



County of Orange RACES NET CONTROL



May 2000

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

Baker to Vegas 2000
by: Mike Krueger, N6MIK

Another Baker-to-Vegas Challenge Cup is in the books.

The first Baker to Vegas Challenge Cup Relay Race of the century was held April 15th and 16th and OC-RACES was out in force to support running teams from around the county. Nearly 30 teams were supported with the OCRACES voice and APRS backbone radio systems. OCRACES provided monitoring of follow vehicle locations and multiple radio channels from the Command Post located at the Days Inn of Pahrump NV.

Our main objective, providing voice communications for OCSD teams, was a huge success. We learned two years ago that wiring of support vehicles with radio power cables before the race is a tremendous time saver, however we still required each van to meet us at Baker High to get the actual radio equipment installed. This year, the decision was made to install the radio

equipment ahead of time, eliminating the need for OCSD team vans to assemble for installations at Baker. With the chaos around Baker as a result of the first-ever nighttime starts, this proved to be a very wise move!

Thanks to Kevin Karamanos of Irvine RACES (IDEC), OCRACES was able to share two permanent, high-level repeaters that provide 100% coverage of the course. Several VHF simplex channels for voice communications with the command post and other team vehicles were also used. Coverage of race course was excellent this year, with handheld coverage in Baker, Pahrump, Vegas and several points in between.

The APRS system worked very well. A total of 3 digipeaters were placed on-line, providing coverage over 100% coverage over the course for APRS beacons. The Turquoise (Baker) and Mt. Potosi digipeaters will remain in service throughout the year. The third digipeater was at the Pahrump home of former HBRACES member John Holtz. We had a number of on-lookers in the command post, and many want to have APRS in their teams

May Meeting

The May 1st OCRACES monthly meeting is a closed meeting for OCRACES members only. This business meeting will be conducted at the usual Eckhoff Street location and will start at 1930 hours.

follow vehicles for B2V 2004!

All of the high technology equipment would not have been useful without the time and talents that OCRACES members and volunteer communicators gave to make this event happen. Thank you to all that helped make this event a success.

Communications- Team #17:
Janice Murphy
Randy Benicky
Robbe Gibson
Jim Robertson
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Upcoming Events

May 1	OCRACES monthly meeting (Closed Meeting - OCRACES members only)
May 30	SONGS drill, Huntington Beach, 1500-2000
May 31	Disaster Preparedness Academy, CSUF
June 5	OCRACES monthly meeting
June 24-25	Field Day
June 27	SONGS drill, Huntington Beach, 1300-1700
July 3	OCRACES monthly meeting

Captain's Corner

by: Capt. Ray Grimes, W6RYS
Chief Radio Officer, OCRACES

April was an outstanding achievement month for OCRACES, and in certain respects, difficult. The month started off with the annual Iranian New Year Festival at Mason Park. Robbe Gibson, K6RAG did an exceptional job as event coordinator, being supported by several OCRACES members. We again covered the Baker to Vegas Challenge Cup relay race, providing valuable communications services and technical expertise. A special thanks to Mike Krueger and Ken Mirabella for their considerable effort in pulling all of the loose ends together, resulting in another assignment being completed with professionalism and pride.

Most of you know that our RACES member and friend Al Baird, KC6TWI had surgery recently. I spoke with Al by telephone. He is recovering nicely and hopes to attend our next meeting. We wish Al a speedy and full recovery.

I attended the funeral service for Jerry Kunz, W6BVG, the Los Angeles County DCS amateur radio operator who recently passed away. Jerry was an inspiration and a model of public service and pride, having served as a disaster services volunteer communicator and later as a paid LA County DCS amateur radio disaster services employee. What is amazing is that Jerry was blind from birth, but overcame his disability to become a highly respected and effective emergency communicator. Jerry was a key element in the success and effectiveness of LACoDCS, and will be missed by many. OCRACES members considered Jerry as a friend and mentor.

It was a privilege to attend the County of Orange Board of Supervisors fourth annual volunteer recognition program, and to witness Mike Krueger, N6MIK and others being honored for their contributions. Mike's efforts as OCRACES Training Officer and Baker to Vegas event coordinator have been recognized, and we are all pleased that Mike has been rewarded for his outstanding performance as a volunteer. We don't do these jobs to get recognized or for rewards, but it sure is nice to know that the people we serve appreciate the effort and take time to say so.

OCRACES PROVIDES SUPPORT TO THE IRANIAN NEW YEAR

By Robert Stoffel and Mike Krueger

On Sunday, April 2, 2000, OCRACES provided communications support for the Iranian New Year celebration at Mason Regional Park in Irvine. Our services were requested by the County of Orange, PF&RD, Harbors, Beaches & Parks. Our mission was to coordinate the various communications between the Park Ranger staff, Irvine Police, Sheriff's Department, Fire Authority and RACES units. Robbe Gibson was our coordinator for this event. Participating in the activity were Nancee Graff, Delia Kraft, Mike Krueger, Floyd Martin, Harvey Packard and Steve Sobodos.

From all reports received, things could not have gone smoother! Having RACES co-located with the Irvine PD dispatcher worked out very well. The ability to coordinate activities without delay was of great benefit to all participants. The 800 MHz Fire radio was also beneficial. Knowing when the FD was enroute, what entrance they were using and where in the park they were going was a big help. The ham shadow for the park ranger was essential. Thanks again to Khalil Ladjevardi for working this event from start to finish! OCRACES received a letter from the Manager of PF&RD Harbors, Beaches & Parks, thanking us for our efforts in helping to make the event a success.



OCRACES also used this activity for an evaluation version of a CAD program. During his shift, Mike Krueger logged 29 incidents, and tracked 16 units in the field. We can't wait until we get the full version for use at future events!

Meetings:

General: First Monday of Month
(open to public) @ 1930 hr

Meeting Location:

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

County RACES Frequencies:

6 m: 52.62 MHz output, 52.12
MHz input, 103.5 Hz PL

2 m: 146.895 MHz output,
146.295 MHz input, 136.5 PL;
(primary net Mondays, 1900 hrs)

2 m: Packet: 145.07 MHz
(1830 - 1900 hours)

1.25 m: 223.76 MHz output,
222.16 MHz input, 110.9 Hz PL

70 cm: 449.180 MHz output,
444.180 MHz input, 107.2 Hz
PL (private)

OCRACES Web Page:

<http://www.ocraces.org>

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Did You Know?

An Early Fall?

**by: Capt. Ray Grimes, W6RYS
Chief Radio Officer, OCRACES**

Tower climbing in this country for the most part, is done safely, with relatively few serious accidents. Professional tower climbers are required to have tower climbing and EME Hazard training, and proper safety equipment. Federal and state OSHA organizations monitor professional tower climbing safety operations and investigate accident reports. No such requirements are widely imposed upon amateur radio hobbyists though the same commitment to safety must be maintained.

Tower climbing starts with a visual inspection of the tower itself. Any obvious defects such as slack guy wires or questionable guy anchor or base plate integrity must be fully addressed and corrected before any tower work commences. If a used tower is being reinstalled, an inspection for mechanical damage and corrosion must be made. Rust inside of a tubular tower leg may warn of hidden corrosion or galvanized plating damage. Obstructed weep holes on tower legs may suggest that tower legs have filled with water, resulting in internal rusting. For colder locations, trapped water in tubular tower legs will freeze and may split tower tubular steel as ice expands. All new galvanized or stainless steel hardware should be used for a tower reinstallation.

Tower structural repairs are not recommended as they are not cost effective, and any welding or drilling of tower sections may actually weaken the structure, resulting in eventual catastrophic failure. Crank-up towers can be very dangerous. Crank up tower accidents are often related to improper installation, mechanical overload, or an attempt to climb them without properly securing them from falling or collapse. A crank-up tower with apparent structural damage should be destroyed to prevent reuse. Cable operated telescoping masts are probably the best overall antenna structures, being least likely to deform or to have a cable snag.

Approved and tested tower climbing equipment is mandatory for professional climbers. Some amateur radio hobbyists climb towers using surplus climbing belts without safety ropes or cables. An important message is to never use surplus telephone company type leather or web climbing belts. These are frequently seen at swap meets for attractive prices. Leather and cloth web belts are prohibited from being used for professional tower climbing. These surplus climbing belts are untested and likely have been weakened by age and rot. These belts should be destroyed to prevent any use. Modern climbers use approved nylon reinforced harnesses. They also use safety cables attached to the tower to prevent serious injury from falling. When climbing any tower, do it professionally.

Here are a few common causes of tower accidents collected from professional tower climbers, which can help assure your safety when working on antenna structures. Remember, one tower accident can change (or end) your life.

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RF Hazard History

By: Capt. Ray Grimes, W6RYS
Chief Radio Officer, OCRACES

As you may recall, the first ANSI RF Hazard Guidelines were released in 1982. Prior to that time, a few papers existed which vaguely addressed RF exposure risks to humans. Most of the scientific awareness of the time came from medical observation of the results of gross exposure to electromagnetic energy by military personnel in W.W.II and Korea. These were occupational situations where technicians were self exposed to radar and microwave high power or very strong HF fields. The biological effects to humans were unmistakable, resulting in classic diseases such as cataracts, leukemia, tumors, and cancer. The early RF exposure documents were not taken seriously by the industry, or were their contents even recognized and understood by most. Though a very few people had mobile telephone service handheld portables in the '60's and '70's, the advent of cellular telephone is what elevated concern about general population biological RF exposure risks in this country.

The ANSI Guideline for RF Exposure to Humans is rewritten and released every 10 years (1982, 1992, 2002, etc.). There is a long process for which current and past medical research is reviewed, disputed, and defended. There are political and legal pressures supporting more conservative RF Hazard protection requirements, balanced by those who believe the standards are too rigid and costly to meet.

Some special interest groups are challenging the 1996 FCC RF Exposure Guidelines (which is really nothing other than the FCC's defacto adoption of the ANSI C95.1.1992 RF Hazards to Humans Guideline, as the US EPA failed to meet its obligation to create its own standard). Their concern is that the RF Exposure standard does not address non thermal effects of RF exposure, including incidental RF effects on electronic medical devices. This area of interest is not new to the industry.

There have been studies in the past which described effects on humans and laboratory animals when subjected to medium to large RF fields where the RF carrier was amplitude modulated, with a tone or pulse rate of around 16 Hz. The argument is that even though brain Alpha wave form changes can be observed in humans, is this a negative or positive effect, or no effect at all on animal behavior?

A recent US Court of Appeals lawsuit brought on by the Cellular Phone Task force and the Communications Workers of America raised several issues, including a challenge of the FCC's exclusive authority to set standards and regulate radio facility operations, also questioning the validity of the narrow scope 1996 FCC RF Exposure guidelines. The Second Circuit Court of the US Court of Appeals upheld the FCC's exclusive authority in radio facility regulatory matters, and also upheld the FCC's 1996 RF Exposure Guidelines.

As the ANSI RF Hazards to Humans guideline is scheduled to be rewritten and released in 2002, there is not much point in arguing the validity of the almost 10 year old ANSI 1992 document. One can rest assured though, that the new RF Exposure guideline will be more conservative than previous recommendations. For the past 20 years, with release of each ANSI guideline, there has been a built-in 10X safety factor above known RF Hazard thresholds. That means that the 1992 ANSI guideline has 100X the protection level above the earlier document. The ANSI 2002 guideline will almost certainly have a threshold of 10X greater safety margin above the 1992 standard. These RF Exposure standards are not simple medical conclusions based on research. There are about as many documents on each side of the fence either supporting a conclusion that RF energy is damaging to humans, or generally denying the possibility, based on other research. The issues of subtle psychological effects and degradation of medical electronics (pacemakers, etc.) will also be a topic of intense discussion. The extremes, as with any legal/political argument will likely meet in the middle and the new ANSI RF Exposure guideline will prove to be a document for which most everyone will have some problem with, but will be accepted by the industry nonetheless.

B-to-V cont'd from page 1

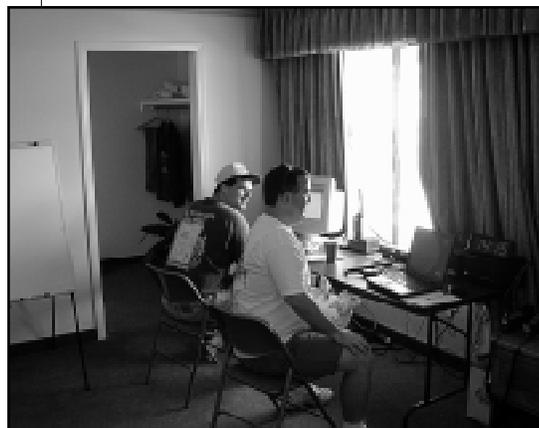
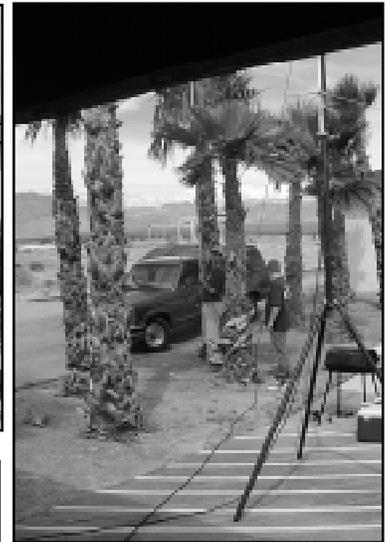
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 John Holtz
 Byon Garrabrant
 Randy Holland
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Tower accidents are often the result of:

1. Climbing or descending too fast.
2. Climbing too close to ropes, handlines, and guy wires.
3. Not paying attention to conditions.
4. "Belting-off" to an antenna or insecure object.
5. Inadequate physical condition of the climber.
6. Failure to maintain a proper hand-hold on the tower.
7. Catching materials thrown up from the ground.
8. Improper balance of body weight.
9. Climbing when physically impaired or ill.
10. Climbing in high winds.

from:

Fall Protection, P.6, Hill & Hill,
 Site Management & Technology
 Magazine, Spring, 2000 edition.

