Newsletter of the Riverside County Amateur Radio Association



NOVEMBER

2016



Welcome to the Riverside County Amateur Radio Association Newsletter. Our club has been serving the Riverside area for 61 years and we have over 65 members. Monthly meetings are held on the second Thursday of each month at 7:00 PM in the La Sierra University Church Conference Center directly behind the church located at the corner of Pierce and Sierra Vista, Riverside, CA. See our webpage for directions and more information: www.w6tj.org

RCARA HAM RADIO CLUB



ARRL Affiliated Club #1720

Riverside Repeater: 146.880 MHz, -600 KHz offset, PL 146.2 Hz

Please submit your newsworthy articles and suggested publications by the 25TH of the month to be included in the next edition of THE MONITOR to

Marlene KK6CTX via email at XMADAMXX@AOL.COM

REMINDER: Annual Club dues for 2017 will be payable beginning January 1, 2017 or sooner at your convenience.

The next Club Meeting will be on Thursday,
November 10, 2016, at 7:00 p.m.
For meeting location and club information, visit our web page at

WWW.W6TJ.ORG

RCARA CLUB OFFICERS FOR 2016

- President: Ron Braley KE6RYX (951) 369-5149
- Vice President: Don Williams KD6UVT kd6uvt@mac.com
- Treasurer: Jim Wiley AG6EA jameswwiley@att.net
- Secretary: Duane Allen KK6EE d.k.allen@att.com
- Membership Chair: Ed Morgan KF6BNQ edimorg@aol.com
- Newsletter Editor: Marlene KK6CTX xmadamxx@ao.com
- Communications Director: Bob Trujillo KG6NIB –

kg6nib@yahoo.com

APPOINTED POSITIONS:

- Club Historian: Vacant (VOLUNTEER WANTED)
- Club Photographer: Steve Evans AF6HR kf6bnp@aol.com
- Sunshine Chairman: Art Sutorus AA6CA aa6ca@att.n
- Web Site Administrator: Mike Riiff KA6PW mriiff2@gmail.com
- W6TJ Trustee: Don Williams KD6UVT kd6uvt@mac.com
- Grant Administrator: Donna Beveridge KK6UDF ntlc01@charter.net



November program presentation Jim Wiley AG6EA – Net Etiquette













President's QSO From the desk of Ron Braley KE6RYX



Good day everyone, I hope everyone survived the California Shake Out, all indications are it was a great success. It was a joint effort between club members, RACES, ARES, and guests. I would like to thank everyone who was able to participate; we will do it again next year.

Now to club business, nominations for the board for 2017 are still open. We have at least one candidate in all of the positions except Newsletter editor. If you think you might be interested in this position or know of someone that might be, please let us know. As the year comes to a close we need to fill all of the board positions for the coming year.

Please place Friday December 9th on your calendars for our annual Christmas Dinner and gift exchange at Kountry Folks Restaurant.

Don't forget our Club elections will be held at the meeting on Thursday November 10, 2016; not to be confused with that <u>other</u> election.

Hope to see everyone at our club meeting.

73, Ron Braley KE6RYX



CALL FOR NOMINATIONS



Nominations and Voting will take place at the November 10, 2016, meeting.

If you are a regular club member and would like to be included as a candidate for an office or have suggestions of members willing to serve, please contact President Ron Braley KE6RYX at (951) 369-5149 or email Marlene KK6CTX at xmadamxx@aol.com Names can also be presented from the floor prior to voting at the November meeting.



Elected Board of Director Positions:

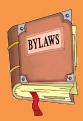
President
Vice President
Secretary
Treasurer
Newsletter Editor
Membership Director
Communications Director

Appointed Positions:

Grant Administrator
Association Photographer
Sunshine Committee Chair
Club Historian
Trustee of the Association's Amateur Radio License (Repeater Trustee)
Webmaster
Past President

Everyone deserves a community where they can learn, communicate, share and connect ... Come join ours: www.w6tj.org

Please check RCARA Bylaws and Constitution for specific duties of each office.



Schedule for Club Meetings through December, 2016:

November 10, 2016: Nominations and Election of 2017 Club Officers

December 9, 2016 Holiday No Host Dinner and gift exchange



Installation of 2017 Club Officers
Presentation of Annual Awards

Kountry Folks Restaurant 3653 La Sierra Riverside, CA 92505



November Birthdeys

Joe Reimos Kifblith Nov. 9

Cetrlos Sosei KQCBMW Nov. 24

Pevil Bresimem Waplir Nov. 24



A celebrettion, a gatthering of friends, wishing you great happiness and joy that never ends!

A not so subtle Zeminder

Nominations for 2017 Officers

Mosition Nominee

President Marlene KK6CTX Your
Vice President Mike Rankin N6TXR name
here

Secretary Donna KK6UDF Treasurer Jim Wiley AG6EA Membership Chair

> Ed Morgan KF6BNQ Mike Riiff KA6VPW

Communications Director

Larry Junker WA6PMY

Newsletter Editor

Current Appointed Positions

Club Historian Vacant
Club Photographer Steve Evans AF6HR
Sunshine Chair Art Sutorus AA6CA

Web Master Mike Riiff KA6VPW
W6TJ Trustee Don Williams KD6UVT
Grant Administrator Donna Beveridge KK6UDF

Who is up for the task? Could it be <u>you</u>? We need <u>your</u> talents and skills! It's fun and rewarding.

Links of Possible Interest

Amateur Radio Ham Radio Maidenhead Grid Square Locator Map

http://www.levinecentral.com/ham/grid_square.php

http://www.grz.com www.hamradio.com/

http://www.eham.net http://www.arrl.org/qst

http://www.manualman.com http://73s.com/

REPEATER LIST

http://rptrlist.w6jpl.ampr.org/

ALL ABOUT BATTERIES

http://www.batteriesamerica.com/

ECHO LINK INFO http://www.echolink.org/ IRLP LINK INFO http://www.irlp.net/

Clint Bradford – interesting informational web site

http:/www.k6lcs.com

NOAA/Space Weather Prediction Center:

www.swpc.noaa.gov

Space Weather Alerts: http://www.swpc.noaa.gov/alerts/warnings_timeline.html



Things are moving forward with the county -- new RACES training opportunities are being announced and the Executive Council and I see promise. Please make an effort to attend the Monday, November 7 RACES meeting, you 'Il get the latest information on district, PEOC, west county and Countywide training and activities.

Don Williams kd6uvt, Operations Section Chief West Riverside County RACES

HAM VOLUNTEERS NEEDED FOR CHIMERA 100 NOVEMBER 12TH & 13TH

CALLING ALL HAMS, this is a reminder that we that need Ham Radio Operators for the up coming Chimera 100 mile foot race.

SAVE THE DATES: Saturday and Sunday, November 12 &13

Several hundred athletes from all over the US will converge on the Santa Ana Mountains to take part in a 100-mile ultra-marathon. Amateur Radio is the only reliable source of both Health & Welfare and Emergency Communications on the course. Radio communications will use 2-meter and 70cm-440 MHz repeaters and simplex so please don't feel that you need any exotic HF transceiver.

Operators will staff the Start/Finish Line, Net Control Station and aid stations throughout the 100-mile course in the Santa Ana Mountains. Start/Finish, Net Control and some aid stations have road access for sedans and pickups; other aid stations along the Main Divide Truck Trail require four-wheel drive vehicles. Two operators are needed at each station during these events so you can ride in with someone even if you don't have four-wheel drive.

We all need to remember, we made a commitment to provide public service and emergency communications in exchange for the privilege of using our amateur radio frequencies. It's time to pay back that commitment. Not RACES or ARES, NO PROBLEM, these races are a great way for all Hams to practice radio skills in an unscripted, sometimes tough and off grid environment. It is an excellent opportunity to test your equipment and skills and to become more prepared. Come out and join us and have a great time.

I would like to say, Thank you for your support with these races! Sincerely,

Todd Voigts, KJ6DGG - 951-757-3501 cell todd.voigts@gmail.com

P.S. Save the following too: March 4th, Diamond Valley Marathon April 1st (no foolin') Old Goat 50

Planning Next Year's Vacations and Ham Radio Activities; Save the Dates

Palm Springs Ham Fest February 4th, 2017 Palm Springs Air Museum 745 N Gene Autry Trail Palm Springs, CA

Baker to Vegas Challenge Cup Relay Race
March 25th and 26th, 2017
Baker, CA through Pahrump, NV to Las Vegas, NV
Contact Don Williams kd6uvt@mac.com or 951.264.0219 for more info.

Amateur Radio Field Day June 24th and 25th, 2017

Driving and Talking on Ham Radio

This appeared in the Nov issue of QST. After reading the law on the CA web site, it raises a number of questions;

Can a Taxi cab driver talk to his dispatcher while driving?

Can a tour bus driver talk to his passengers on a PA system while driving? Can a volunteer (NOT PAID therefore NOT PROFESSIONAL) first responder (fire, ambulance, etc.) use radio?

Can a HAM use his radio while driving, even though its mounted on the dash board and can be operated with a "tap of the finger on the xmit key"?

As the author of the QST article said, "this is a very sloppily written piece of legislation." Well, I guess we get what we pay for.

I wonder if someone will start a campaign to get this rewritten and "exempt" Hams and certain other operators as in the previous bill?

Jim AG6JN

ARRL Gauging Impact of Revised California Distracted Driving Law

10/04/2016

California has upped its game in cracking down on distracted driving, and radio amateurs there are concerned that a recent revision to the state's Motor Vehicle Code could affect Amateur Radio mobile operation. The old law, which included an Amateur Radio exemption, already prohibited motorists from using electronic wireless communication devices to write, send, or read a text-based communication while in motion, unless the device was configured for voice-operated and hands-free operation. The revised law does not exempt Amateur Radio.

Assembly Bill 1785, signed into law on September 26 by Gov Jerry Brown, prohibits a motorist from driving "while holding and operating" a hand-held wireless telephone or a wireless electronic communication device, as defined by the code. But it authorizes a driver to operate such devices mounted on a vehicle's windshield like a GPS or on the dashboard or center console "in a manner that does not hinder the driver's view of the road," if the driver can activate or deactivate a feature or function "with the motion of a single swipe or tap of the finger."

The language defining devices covered by the law does not accurately specify what activity is prohibited, leaving its application subject to misinterpretation by individual law enforcement officers, but it does not specifically proscribe use of mobile Amateur Radio equipment for voice communication. The list of covered devices includes, but is not limited to, "a broadband personal communication device, a specialized mobile radio device, a handheld device or laptop computer with mobile data access, a pager, or a two-way messaging device." A first offense would incur a \$20 base fine and \$50 for subsequent offenses.

Initial wording of the legislation was not considered to be a threat to Amateur Radio operation, but the measure's language changed substantially as it worked its way through the California General Assembly.

ARRL General Counsel Chris Imlay, W3KD, said there are two principal ways to protect Amateur Radio in this type of legislation. "One is by sufficiently narrowly defining prohibited activity so as to exclude Amateur Radio," he said. "The other is to create specific exemptions where the definitions are confusing. This new statute is an example of bad legislative draftsmanship. It creates a motor vehicle law with citations issued for certain activity that includes the words 'but is not limited to' in the language defining the violation." In addition to scrutinizing the language of the revision, ARRL will be consulting with Field Organization officials in California.

ARALB Ham University

How to get a Paper License - Bill Bradley (WD6FON)

I am sometimes asked by our ARALB Ham University students how to get a paper license. As you are aware, the FCC has suspended mailing out paper licenses for amateur radio operators. So, I wrote to FCC Chairman Tom Wheeler. I explained that the FCC requires us to post our license at our station and requires us to show our license to the FCC on demand. Yet, since they stopped printing licenses, we cannot use a screen print of the information to use as proof. We can print a 'reference copy' of our license, but that states that we cannot use that as proof of a license. We are in a 'Catch 22' situation.

I received a reply from Mr. Wheeler's office. In typical government run around, I was directed to their webpage. Needless to say, the information was utterly useless.

However, I do have an 'official copy'. The paperwork I received with my paper license has instructions with it. Here is what those instructions state. Below is a direct quote:

How to Obtain an Official FCC License Copy

Download and Print License: The licensee can log onto the FCC ULS License Manager System http://wireless.fcc.gov/uls/ with their FRN and password to 'Download the Electronic Authorization; of the official license. On the 'Download Authorizations' page the license holder will add their call sign to the 'Authorizations to Download' and then click download. The PDF of the license can be saved to a computer and printed later or the file can be opened and printed immediately.

Login and Set Paper Preferences: The licensee can log into the FCC ULS License Manager System http://wireless.fcc.gov/uls/ with their FRN and password and set their

own paper authorization preferences for future mailings. This option determines whether a user will receive paper authorizations (printed license and FRN information) from the FCC. The license holder would select either YES or NO and then click SAVE. By selecting YES, you will continue to receive paper authorizations printed and mailed by the FCC. By selecting NO, you will not receive authorizations printed and mailed from the FCC. This preference will affect all granted authorizations on this FRN.

Receive License via email: When modifying, renewing or requesting a duplicate copy of the license, a licensee who already has an FCC Registration Number (FRN)

and provides a valid e-mail address under "Applicant Information" while logged in to the ULS system will receive and official ULS-generated electronic authorization via email. The action of adding a valid e-mail address into the FCC system can also be performed by a VEC filing new, upgraded, modified or renewed licenses on behalf of applicants.

Contact FCC: Licensees may contact FCC Support via the web, by telephone (1-877-480-3201) or by mail to request paper licenses. Please note that FCC recently stopped using distinctive paper stock to produce hard copy licenses and has been printing these on "standard, white recycled paper." The Bureau noted that the distinctive paper stock it had used was six times more expensive than the plain recycled paper it now uses.

Re the reason someone smiles today!



Don't forget to submit your nominations for our two prestigious annual awards:

The Harry Crawford Memorial Award and the LeJo Perpetual Award.

Write a letter supporting your nomination and submit it to any Board of Director before November's meeting.

See the web site for more details www.w6tj.org

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7uesday, November 15, 2016, 11:00 a.m. at the Back Street Café, 3735 Nelson St. at Brocton, Riverside?

We've enjoyed several lunches in the past as a way of socializing and chatting with others. Both with hams and friends. Back Street Café has been most accommodating and friendly to our group. If you have a suggestion for another place, let me know. Please RSVP so that I will know if we should continue to schedule these monthly gatherings.



From the Desk of Don KD6UVT

Our October program delved into using radio waves to search for information about the universe and our solar system. The program was hampered by a lack of audio during the video and for that I apologize. The proper settings in the computer have been identified (my fault), adjusted and the club's speakers replaced (not my fault - hardware problem). This article gives you, our reader, some background on the National Radio Astronomy Observatory and its Very Large Array.

Gail and I had the opportunity to tour the Green Bank Telescope in West Virginia this past June and tour the Very Large Array in New Mexico during one of its October open house. We highly recommend a trip to visit both facilities. Make sure to click the blue links to plan your visit (RNRAO (National Radio Astronomy Observatory) and the Very Large Array CARA field trip!) or to visit from the web.

The NRAO was founded in 1956; it provides state-of-the-art radio telescope facilities for use by the international scientific community. The National Science Foundation and Associated Universities, Inc. (AUI) fund the NRAO under the terms of a cooperative agreement signed in 2015. The Open Skies doctrine opens NRAO telescopes to all astronomers regardless of institutional or national affiliation. Observing time on NRAO telescopes is available on a competitive basis to qualified scientists after evaluation of research proposals on the basis of scientific merit, the capability of the instruments to do the work, and the availability of the telescope during the requested time. NRAO also provides both formal and informal programs in education and public outreach for teachers, students, the general public, and the media.

NRAO operates or is aligned with several facilities, the brief history of which will give us background on the Very Large Array and other new observatories.

<u>GBT Green Bank Telescope, Green Bank West Virginia – GBO, Green Bank Observatory</u>

Persons familiar with Green Bank know it was the largest moveable telescope in the US however its 300-foot radio telescope collapsed on November 15th, 1988. Two years later the NSF approved a new Green Bank Telescope or GBT, what would become the largest fully steerable telescope in the world – the Robert C. Byrd Green Bank Telescope; the new GBT began observation 10 years later in 2000. The GBT stands 485 feet tall, its 100-meter by 110-meter dish. A gigantic yoke cradles the GBT above a base of concrete sunk 25 feet down to solid Appalachian bedrock.

In the 1960s, the NRAO wanted to build an array of radio telescopes called an interferometer that can act as a larger telescope, larger than any current or future single telescope, using the combined observations of strategically-aligned smaller ones. When the waves of these separated telescopes are combined, the signals get stronger and the noise flattens out, creating sharper views of radio objects.

NRAO needed to prove the design concept and the ability to operate it. The existing 85ft Tatel Telescope at Green Bank, became the basis for its testing. NRAO ordered another 85-footer to create a two-telescope observing system, i.e. an Interferometer.

The new telescope, named 85-2 was complete in February 1964. It was supported by 80 14-ply truck tires permanently mounted to its frame which allowed it to be moved closer or farther away along track one and one half miles long; six staging positions were built at 1000-ft intervals along the track.

Tatel and 85-2 became a working interferometer on June 1, 1964. Renamed the Green Bank Interferometer, this pair's interference (fringe) patterns from the combined radio wave observations were very good, showing astronomers the periodic changes in radio signals from objects that dimmed and brightened over time. Within the first year of GBI observations, the major astronomy report from the National Academy of Sciences recommended the immediate funding and building of a large-scale radio telescope array as a national science facility, the Very Large Array in New Mexico would become that national facility.

NROA continued to develop the interferometer concept; it added a third telescope, 85-3, in spring of 1967 and a forth portable/mobile 42 ft telescope in late 1967. These additions greatly increased the sensitivity of the Green Bank Interferometer and allowed it to test multiple baselines using locations 8 miles from its larger siblings and then later 11 miles north-northeast on a mountaintop called Spencer Ridge. (The distance is the same as an arm of the Y-shaped VLA, still under design at the time.) Finally, it was sited on a ridge in Huntersville, West Virginia, 26 miles from Green Bank, the same distance of the longest baseline of the VLA.

VLA Very Large Array

In 1972, Congress approved the funding of the VLA project to complement the work of NRAO's giant, single-dish telescopes. Construction began in the remote desert west of Socorro, New Mexico

in 1973 and the VLA became fully operational in 1980. It was expanded with the new receivers, data network and computer technology, going online in 2012 (but that's another story).

VLA has 27 antennas or interferometers that may be placed in 4 configurations using the 24 positions along each of the WYE axis. The longest configuration gives the most detail much like a telephoto lens; the shortest configuration provides a wider perspective relative to other objects in the target area. Projects that are approved for use of the VLA are typically give time in each of the 4 configurations to provide the best data.

VLA Specs

28 antennas, 27 active and one spare

Dish size: 25 meters Weight: 230 tons

Dish surface: Aluminum panels accurate to 0.002 inch (0.5 mm)

Each VLA's parabolic dish antennas use 10 receivers to collect data from 1.0 GHz to 50 GHz

Reconfigurable Array: North arm is 11 miles long; two other arms are 13 miles long

- Configuration A is 22.62 miles across
- Configuration B is 7.08 miles across
- Configuration C is 2.11 miles across
- Configuration D is 0.64 miles across

NRAO has continued to build or participate in the construction of observatories to further expand the interferometer concept of using an array of radio telescopes, further others have been recently constructed throughout the world to further astronomical discoveries.

VLBA Very Large Base Array, 10 locations throughout the US and its territories (the closest is Big Pine, CA – LBO, Long Baseline Observatory

The VLBA comprises ten radio telescopes spanning 5,351 miles. It's the world's largest, sharpest, dedicated telescope array. With an eye this sharp, you could be in Los Angeles and clearly read a street sign in New York City! NRAO started building the array in February of 1986, and our first observation with all 10 telescopes was on May 29, 1993 when the VLBA became the world's first dedicated very long baseline interferometer.

<u>ALMA Atacama Large Millimeter/submillimeter Array</u>, Atacama Desert in Chile in the vicinity of the Bolivia and Argentina borders.

Located in Chilean Andes, the Atacama Large Millimeter/submillimeter Array is the most complex astronomical observatory ever built on Earth. Teams from North America, East Asia, and Europe merged projects to develop this gigantic array together in northern Chile.

The ALMA radio telescope is tuned to higher frequencies of radio waves, those that are nearly as high as the infrared type of light we feel as heat. Most objects in the Universe can radiate this kind of energy, so the ability to detect it in great quantities has been a driver for astronomers for decades.

The dry climate and 16,500-foot high altitude of the site in the Chilean Atacama Desert provides ALMA with the right conditions for detecting these faint signals from space.

ALMA uses 66 high-precision dish antennas of two sizes: 54 of them are 12 meters across and 12 of them are 7 meters across. The total collecting area of this array is over 71,000 square feet! The antennas can be moved to form arrays that are either very tightly packed configurations only 150 meters across or spread out to 16 kilometers across.

On March 13, 2013, the ALMA Telescope in northern Chile officially went online, opening a new window on celestial origins, capturing never-before seen details about the very first stars and galaxies in the Universe, probing the heart of our Milky Way Galaxy, and directly imaging the formation of planets. It is the largest leap in telescope technology since Galileo first aimed a lens on the Universe. The inauguration ceremony took place in Chile's high desert at an altitude of 16,500 feet, or 5,000 meters.

SKA Square Kilometer Array, continents of African and Australian

The SKA is located across two continents, Africa and Australia. This will make the SKA the largest radio telescope array ever constructed, by some margin. To achieve this, the SKA will use thousands of dishes (high frequency) and many more low frequency and mid-frequency aperture array telescopes arranged in multiple spiral arm configurations, with the dishes extending to vast distances from the central cores; creating what is known as a long baseline interferometer array.

Whilst the high frequency dishes will be located over thousands of kilometres across Africa, the aperture array antennas will extend to about 200km from the core regions in Africa and Australia.

Construction of the SKA is estimated to begin in 2018, completion has not yet been identified.

FAST Five-hundred-meter Aperture Spherical radio Telescope, China

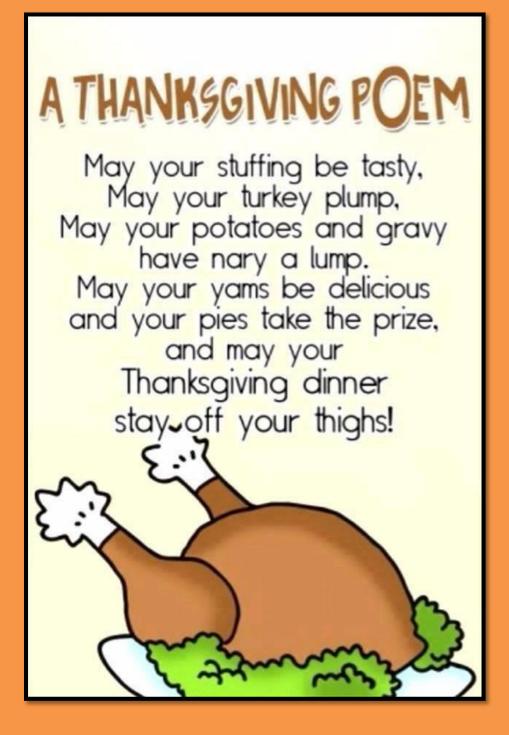
The Five-hundred-meter Aperture Spherical radio Telescope being built in China was to be completed in September of this year and became operational on September 26. While bigger than GBT it is made of a flexible reflective material whose shape is supported by cables and changed by steel cables, a unique solution to the structural challenges of building larger radio telescopes in the more traditional manner to GBT.

Don Williams will offer an Encore showing of "Beyond the Visible, the Story of the Very Large Array" (24 minutes) after the club business meeting and November program for those that would like to see and "HEAR" the video this time.

CALENDAR OF EVENTS



DAY/TIME	WEEKLY NETS	INFORMATION
Every Sunday at 8:30 AM	RACES PUBLIC SERVICE NET, 3.945 MHz	Don Williams KD6UVT kd6uvt@mac.net
Every Monday at 7:00 PM	RACES/ARES PUBLIC SERVICE NET, 146.880 MHz, Minus, 146.2 PL	Marlene KK6CTX xmadamxx@aol.com
_ast Monday of the month at 7:00 PM	RACES/ARES PUBLIC SERVICE NET, 146.880 MHz, NO PL – SIMPLEX	Marlene KK6CTX xmadamxx@aol.com
Every Tuesday at 7:00 PM	CERT EM COMM NET KB6OZX 445.060 – TONES OF 162.2 IN AND OUT	group@cert-emcomm.net
UPCOMING EVENTS	DATE	INFORMATION
RACES MEETING First Monday of the month 4080 Lemon St. Riv. CA	Monday, November 7, 2016 6:00 PM	Don Williams KD6UVT <u>kd6uvt@mac.net</u>
CHRISTMAS PARTY KOUNTRY FOLKS RESTAURANT	FRIDAY, DECEMBER 9, 2016 6:00 PM No host dinner and gift exchange Installation of 2017 Club Officers	RSVP TO RON (951) 369-5149 or MARLENE xmadamxx@aol.com



Wishing everyone a Happy and Rountiful Thanksgiving.