

December 2018



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Captain's Corner

by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

Cellphone Failure

John Hudson, WA6HYQ, Assistant Chief, Telecommunications, MAR-I/MAR-VI Communications Coordinator, California Governor's Office of Emergency Services, mentioned recently on *Facebook* that if you feel secure with your cellphone being a "lifeline," you need to read the article, "Phones Fail in California Fires, Highlighting Cell Vulnerability," by Anousha Sakoui, Todd Shields, and Scott Moritz, posted on November 16, 2018, and updated on November 19th, on *Bloomberg*.

The article began, "As wildfires raged across California, mobile phones went silent as towers and lines succumbed to the flames." David Katz, speaking for the Malibu Search and Rescue Team, said they had to alert residents and visitors by driving through neighborhoods with sirens and public-address systems, and, in some cases, by going house-to-house on foot.

The article acknowledged, "Mobile service falls short of old-fashioned landlines when it comes to surviving catastrophic events. That can leave citizens unable to receive automated warnings or call 911 for help."

More than half of U.S. households, and more than 70 percent of adults renting their homes, rely on mobile phones, according to survey results from the U.S. Centers for Disease Control, reports the article. "The devices are convenient, but can fail when a storm knocks down a cell tower, when batteries run down, and when the lines that carry phone calls from towers to the network are cut down during recovery efforts."

The article states that there is no re-

quirement for cell sites to have backup power. "The industry has resisted efforts to make that mandatory, arguing that it would be overly burdensome in part because it can be expensive to rent space for equipment and hard to get permits to store fuel in some places."

The FCC is now reviewing phone companies' performance. After President Donald Trump visited ravaged areas of California in November, the largest mobile providers said they were working hard to restore service as soon as crews are able to access damaged areas.

In decades past, says the article, telephones at the end of copper lines could offer service, even during widespread electricity failure, if a nearby hub managed to have power, perhaps from a generator.

An advantage of mobile service is that phone companies keep portable cell towers that they move into trouble zones when needed. The City of Malibu tweeted on November 13th that AT&T and Verizon were installing temporary towers. AT&T deployed eight truck-borne cell sites, including four in Malibu and three in Paradise.

RACES needs to be ready to step in with backup public-safety communications when cellular service outages occur. In 2016, 1,079 outages were reported to the FCC, up from 189 outages in 2009, according to the Government Accountability Office (GAO). About 75 percent of the outages were caused by damage to cables during construction work, with almost all of the other outages due to storms and fires.

A requirement for power backups at

Continued on page 2

**OCRACES
Holiday Dinner**

**Monday,
December 3, 2018,
at 1830 Hours**

**Rodrigo's
Mexican Grill**

**1230 E. Katella
Avenue, Orange**

(Members and Applicants
RSVP Lee Kaser)



Orange County Sheriff's Department
Communications & Technology Division

Captain's Corner *Continued from page 1*

cell towers would improve network resiliency, according to the GAO. However, backup equipment might be too heavy for some cell sites such as rooftops. Furthermore, emergency batteries or fuel supplies for generators might not be sufficient for extended utility power interruptions.

Restoration of cellular service was also a problem in Bay County, Florida, after Hurricane Michael struck in October. FCC Chairman Ajit Pai criticized what he called “slow progress” in restoring wireless service. Five days after the storm hit, 65 percent of cell sites in the county were not working. As a result, carriers offered free service to some customers during restoration.

AT&T offered fee waivers for some services for landline customers affected by the three California fires. Free phones were provided by some wireless companies.

Verizon claims that most California service interruptions were caused by underground fiber cables being burned. Interruptions would also be caused if cables are

carried on poles that burn down. Crews that are sent in to restore power lines and other utilities might accidentally cut cables that support phone networks—which is what happened in Florida in October.

Cellphone outages can occur statewide. For example, in June a massive outage to cell service, data, and the Internet occurred across Oklahoma when two separate fiber cuts occurred on different lines, impacting the redundancy built into Verizon's network. The outage also impacted emergency services. Since the Oklahoma City police and fire departments rely on Verizon, the laptops in their cars didn't work. Those trying to dial 911 also had problems.

More than half of American homes only have cell-phones or VoIP phones, which require a cable modem that fails during a power outage unless backed up by a battery that will only last for a few hours. In the event of cellular or power outages, amateur radio and RACES can come to the rescue. Be prepared!

Repeaters and ATV Play Role in SoCal Fires

The following article was provided by the ARRL from their website. The article was posted on November 19, 2018.

Amateur Radio repeaters and TV (ATV) have helped to keep the broader community informed on the local status of widespread fires in Southern California, radio amateurs say. Benjamin Kuo, KI6YR, who had to evacuate but now is back home, said remote Amateur Radio Emergency Data Network (AREDN) mesh cameras captured video from fires across Southern California earlier in November, including the early stages of the Woolsey Fire.

ATV cameras also offered views of some of the state's less prominent fires, including the Briggs Fire in Santa Paula, and the Peak Fire in Simi Valley.

“Another big success: When most of Southern California lost their Internet and phone service, local repeaters were used to relay information about the fire status to ham radio operators,” Kuo told ARRL. “We also used our AREDN mesh to enable some of our members to be able to access key public-safety information on their computers via our high-speed network when they had no phone or Internet.”

Kuo said a near round-the-clock net, which secured on November 14th, took place in Ventura County on the Conejo Valley Amateur Radio Club's BOZO repeater and the WD6EBY Repeater Network (PVARC) countywide, with updates, important evacuation information, and more. Kuo copied information from the repeaters and his scanner onto his Twitter feed, for broader dissemination.

He credited Stu Sheldon, AG6AG, and Zak Cohen, N6PK—the two primary net operators—for working to make sure everyone had current information on the fire. “Many others were also involved providing first-hand reports—in many cases, eyes on the fire and where it was at any point,” Kuo added. He said that with landline telephones, television cable, and Internet service disrupted and cell phones intermittent, repeaters were often the only source of information.

“Personally, the whole disaster cemented for me how much more resilient amateur radio is in these kinds of situations, and how it's actually pretty critical to keeping informed and aware of what's going on,” Kuo said.

Elsewhere, Scott Bastian, AK6Q, of the Catalina Amateur Radio Association (CARA) in Southern California, said a ham in Malibu used his club's repeater to call for help at the onset of the Woolsey Fire that decimated Malibu and surrounding areas.

“This ham—and I do not have her call sign—used the CARA 2-meter repeater located on Catalina Island, calling for someone to make a phone call to the fire department as there was a large fire approaching her home, and she had no power or phone service due to our power company shutting off power due to the high winds and fire danger,” Bastian told ARRL. “Two of our members—Bob Parker, KI6UPJ, in Bellflower, and Gabriel Saldana, K6GLS, in Avalon—were able to pull her information out of the ‘mud,’ as she had a poor signal. They were able to notify Los Angeles County Fire and get her aid.”

Citizen Corps Exercise: January 12, 2019

County and City RACES units have been invited to participate in a Citizen Corps exercise on January 12, 2019, at Saddleback College in Mission Viejo. According to preliminary plans, the morning of the exercise will begin with a welcome by the Saddleback College Police Chief. Then Kevin McArthur, KK6JSG, Senior Emergency Management Program Coordinator, OCSD Emergency Management Division, will discuss the mission of the Citizen Corps and give the latest updates. A high-ranking official will be the guest speaker. Morning breakout sessions will include an ICS tabletop exercise on damage assessment, a refresher on medical skills such as triage and bandaging, and a manikin obstacle course.

After a 45-minute lunch, afternoon breakout sessions (90 minutes each) will include stop-the-bleed training (presented twice by the Medical Reserve Corps and Mission Hospital Regional Medical Center), ham-radio overview (OCRACES and city RACES units), Emergency Volunteer Center/Sheltering/COAD overview (OneOC and American Red Cross), and fire-watch overview (OC Fire Watch—Orange County Parks/Irvine Ranch Conservatory). After a 15-minute break, the same sessions will be repeated.

The ham-radio overview will be presented twice in the afternoon, 90 minutes each time. An objective is to increase the awareness of amateur radio, its capabilities, and how to get involved. We will show how RACES serves various agencies and works with CERT, and the technologies we provide. Huntington Beach RACES will give a presentation on how well CERT and RACES work together. Peter Putnam, NI6E, from Newport Beach RACES, will demonstrate Winlink and how it provides an equivalent to e-mail between agencies, even during Internet failure. Portable stations will be set up to demonstrate VHF and UHF repeater coverage, as well as HF (probably 60 meters) for communications from canyon to canyon or to beach areas below cliffs in areas where repeaters are difficult to reach. County and city RACES members are encouraged to bring and set up their portable equipment for this portion of the exercise, similar to what they did during the October 6th deployment drill. Joe Moell, KØOV, will demonstrate how direction-finding equipment can be used to locate interference to emergency communications. He will probably conduct a short on-foot transmitter hunt as part of his demonstration. County and city RACES members with portable direction-finding equipment will lead groups of observers while looking for the fox. This will also reveal one of many enjoyable facets of amateur radio. As we attempt to convince CERT members and others to obtain an amateur radio license, we will emphasize not only ham radio's capabilities during emergencies but also how amateur radio can be an extremely enjoyable hobby for those who like to experiment, chase DX, participate in on-the-air contests, build antennas, put together elaborate ham shacks, and investigate propagation as it varies between different ham bands as well as time of day and year within the 11-year sunspot cycle. We will mention various books to study, where classes are held, and when and where to take license exams. This is a great opportunity to promote amateur radio to emergency responders as a useful and enjoyable hobby, while emphasizing the traditions and many facets of the Amateur Radio Service.

Brad Russo, KB6GPM, Submits Resignation

After long and thoughtful consideration, Brad Russo, KB6GPM, has submitted his resignation as a member of County of Orange RACES, due to very time-consuming projects scheduled over the next two years. Brad is a Telecommunications Engineer III with the Mobile Systems Unit of the Orange County Sheriff's Department's Communications & Technology Division. The Division is in the final phase of the Countywide Next Generation rebanding rollout with the introduction of the new APX series radio platform. They are also about one-third of the way in decommissioning the remainder of the Astro Legacy fleet. Additionally, the Division is gearing up for the migration of the entire 800-MHz CCCS system over to the P25 protocol early next year. This along with two very extensive mobile video system projects Brad is currently managing are demanding more of his time and energy, thus leaving him with even less free time to pursue RACES activities.



Brad Russo, KB6GPM.

Brad's engineering expertise and his many years of supporting RACES have made him a most valuable OCRACES member, and we will miss him. He thanks us for our support for giving him the opportunity to participate in RACES. We certainly thank Brad as well for his support. He will continue to support RACES as part of his assigned duties as a Telecommunications Engineer in the Mobile Systems Unit, and he encourages us to contact him if we need any technical assistance.

Orange County Radio Rodeo Is a Success

by Robert Stoffel, KD6DAQ, OCRACES Member

The following article was written by Robert Stoffel, KD6DAQ, former (retired) Director of the OCS&T Communications & Technology Division. Division Director Dave Fontneau appreciated Robert's experience and expertise in making Orange County's segment of Radio Rodeo a great success.

The California Statewide Interoperability Executive Committee (CalSIEC) Southern Planning Area conducted the annual interoperability training exercise known as Radio Rodeo on November 13, 2018. The primary purpose of the Radio Rodeo was to conduct radio tests among Mobile Communications Vehicles within an Operational Area in order to verify inter-agency interoperability. The Orange County Sheriff's Department Communications & Technology Division hosted the Orange County Radio Rodeo site at the Huntington City Beach Parking Lot. Additional sites were located in Riverside and San Diego counties. A total of 13



OCS&T Communications & Technology Division Director Dave Fontneau (left) with former director Robert Stoffel, KD6DAQ, at Radio Rodeo in Huntington Beach.

agencies participated at the Orange County site with vehicles. Additionally, the Orange County portable satellite trailer was on display and several staff members from the California Governor's Office of Emergency Services attended as observers. Exercise objectives included confirming the proper naming, labeling, and programming of interoperability/mutual aid channels, testing voice communications on the VHF Low, VHF High, UHF, 700 MHz, and 800 MHz bands, identifying radio programming issues before a real incident, and reminding agencies of the available interoperable radio channels. Participating vehicles came from the Anaheim Police Department, California Highway Patrol, Cypress Police Department, Huntington Beach Police Department, Irvine Police Department, Laguna Beach Lifeguards, Laguna Beach Police Department, Orange County Emergency Medical Services, Orange County Sheriff's Department, San Clemente Lifeguards, Santa Ana Police Department, Tustin Police Department, and U.S. Marshals. The parking lot was open at 0730 and all agency vehicles arrived and were set up and operational by 0830. After a participant briefing, the radio testing began at 0900. Each frequency band was tested, and each participating agency was called in roll-call fashion. Over 40 radio channels were tested and all testing was completed by 1100. Overall, the exercise was an overwhelming success, highlighting the numerous interoperable communication capabilities here in Orange County.

OCRACES Holiday Dinner: December 3rd

The annual OCRACES Holiday Dinner for members and applicants and their families will be held on Monday, December 3, 2018, at 6:30 PM, at Rodrigo's Mexican Grill, 1230 E. Katella Avenue, in Orange. Rodrigo's has a choice of six items available for the night. Cost will be \$22 per person. This will be for the meal, a non-alcoholic drink, tax, and gratuity. Payment can be made to OCS&T Emergency Communications Manager Lee Kaser, KK6VIV, in either cash or check the night of the dinner. Lee will need a head count for all those who wish to attend by RSVPing to him at lkaser@ocsd.org.

There will be no regular monthly OCRACES meeting or ACS net on December 3rd.



Next Cooperative T-Hunt: November 19th

Fountain Valley RACES Member Jerry Fullerton, KD6JBL, was the fox on the November 19, 2018, cooperative T-hunt. This was Jerry's first experience on our T-hunts and he chose an excellent hiding spot in the busy Costco parking lot near Talbert Avenue and Newhope Street in Fountain Valley.

Joe Moell, K0OV, was the first hunter to find the fox. Next was Ron Allerdice, WA6CYY. Coming in next were Ken Bourne, W6HK, and Roger Kepner, W6SQQ. Then Peter Gonzalez, KC6TWS, and Ken Drake, KF6OTH, arrived.

The next hunt will be on Monday, December 17, 2018,

immediately following the OCRACES 2-meter net (approximately 7:20 PM). We are looking for a volunteer to be the fox, and a fox box will be provided. No fees will be required to drive directly to the fox. He will transmit on the input (146.295 MHz) of the 146.895 MHz repeater. Hunters will compare bearings via the 448.320 MHz repeater and are encouraged to beacon their positions via APRS throughout the hunt.

The cooperative T-hunts are usually held on the third Monday of each month (except in October). The hunts provide excellent practice in working together to find sources of interference quickly. The hunts are not official RACES events, so DSW (Disaster Service Worker) coverage does not apply. Please drive carefully!

Fox-hunt loops and beams are available from Arrow Antenna and HRO, including the Arrow Model FHL-VHF fox-hunt loop (covers 1 MHz to 600 MHz) and the Arrow Model 146-3 three-element portable hand-held yagi. The Arrow OFHA 4-MHz offset attenuator can be useful when close to the fox, to prevent receiver overload. For on-foot hunting, the BC-146.565 three-element, hand-held, foldup, yagi antenna is available from Bob Miller Enterprises (<http://www.rdfantennas.com>), along with the VK3YNG MK4 sniffer. An all-mode transceiver is quite useful, allowing hunters to switch to the SSB or CW mode for detecting extremely weak signals, or to switch in a built-in attenuator, reduce RF gain, or tune slightly off frequency when dealing with extremely strong signals. Some hunters use the DF2020T radio direction finder kit, which is a Doppler system available from Global TSCM Group, Inc. (<http://www.kn2c.us>). A very similar system is the MFJ-5005 Doppler direction finder. Useful apps are available for iPhones and Android phones. For some excellent information on T-hunting, see <http://www.homingin.com>.



At the fox's den are (left to right) Jerry Fullerton, KD6JBL (the fox), Roger Kepner, W6SQQ, Ron Allerdice, WA6CYY, Peter Gonzalez, KC6TWS, Ken Drake, KF6OTH, and Joe Moell, K0OV.

Cover 4 Bands with "Octopus" Hamstick Hub

Several RACES members are using pairs of MFJ Hamsticks with the MFJ-347 mount to configure a shortened dipole on 60 meters. MFJ Enterprises recently introduced the MFJ-2101 hub for configuring an "octopus" antenna, consisting of four shortened dipoles. With it you can mix and match any four HF/VHF/UHF bands. The hub consists of eight $3/8 \times 24$ threaded connectors for Hamsticks and a fiberglass-filled ABS base insulator.

For example, you can screw in 80, 60, 40, and 20-meter Hamsticks (two on each band) on opposite sides for a four-band dipole, or, instead of 20 meters, screw in two dual-band 2-m/440-MHz whips for a five-band dipole.

The hub mounts on any mast up to 1 inch in diameter, and includes a built-in balun. Interaction between bands is minimized because the Hamstick ends are spaced apart at a large angle.



MFJ-2101 hub.

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: w6hk@ocraces.org

Orange County SKYWARN

Jim Campbell, WB6ZPB, Central Area (San Diego County) Coordinator for SW California SKYWARN, reminds that the annual ARRL SKYWARN Recognition Day 2018 will be conducted November 30, 2018, at 4:00 PM, until December 1, 2018, at 4:00 PM. The ham station at the National Weather Service Office in Rancho Bernardo, 11440 W. Bernardo Court, #230, San Diego, will be in operation during this event. If you would like to help operate the Special Event station during this time, e-mail Jim with your preferred 2-hour time slot(s) at wb6zpb@yahoo.com. Jim said he will do his best to get you your desired time slot, or pair you up with someone. He looks forward to hearing from you.

SKYWARN Recognition Day (SRD) was developed in 1999 by the National Weather Service and the American Radio Relay League. It celebrates the contributions that volunteer SKYWARN radio operators make to the National Weather Service. During the day SKYWARN operators visit NWS offices and contact other radio operators across the world.

Separate stations will have individual QSL cards. NWS San Diego (WX6SGX) will operate SSB on 40 meters, 20 meters, and 15 meters, and FM on 2 meters and 440 MHz. QSL to SWCA SKYWARN, c/o Eric Hutchins, K7ELH, 203 E. Alvarado Street, Fallbrook, CA 92028.

Operating Instructions:

1. Object: For all amateur stations to exchange QSO information with as many NWS stations as possible on 80, 40, 20, 15, 10, 6, and 2 meter bands plus the 70 centimeter band. Contacts via repeaters are permitted. SKYWARN Recognition Day serves to celebrate the contributions to public safety made by amateur radio operators during threatening weather.

2. Date: NWS stations will operate December 1, 2018, from 0000 to 2400 UTC.

3. Exchange: Call sign, signal report, QTH, and a one or two-word description of the weather occurring at your site ("sunny," "partly cloudy," "windy," etc.)

4. Modes: NWS stations will work various modes including SSB, FM, AM, RTTY, CW, FT8, and PSK31. While working digital modes, special-event stations will append "NWS" to their call sign (e.g., NØA/NWS).

5. Station Control Operator: It is suggested that during SRD operations a non-NWS volunteer should serve as a control operator for your station.

6. Event and QSL Information: NWS will provide event information via the Internet. Event certificates will once again be electronic and printable from the main website after the conclusion of SRD.

Orange County Amateur Radio Club (OCARC)

The Orange County Amateur Radio Club Christmas Party will be on Friday, December 7, 2018, at Mimi's Café, 17231 E. 17th Street, in Tustin. Social hour begins at 5:30 PM and dinner at 6:30 PM. The easiest way to pay and reserve your spot is to go to the OCARC weblink: <http://www.w6ze.org/XMAS/Christmas-Paypal.html>. This will allow you to reserve a place for you and your party. Tickets are \$29 per person with a \$1 PayPal fee per ticket for a total \$30 online. It's \$29 if paying by cash or check. E-mail "Activities" at w6wg@w6ze.org to arrange purchasing your tickets. Bring your spouse and friends too. Amateur entertainment will be provided.

Dinner includes the following meal choice:

- 10 oz steak with fries
- Grilled Atlantic salmon
- French pot roast

All dinners include a choice of coffee, tea, lemonade, or soft drink and come with choice of house salad, Caesar salad, or a cup of soup. Tax and tip are included.

Reserve your place by Tuesday, December 4th.

Drawing prizes include \$500 in gift certificates and radio items. Drawing tickets are available for \$1 per ticket. The grand prize is a \$750 HRO gift certificate. 100 grand-prize tickets will be available at \$5 per ticket.

December 2018

Upcoming Events:

- **December 3:** OCRACES Holiday Dinner, Rodrigo's Mexican Grill, 1230 E. Katella Avenue, Orange, 1830 hours
- **December 7:** Orange County Amateur Radio Club Christmas Party, Mimi's Café, 17231 E. 17th Street, Tustin, 1730 hours (social hour), 1830 hours (dinner)
- **December 17:** Cooperative T-Hunt
- **December 24:** Christmas Eve (no nets)
- **December 25:** Christmas
- **December 31:** New Year's Eve (no net)
- **January 1:** New Year's Day

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Weekly 60 m ACS Net
2	3 OCRACES Holiday Dinner (no net, no meeting)	4	5	6	7 OCARC Christmas Party	8 Weekly 60 m ACS Net
9	10 Weekly 2 m ACS Net	11	12	13	14	15 Weekly 60 m ACS Net
16	17 Weekly 2 m ACS Net & Cooperative T-Hunt	18	19	20	21	22 Weekly 60 m ACS Net
23	24 Christmas Eve (no nets)		26	27	28	29 Weekly 60 m ACS Net
30	31 New Year's Eve (no net)					



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

- 60 m: 5346.5 kHz USB (dial) (Channel 2) (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
 - 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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 Ken Bourne, W6HK
 714-997-0073

Radio Officer (Lieutenant)
 Scott Byington, KC6MMF

Assistant Radio Officers (Sergeants)
 Jack Barth, AB6VC
 Ernest Fierheller, KG6LXT
 Bob McFadden, KK6CUS
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It's Where It's @!

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

Meet Your County of Orange RACES Members!



Ken Bourne
W6HK



Scott Byington
KC6MMF



Jack Barth
AB6VC



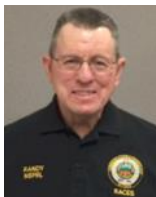
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Walter Kroy
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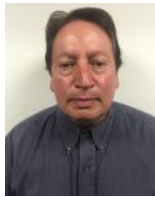
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