Los Alamitos/Seal Beach (16), Mission Viejo (13), Orange (12), Westminster (2), American Red Cross (6), and OCHEART (11). There were 18 additional check-ins to OCRACES net control on 2 meters.

From 1000 to 1100 hours, Ken Bourne, W6HK, called a roll of city RACES units on 60 meters, with 35 total check-ins. Checking in were Anaheim, Brea, Costa Mesa, Cypress, Fountain Valley, Irvine, Laguna Woods, Mission Viejo, and Orange. Also checking in were Cal OES CRU in Cypress, Newport Beach Repeater Club, and OCHEART. OCRACES members checking in on 60 meters included: Joe Selikov, KB6EID; Ken Tucker, WF6F; Ken Bourne, W6HK; Scott Byington, KC6MMF; Randy Benicky, N6PRL; and Ray Grimes, N8RG. Also checking in were Cal OES CRU in Campo (San Diego County), Ventura County ACS, Nye County ARES in Amargosa Valley, Nevada, and Nye County EmComm in Pahrump, Nevada. Eight visitors also participated. OCRACES net control at Loma Ridge used a Hy-Gain DX-88 vertical antenna, which is not resonant on 60 meters. Also, a vertical antenna is not good for NVIS coverage. Huntington Beach RACES reported that they could not hear OCRACES on 60 meters. Coverage varies from day to day on 60 meters, due to propagation changes. OCRACES runs a net every Saturday morning at 10:00 AM on 5371.5 kHz upper sideband, and all city RACES units, as well as all radio amateurs, are encouraged to participate and experiment with different antennas.

May 19th Radio Rodeo Tests Interoperability

Radio Rodeo 2021 was held in the north parking lot of the Honda Center in Anaheim.

The federal Cybersecurity and Infrastructure Security Agency (CISA), Interoperable Communications Technical Assistance Program (ICTAP), in partnership with the California Statewide Interoperability Coordinator, with local leadership provided by OCSD Control One Supervising Communications Coordinator Derek Gard, KK6VGY, held the California Interoperable Communication Functional Exercise, called "Radio Rodeo," on Wednesday, May 19, 2021, at the Honda Center in Anaheim, with some command functions at Loma Ridge. Harlan Squires, KJ7BLY, from Department of Homeland Security/CISA/ICTAP, came in from Arizona to oversee the exercise and greeted OCRACES Chief Radio Officer Ken Bourne, W6HK, and Joe Selikov, KB6EID, at Loma Ridge with a surprise Master Scenario Events List (MSEL) of 28 AUXC exercise tasks to be accomplished in addition to ICS 201 (incident briefing) and other RACES tasks that had already been planned. Participants were required to maintain an ICS 214 unit log as they accomplished their tasks. The same MSEL was given to OCRACES Radio Officer Scott Byington, KC6MMF, who was in charge of RACES operations at the Honda Center. This list kept Scott extremely busy, as he delegated tasks throughout the venue to various agencies.

The MSEL required that a frequency for all AUXC be designated, which was already done in our original planning. We had a modified ICS 205 for identifying frequencies according to the exercise timeline.

Setup began at 0700 hours at the Honda Center. Scott Byington set up an impressive 88-foot 60-meter dipole between the tops of tall light posts in the north parking lot. Gary Standard, K6GSX, and Peter Putnam, NI6E, from the Newport Beach Repeater Club EmComm unit, set up another impressive antenna on a very tall trailer-mounted pneumatic tower with Gary's military adjustable dipole at the top, resonated on 40 meters. This fulfilled another MSEL task.

OCSD Technology Division at the Honda Center.

Trailer-mounted tower and military dipole were used by Gary Standard, K6GSX, and Peter Putnam, NI6E, on 40 meters at the Honda Center.

Radio Rodeo *Continued from page 3*

RACES operations began at 0900, with communications from both locations to outside Orange County exercise venues (Riverside City CERT, Riverside County RACES at the Ben Clark Training Center, Los Angeles County Sheriff's Communications Center, and Maricopa County ARES in Phoenix, Arizona, via the Cactus Intertie System on 70 centimeters. At 0930 hours, communications from both locations were conducted to outside Orange County exercise venues on 40 meters and 60 meters. The stations at the Honda Center were more successful on HF, because they were using horizontal antennas, which are effective for Near Vertical Incidence Skywave (NVIS) propagation. The Hy-Gain DX-88 vertical antenna at Loma Ridge has a lower angle of radiation and is effective at greater distances, but is not good for NVIS communications within 300 to 400 miles.

Beginning at 1000 hours, simplex communications were conducted locally at the Honda Center and from Loma Ridge on 146.595 MHz. Before 1100 hours, communications were also conducted on the 156.895 MHz repeater and on the 449.100 MHz repeater, with attempts to reach Riverside County RACES.

Honda Center net control on HF, 2 meters (simplex and repeater), and 70 centimeters (Cactus) was operated from Control 7 and from stations provided by Scott Byington (OCRACES) and Gary Standard and Peter Putnam (Newport Beach Repeater Club/EmComm).

The MSEL had several tasks related to Winlink, starting with "Access the AUXC specific portal on Winlink." Scott MacGillivray, KM6RTE, operated both a temporary RMS gateway and a portable Winlink Express client station from the City of Orange Amateur Radio (COAR, the city's RACES unit) location of the Honda Center parking lot. The KM6RTE-10 gateway operated on 431.075 MHz, 9600-baud packet from about 0800 until 1200 hours, and was available for relaying messages. From about 1030 to 1200 hours, Scott configured his Winlink Express station for peer-to-peer operations, which is one of the Winlink communications modes for when the Internet is not available. His P2P station was set to 145.090 MHz and configured for 1200-baud packet operation. Scott informed Winlink users that their messages needed to be created as peer-to-peer and the communications mode set to P2P. During the event, any Winlink message sent to KM6RTE was replied to with a receipt acknowledgement message. In addition, if requested by any other participating organization onsite at the event, a message was sent on their behalf. One such message was sent from Peter Putnam, NI6E, Newport Beach Repeater Club. To support conventional communication mode, the Winlink computer was connected to the Internet via a hotspot in Scott MacGillivray's smartphone, after unsuccessful attempts to reach nearby gateways. At about 1045 hours, Scott was approached by two Tactical Dis-

Joe Selikov, KB6EID (left photo), communicated on 2 meters from Loma Ridge during Radio Rodeo, while Ken Bourne, W6HK, was on 60 and 40 meters.

Transportable Winlink gateway KM6RTE-10 on 431.075 MHz at Radio Rodeo. The UPS is in the lowest section of the rack.

Portable Winlink Express client station at Radio Rodeo with radio equipment in transport case and laptop computer.

Radio Rodeo *Continued from page 4*

Aboard the Piper PA32 Turbo Saratoga aircraft during the OCSD Aero Squadron's Radio Rodeo mission are (left-to-right) pilot Reserve Captain Ray Grimes, N8RG, co-pilot PSR Jim Norman, N6JCN, Reserve Deputy Sheriff Steve Brown in the back seat with a GPS navigation monitor, Motorola packsets, and 800-MHz repeater.

patchers from Anaheim Police, asking to send several messages to an email address via Winlink. Scott provided an overview of Winlink's capabilities and how it is used. Working together, they used the extensive forms library built into Winlink to compose their ICS messages and send them. This met an event MSEL requirement. All of their messages were successfully sent and receipt acknowledgements were received. At about 1200 hours, Scott Byington asked Scott MacGillivray for a local weather report via Winlink. A weather map image was received and successfully forwarded to a Gmail email account.

The exercise MSEL requested a demonstration of a mesh network, which was fulfilled by Mission Viejo RACES Member Don Hill, KE6BXT, who demonstrated an AREDN mesh network to communicate with Riverside County RACES via a node on Pleasants Peak in the Santa Ana Mountains east of Orange. He also communicated locally with Costa Mesa's mobile communications vehicle (MCV), coordinating with MESAC's Chief Radio Officer Patrick Williams, KJ6PFW, who also communicated via Winlink with Scott MacGillivray's station. Don also assisted Scott MacGillivray by distributing instructional details on Winlink peer-to-peer to various onsite agencies, per a request from Scott Byington in accordance with a MSEL task.

OCHEART was active at the Honda Center for Radio Rodeo. Chi Nguyen, KE6MVS, and Kriss Larson, KR6ISS, conducted a net for their members to check in on the 448.320 MHz OCRACES repeater and on the Battery Only Simplex System (BOSS) on 147.525 MHz between 0900 and 0930 hours.

The Sheriff's Aero Squadron Reserve Unit supported Radio Rodeo with its airborne 800-MHz ITAC repeater. Reserve Captain (and OCRACES Member) Ray Grimes, N8RG, piloted his Piper PA32 Turbo Saratoga aircraft, designated as 18AERO1, at 5000 feet over the Honda Center for an hour and 20 minutes. The co-pilot/observer was PSR (and Mission Viejo RACES Member) Jim Norman, N6JCN, who watched for traffic, followed and recorded the aircraft GPS position and ground track, and communicated with OCRACES at Loma Ridge and the Honda Center on the 146.895 MHz repeater. The rear-seat operator was ASRU Reserve Deputy Sheriff Steve Brown, who operated the airborne 800-MHz analog FM 8TAC92 repeater and two packsets, with one set up on 8TAC92 to communicate with the command post and to monitor repeater operations, and one packset set up on TAN CALL to communicate directly with Control One. Ray noted that flying directly over the command post makes air-to-ground communications worse, as the 800-MHz repeater antenna is located on the bottom of the aircraft fuselage, and a vertical whip antenna has a phenomenon known as a "cone of silence," where the aircraft repeater signal doesn't propagate straight down. The airborne repeater works best when a mile or more from the incident locations and the antenna broadside is exposed to the ground.

OCRACES June 7th Meeting on Teams

The next County of Orange RACES meeting will be on Monday, June 7, 2021, at 7:30 PM, and will be held on Microsoft Teams, rather than on Zoom, in compliance with Sheriff's Department policies. You can download Teams here for your desktop and for your mobile. This will be our first attempt at hosting a meeting on Teams, and we ask for your patience and suggestions as we learn the procedures. Ray Grimes, N8RG, will give a presentation on the OCSD Aero Squadron Reserve Unit's mission during the May 19th Radio Rodeo, while flying over the exercise location with a portable 800-MHz repeater. Scott MacGillivray will give details about his impressive Winlink operations at Radio Rodeo.

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 and supportive amateur radio clubs in Orange County.

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

kbourne.ocsd@ earthlink.net

Anaheim RACES

Janine Wilmoth, Anaheim Fire & Rescue / Emergency Management & Preparedness, has been promoted to Emergency Manager / Senior Administrative Analyst. Captain Nick Colenelli is serving as the CERT/RACES Coordinator.

Transmitter Hunt

By Joe Moell, K0OV

Lake Los Carneros Park in Goleta, California, will be the site of southern California's next international-style on-foot foxhunt on Saturday, June 12, 2021. There is no charge for participation.

In addition to some easy 2-meter fox transmitters to help you learn and test your equipment, there will be a beginner-level international-rules course on the 2-meter band, designed by Marvin Johnston, KE6HTS. One or more optional 80-meter fox transmitters may also be on the air. The site area is slightly less than 140 acres. It is relatively flat, making it a good site for foxtailers of all skill levels. Full-color orienteering maps will be available.

For those who want to build RDF gear for use with their own 2-meter handheld radios or scanners, Marvin will have kits for measuring-tape yagis and active attenuators. There will be tools and soldering stations for building.

If you want to build an antenna/ attenuator kit, you must register in advance. Send an email to Marvin (marvin@west.net) to preregister and get more information about equipment. If you already have equipment and just want to hunt transmitters, you don't need to preregister.

If it takes place, the building session will start at 9:00 AM. Please be prompt. Transmitter hunting will begin about 10:00 AM. You may start out on the courses at any time until 12 noon. Courses close at 2 PM. For those interested, we will meet at a local restaurant after all the transmitters have been picked up for further discussion of ARDF.

Directions to Lake Los Carneros: From US 101 about 8 miles west of downtown Santa Barbara, take the Los Carneros Road exit, head north about one-quarter mile, and turn right into the Stow House parking lot. There should be plenty of free parking. Ham radio talk-in is on the WB6OBB repeater, 147.000(+) PL 131.8.

There will be more such events this summer in other sites. To be on a groups.io mailing list to receive announcements of these sessions, send a blank e-mail to ardf-socal+subscribe@groups.io.

Orange County Amateur Radio Club (OCARC)

The next OCARC general meeting will be on Friday, June 18, 2021, at 1900 hours, on Zoom. The meeting topic is "Field Day Primer," presented by Chip Margelli, K7JA. This will be an informative session for RACES members who plan to participate in Field Day, whether at their own venue or with OCARC. The formal meeting begins at 7:00 PM, but all are welcome to join, beginning at 6:30 PM, for informal meet and greet. Club members will receive Zoom sign-on information prior to the meeting. Interested visitors can receive sign-on information on the day of the meeting by an email link that will be provided on the OCARC website at http://www.w6ze.org.

OCARC will host their 2021 Field Day at the Huntington Beach Ocean View School District HQ at 17200 Pinehurst Lane in Huntington Beach. (Click for a map.) This is where the club has always held Winter FD in January. There is a large field in which to set up, with parking in the back on the asphalt (enter along buildings off parking lot). The club is also considering one or two large tent rentals to operate some stations and to distance. COVID protocols will be in place. Stations may operate alone for credit to a club aggregate score. A GOTA (Get on the Air) beginner station will be available also, for club score credit. Operations start on June 26th at 1100 hours, and end on June 27th at 1100 hours. OCRACES members are encouraged to operate Field Day with OCARC, as we have done in past years.

June 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5 Weekly 60 m ACS Net
6	7 Weekly 2 m ACS Net & OCRACES Teams Mtg	8	9	10 PSR Orientation	11	12 Weekly 60 m ACS Net & On-Foot T-Hunt
13	14 Weekly 2 m ACS Net	15	16	17	18 Orange County Amateur Radio Club Meeting	19 Weekly 60 m ACS Net & PSR Prescreen
20	21 Weekly 2 m ACS Net	22	23	24	25	26 Weekly 60 m ACS Net & ARRL Field Day
27 ARRL Field Day	28 ACS Net on 4 Bands	29	30			

Upcoming Events:

- **June 7:** OCRACES Meeting on Microsoft Teams, 1930 hours
- **June 10:** Orientation for PSRs, Sheriff's Academy, 1830 hours
- **June 12:** On-Foot Transmitter Hunt, Lake Los Carneros Park, Goleta, 1000 hours
- **June 18:** Orange County Amateur Radio Club Meeting on Zoom ("Field Day Primer" by Chip Margelli, K7JA), 1900 hours
- **June 19:** Prescreen for PSRs, Sheriff's Academy, 0900 hours
- **June 26-27:** ARRL Field Day

https://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

60 m: 5371.5 kHz USB (dial) (Channel 4) (OC ACS Net—Saturdays, 1000 hours)
40 m: 7250 kHz LSB
10 m: 29.640 MHz output, 29.540 MHz input, 107.2 Hz PL (out of service)
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: 146.595 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: 448.320 MHz output, 443.320 MHz input, 141.3 Hz PL (private)
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)
70 cm: 449.680 MHz output, 444.680 MHz input, 131.8 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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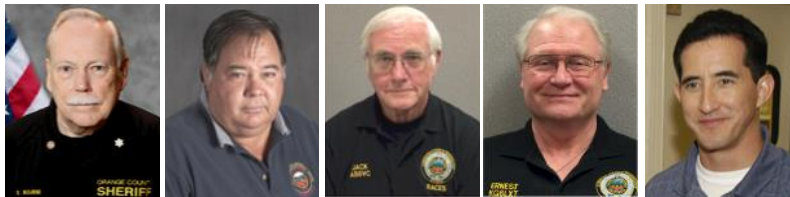**https://ocraces.org**
It's Where It's @!

Questions or Comments?
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"W6ACS ...
Serving
Orange County"

Meet Your County of Orange RACES Members!

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