



# BRAZOS VALLEY AMATEUR RADIO CLUB



AMATEUR RADIO FOR SOUTHWEST HOUSTON AND FORT BEND COUNTY

NOVEMBER 2016

VOLUME 40 ISSUE 11

## BVARC GENERAL MEMBERSHIP MEETING, Thursday, November 10

*—Ballots and Chili—*

Its that time of year again. The November 10 meeting occurs just two days after the US National Elections and we may (or may not) know who our next POTUS will be! But do not be deterred, as you can vote again at the meeting. We're holding elections for a few open slots for officers and BOD members, and we need a quorum to make it "legal", so be there or be square. Dangling chads will not be tolerated. And as an incentive...

*—This meeting is our annual Chili night!!!—*

So bring the family. Bring the chili. Bring the cornbread. Bring the cobbler. Have fun and enjoy this annual event. Roloids not included...



## BVARC BOD & Greater Houston Hamfest Meeting Schedules October to December 2016

Meetings will be held at Bayland Community Center except for the September meetings due to the Labor Day Weekend. The BOD meeting will be a conference call that will be held on September 1<sup>st</sup>. The call-in information will be posted on the BVARC web site the week of the meeting.

The Greater Houston Hamfest organizational meetings will be held immediately after the BOD meeting except in September. The Hamfest meeting will be held on September 3<sup>rd</sup>. The location will be published the week of the meeting on the BVARC web site.

November 5 <sup>th</sup>	Bayland Community Center	9:00 am to 10:30 am 10:30 am to 12 noon	BOD Meeting Greater Houston Hamfest
December 3 <sup>rd</sup>	Bayland Community Center	9:00 am to 10:30 am 10:30 am to 12 noon	BOD Meeting Greater Houston Hamfest



## The Prez Says

Elections are coming up at the November meeting so we need you to come out and vote. Rick Hiller, W5RH will be coordinator the board's slate of candidates but that doesn't mean you cannot not nominate someone (with their permission, of course) for a position. You can even nominate yourself if you are so inclined. Remember the club needs you to keep the club running. Without it, the club will die. This year the positions that are open are: Vice President, Treasurer. 1 year at large Director and 2 year at large Director. So if you would like to be involved with club functions and direction, contact Rick Hiller, W5RH, and let him know that you are interested in serving on the board. We need your help to keep BVARC growing.

The weather is turning cooler and you know what that means, it's chili time! So search through old family recipe's to find that chili recipe that you amaze everyone. So get ready for the BVARC annual Chili Supper at the November meeting. Scott Medbury will be putting the supper together so please let him know if you would like to help with the Chili supper. I know Scott will appreciate your call and help.

Get ready for the BVARC banquet scheduled for 6:00 pm, Friday, January 13<sup>th</sup> at Maggiano's Little Italy on South Post Oak. Ron Litt, K5HM has confirmed the location and time so it should be great time. Also don't forget the awards we present for outstanding service for the club. The awards: The Loop and Zepp; Dr. Bill and the Order of the Key are presented to club members that show outstanding service in HF operation, being a volunteer examiner and general service to the club. If you have an idea for someone for one of the awards, contact anyone on the board and let them know. If you would like to know, more please check the BVARC web site for the qualifications and award history.

Coming up, hopefully in November, Mark Janzer will be starting up a work party for the USS Stewart at Seawolf Park. He wants to start getting the radio room ready for Museum Ships Weekend in June. There is a lot to do to get the radio rooms in operation so this is a long term project. The folks at Seawolf Park are thrilled at the idea of the radio room being brought back into shape so get ready to help out on this project.

Don't forget the CQWDX CW contest will be on November 26<sup>th</sup> & 27<sup>th</sup>. The ARRL CW Sweepstakes will also be held on November 5<sup>th</sup> through the 7<sup>th</sup> so get your rusty key out and get it warmed up!

Hope to see everyone at the Chili Supper.

73, N5VCX



## BVARC Monday Night Public Service Net Updates

Don't forget the BVARC Monday Night Net starts at **8 pm** on 146.94 (167.9). The order of check-ins starts with mobile units first then fixed stations. If you have something for the net, make sure you let Net Control know about it when you check in. We are looking for Net Control Operators. Contact Rick, w5rh, if you are interested. Here are recent check-ins with control-ops:

7/18 - 20 - Ron, k5hm	8/22 - 27 - Clint, kf5hdf	9/26 - 14 - Clint, kf5hdf
7/25 - 20 - Clint, kf5hdf	8/29 - 22 - Ron, k5hm	10/3 - 19 - Dave, n5ekw
8/1 - 24 - Rick, w5rh	9/5 - 15 - Dave, n5ekw	10/10 - 16 - Steve, kf5yyz
8/8 - 20 - Steve, kf5yyz	9/12 - 18 - Steve, kf5yyv	10/17 - 17 - Ron, k5hm
8/15 - 20 - Rick, w5rh	9/19 - 25 - Ron, k5hm	10/24 -19 - Terry, k5pgf

### BVARC QUICK STATS

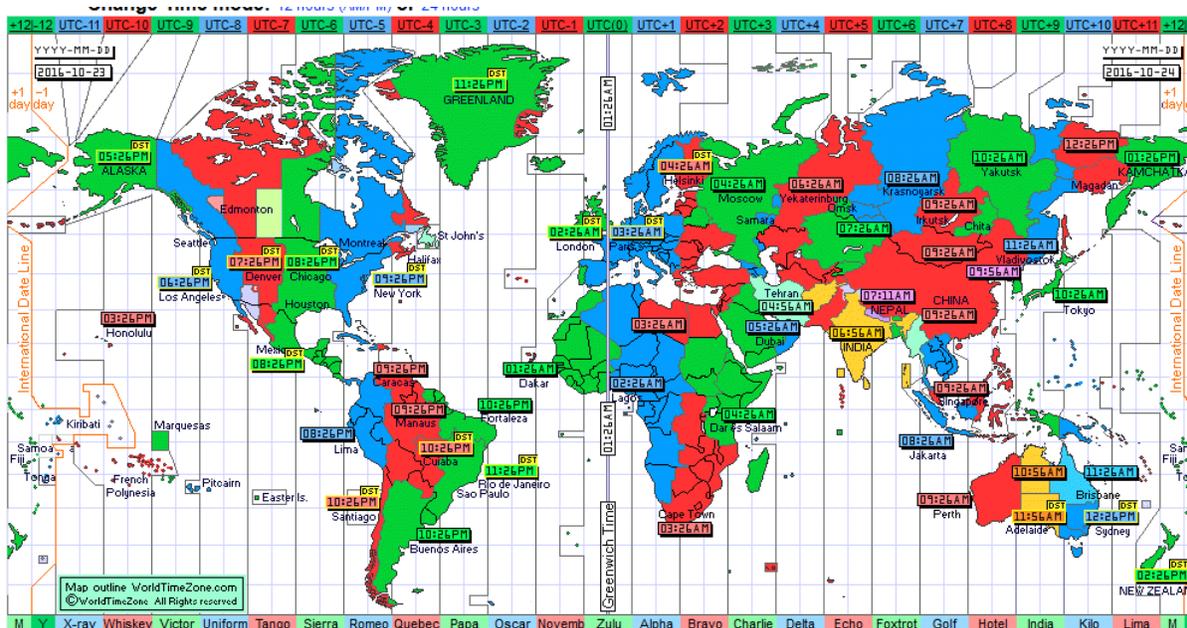
Date	Members	Newsletters	Life Members
10/26/16	195	194	66

## Where in the World is . . . The Right Time?

Time is a very important concept to every ham. It can be the difference between a good QSO and a busted one; the last contact for honor roll or not; a win or a loss in the CQ WW. Yet I suspect few of us give it much thought.

As a new ham in 1954, I used to keep my paper log using local time. When I came back to ham radio in 2009, most computer logging programs used UTC time.

That took some getting used to. We all know that UTC time is either five or six hours ahead of our local time, depending on Daylight Savings Time but what is UTC anyway?



UTC or Universal Coordinated Time (UTC) is the basis for civil time today. No, the letters don't line up in French either, where it is known as *Temps universel coordonné*. It is still referred to as **UTC**

Universal Time (UT) was created at the Washington Meridian Conference in 1884. This is the basis for the 24-hour time zone system we know today. At the time, Greenwich Mean Time (GMT) was chosen as the world's time standard. For most, UTC is considered interchangeable with GMT. UTC Time is generally observed by nations along the Prime Meridian, a line running roughly from North to South along the zero-degree longitude line. I say "generally" observed because there is no international treaty about time zones. Each nation is free to observe whatever time standard they choose.

For example, on the Korean peninsula, Korea Standard Time (KST) UTC +9 is observed by South Korea. Pyongyang Time (UTC+ 8:30) is observed by the folks in P5 land.

UTC, referred to as Zulu Time, used by the military aviation community and refers to the zone along the Zero Longitude line. Traveling east, the world is divided into 25 time zones time zones labeled

Alpha(UTC+1), Bravo(UTC+2) , Charlie (UTC+3) each with a positive offset to UTC, skipping Juliet for some reason, and continuing until it runs smack into . . .wait for it . . . The International Date Line.

Mike time (UTC+12) is the last zone before the Date Line. The next time zone east of Mike is Yankee time(UTC-12) What??? Yes, Virginia, you just crossed the International Date Line and gained a day traveling east.

East of the date line, the time zones have a negative offset and begin with Yankee(UTC-12), X-ray(UTC-11), Whiskey(UTC-10). They continue east through Texas, where it is mostly Sierra Time(UTC-6), except in EL Paso and during Daylight Saving Time. And at last running into Zulu time again.



Now, a word or two about the International Date Line. No, it is not a yellow line drawn on the water of the Pacific Ocean. To have a global time zone system, the day and date have to be separated at *two* locations — you can't split a circle into two parts with a single "cut." The solution was provided in 1884 by the International Meridian Conference (IMC), attended by representatives of 26 nations.

The IMC selected the 180-degree meridian as the other "cut," not because it was directly opposite the Prime Meridian. 180 degrees was chosen because it runs mostly through open ocean in the central Pacific, zigging and zagging to keep nearby nations on their own day and date. So the choice of 180 degrees was arbitrary, but it established the International Date Line in use today.



Although the line starts out in the middle of its UTC±12 time zone at the North Pole— exactly at longitude 180 degrees — for most of its length as you go South, it shifts to the east and coincides with the eastern edge of its time zone, which also zigs and zags.

This accommodation keeps the island nations of Oceania each on their own clock and calendar. But there are exceptions.

Tonga preferred to be at UTC+13 (or UTC-11) for reasons of commerce and convenience. Samoa, originally in the UTC-11 time zone, in 2011 "gerrymandered" their time-zone borders to place them in UTC±12. The Chatham Islands sets their clocks at UTC+12.75, creating an "orphan" time zone inside UTC±12. Fractional time zones are used in 16 locations around the globe. Countries simply choose what works best for them.

In Antarctica where all the time zones converge, there is no official time zone. Most of the residents choose to handle their time zone problem in the most convenient way. Some research stations follow the time zone of their home country. Others, like the McMurdo station and Palmer station, both run by the US, synchronize their time to the closest point in the inhabited world.

McMurdo for instance, follows the same time as Christchurch, New Zealand, since most visitors and researchers to the station use Christchurch as their point of embarkation to Antarctica. Palmer Station on the other hand, follows Chilean time. Other research stations tend to follow UTC.

Have you got it now? Ok, class dismissed.  
Reporting from the Dark Side  
Ron, K5HM



## **BVARC Elections – Opportunities for you to serve your club.**

Club elections will be held at the November meeting. I, W5RH, am the coordinator for the re-election committee, consisting of past presidents – Kirk—KK2Z and Mike -- N5VCX.

We are looking for candidates for **Vice President, Treasurer, 1 year At Large Director** and **2 year At Large Director**. If you would like to be involved with the club Board of Directors management team, contact me and let me know that you are interested in serving. I would be pleased to answer any questions about these offices and their duties.

BVARC needs your help to keep the club running smoothly and growing bigger. It takes very little time and effort on your part each month. Board appointments are a lot of fun.

TNX and 73.....Rick – W5RH Contact me at: [rckhill73@gmail.com](mailto:rckhill73@gmail.com) or cell phone # in the roster.



## Minutes of the October 8th, 2016 Board of Directors meeting of the Brazos Valley Amateur Radio Club

Mike Hardwick called the monthly Board of Directors meeting for the Brazos Valley Amateur Radio Club to at 9:14 AM on October 8th, 2016, at Bayland Park Community Center, 6400 Bissonnet, Houston 77074. Attending were: Mike Hardwick N5VCX (President.), Jon Noxon KF5TFJ (Vice President), Donovan Balli KD5BDZ (Treas.), Michael Monsour ACØTX (Rec.Sec./Quart.), Scott Medbury KD5FBA (2yr At-Large Dir), Jo L Keener KE7NSB (2yr At-Large Dir), Mark Janzer K5MGJ

### Reports:

- 1.1 Storage fee for the next year is \$708. Monthly rent went from \$52 to \$59 a month.
- 1.2 A motion was made and passed to approve last months minutes.
- 1.3 A motion was made and passed to approve the Treasurer's report.

### Old Business:

- 2.1 The State Convention will be at the BVARC hamfest; the ARRL Board has approved this.
- 2.2 Jim Duffy COO at DZ Engineering will be a speaker
- 2.3 ARRL will cut costs by providing a speaker via 'video conferencing technology'
- 2.4 No progress is made with letters of appreciation.
- 2.5 HF Antenna topic: speaker cannot make it.
- 2.6 KE7NSB will run the October BVARC meeting.
- 2.7 There were discussions regarding judging for the Chili Supper
- 2.8 Rick Hiller will be the coordinator for BVARC elections on November 10
- 2.9 Positions to be open for elections are Vice-President, Treasurer and 1 yr At Large Dir and 2 yr At Large Dir.  
This is a correction from the September Minutes.
- 2.10 December Home Brew night which will also include an auction and demonstration of surface mount technique.
- 2.11 January is the Banquet at Maggiano's, January 13 2017
- 2.12 February or March meeting locating radio interference.
- 2.13 Masonic Lodge contract is signed.
- 2.14 The Pledge of Allegiance shall be a formal ballot vote at the BVARC elections.

### New Business:

- 3.1 Mark Janzer K5MGJ talked about doing a workday on the DE Stewart for Museum Ships. Probably in November, the Saturday after the general meeting. An article will be generated in the Newsletter.
- 3.2 There was discussion concerning VE testing for Scouts.
- 3.3 Next Board meeting is November 5<sup>th</sup>

Meeting adjourned at 10:22 AM

Submitted by Recording Secretary, Michael Monsour ACØTX



## **BVARC Rag Chew Net**

09/28/16, K5LKJ (NCS), W5TOM, W5TKZ, KD5CDM, W5HFF, K5VOM, AA5OA, AA0ST (Dickinson), K5IZO, K8DIJ, KG3JPP (Alvin). (11 Check-Ins)

Solar Cycle 24: SFI = 83, SN = 21, A = 38, K = 4

10/05/16, K5LKJ (NCS), W1BG (Katy), W5TOM, KF5TFJ, W5HFF, K5LJ, WW5PA, W5TKZ, W5VOM (M), W5RH, AA0ST (Dickinson), AA5OA.

(12 Check-Ins) Solar Cycle 24: SFI = 96, SN = 33, A = 26, K = 2

10/12/16, K5LKJ (NCS), W5TOM, W5TKZ, W5HFF, K5IZO, K5LJ, W5VOM, WW5PA, AA5OA, W5RH, AA0ST (Dickinson), K0NM/5 (RCS), KG5AUM (San Antonio). (13 Check-Ins)

Solar Cycle 24: SFI = 98, SN = 56, A = 4, K = 1

10/19/16, K5LKJ (NCS), W5TKZ, W5VOM, KJ5Y (Pearland), W5HFF, KF5YYZ, KD5O, AA5OA, AA0ST (Dickinson). (10 Check-Ins)

Solar Cycle 24: SFI = 76, SN = 24, A = 11, K = 2

(M) = mobile (P) = Portable (R) = Relay (RCS) = remote controlled station (T) = telephone check-in

Come join in the conversation each Wednesday evening. Regards. John K5LKJ



## **BVARC Historical Vignettes – Chili & BVARC Elections Allen Mattis N5AFV, Club Historian**

The first time chili was served at a BVARC meeting was at the March 9, 1989 general membership meeting. The speaker was Hub Ratliff, N5MXC, who spoke about the Civil Air Patrol and their use of direction finding gear. The meeting was billed as a “Chili Cookoff,” with the chili provided by Vic Richard, N5NAS. Vic was well known for his skill at cooking meat at BVARC picnics where he took his portable grill/smoker and prepared delightful chicken, beef and sausage. The club had not yet had the opportunity to sample Vic’s chili. It was not really a “cookoff” because the only chili served was prepared by Vic. After the business portion of the meeting, club members went through the line to get a bowl of chili and sat down to hear Hub speak. The chili was fantastic and everyone enjoyed the program. The April 1989 B-VARC Bulletin described the meeting as a “resounding success.”

The following year, it was decided to have food at the election meeting, and since Vic’s chili was such a great success the year before, it was decided that the program for the November 1990 meeting would be called “Elections & Chili Con Carne”, with Vic cooking the chili. Vic actually cooked the chili on a propane burner inside the Missouri City Fire Station next to the fire trucks.

The following two years, 1991 and 1992, the program at the November BVARC meeting was called “Election and Chili Cookoff.” Any member who wished could bring chili, and after tasting the various kinds of chili, members voted by secret written ballot for what they thought was the best chili. In that sense, it was a chili cookoff. In 1993, the November BVARC program was termed “Elections and Chili Feast,” and since that time the November program has been known as “Elections and Chili Supper.” Now you know how the tradition of having chili at BVARC elections started over 25 years ago.

# The Radio Hotel – The Skinny on Wire

By Rick Hiller -- W5RH

One thing all antennas have in common is that they have some type of radiating element made of some type of metal. It's formed into wire or tubing or solid rod, but it is metal. Hopefully, a low resistance, highly conductive, reasonably priced metal. For conductivity, gold is best, then silver, but then the antennas cost many more times that of the whole ham shack. So, copper in its' various forms, or aluminum, are the chosen metals for antenna work as they have conductivity ratings that are quite good. Yes, there is also galvanized fence wire or steel wire, but both of these fall at the bottom end of the useable spectrum of available metal, as you will see below.

In any RF engineering or Amateur Radio publication dealing with antennas, there is typically a chapter on materials. Some of the legacy engineering books limit their discussion to wire (as Yagi-Uda's were yet to be made practical using tubing). The [ARRL Antenna Handbook](#), [Low Band DXing](#) -- Devoldere, [Antennas – Kraus](#), or [Radio Engineering—Terman](#) are a few good examples of books to educate yourself no matter what level of study you wish to achieve – practical to text book. They all have charts and equations for figuring out weight and strength and resistivity and conductivity, etc. This is all well and good and worth a read in your spare time, but what we really want is a concise, fairly brief, well written document to tell us exactly what we want to know, which is “**what wire is best to use for building my dipole ?**”. In order to answer this question, we need to first figure out just what is required from the wire/material that we wish to use. It needs to be strong, easy to work with, conductive, low resistance, easily obtainable, reasonably priced, resistant to weather and other outdoor elements and long lasting, as you don't want to rebuild your antenna every year.

Most of the simple antennas like dipoles or loops at 3.5 MHz (80 meters) and higher can be made with any form of copper or aluminum wire. These antennas are short and consist of a single half wavelength or a full wavelength of wire, at most. Unless the resistive losses are large, as in fence wire, any copper or aluminum wire type will do just fine. However, when you get down to the lower frequencies like 160 with a half wave dipole length of 240 feet or you start building arrays of multiple elements with associated feed impedances dipping well below 50 ohms, wire loss starts to affect the available gain of the array. Krause's W8JK Array is one such beast and Krause detailed this phenomena back in 1940.

Cutting to the chase (finally), N6LF, Rudy Severns, investigated this area of wire material and outlined his findings in a paper “Conductors for HF Antennas” (just Google the title to find the PDF). It is an excellent treatise concerning wire and conductive material not only from a 'new' material standpoint, but it continues into weathered conductors and the degradation oxidation causes the resistivity, etc. His first chart shows Conductivity (Siemens per meter) versus Resistivity (ohms per cm) for Silver, Copper, Aluminum, Iron, and Stainless steel. Let me say here that Rudy adamantly suggests that you stay away from iron and stainless steel. Their numbers are 5 to 10 times worse.

He also delves into the characteristic of wire size....the bigger the diameter the larger the outer surface area (think RF – skin effect) and also into flat strip conductors (like copper grounding strap). In the end, the winners were as follows, #12 soft drawn copper wires both insulated and bare. # 12 stranded THHN, 7/22stranded copper and #8 aluminum fence wires were up there too. But, you put a little oxidation into play and the “uninsulated” soft drawn copper, both solid and stranded, take a dive and become quite lossy. Insulation saves the day, in the long run, although it does affect the velocity factor/resonance a tad. But that is easy to contend with when calculating, building and tuning the skyhook of your choice.

So, taking all characteristics, attributes and requirements into account, Rudy's leading recommendation for wire type, no matter what the length or frequency, is **insulated, #12 solid copper**.

Enjoy your hobby. GL ES 73 DE W5RH

## Next time.... Antennas That You've Never Heard Of (probably)

*The purpose of **The Radio Hotel** is to give you a practical kickstart into exploring the workings of antenna systems. Google the buzz words and find out what they mean. Read up on antenna system theory to see how it all works together. You will be glad you did.*



**Results of the October 11th  
BVARC Amateur License Examination Session  
by: John Moore, KK5NU**

B-VARC sponsored and administered the ARRL's Amateur Radio Examination session that was held on Tuesday, October 11, 2016 at HCC's Scarcella Science & Technology Building in Stafford, TX.

MEMBERS OF THE VE TEAM:

Larry Jacobson, K5LJ  
John Moore, KK5NU  
George Ontko, KM5VP  
Randy Pugh, AA5OA

Two examination elements were administered during the evening to two applicants. One upgrade to General class and one upgrade to Amateur Extra was attained, with the total number of elements passed being 2. The overall "pass rate" for the evening was 100%.

Congratulations to the following who attained a license and/or passed an exam:

Gene L. Noble	-	KG5OUO	-	General
Gary L. Tucker	-	N5OFE	-	Amateur Extra

Many thanks to all the Team Members and Assistants who volunteer their valuable time and effort each month. All of us at B-VARC again thank everyone at HCC Scarcella Science & Technology Building for making these excellent classroom facilities available to us for our exams each month.

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# BRAZOS VALLEY AMATEUR RADIO CLUB

**This newsletter is a monthly publication of the Brazos Valley Amateur Radio Club. For a full listing of officers and information about BVARC, please go to [www.bvarc.org](http://www.bvarc.org). Detailed information will be published in the newsletter every 3 or 4 months. Similarly, the “Eating Schedule” will be published every 3 or 4 months unless there is a change.**

General membership dues are \$25.00 per year, with student dues \$10.00 per year, additional family members \$5.00 per member per year.

Club meetings are normally held on the 2<sup>nd</sup> Thursday of each month at 7:30 p.m. at the Sugar Land Masonic Lodge, 421 Eldridge Rd, Sugar Land, 77478. Check the above website for any possible changes.

**BVARC** also administers amateur radio license exams on the 2<sup>nd</sup> Tuesday of each month at 7:00 p.m. at the Houston Community College’s Scarcella campus in Stafford.

A Public Service Net is held each Monday at 8 p.m. on the 146.94 (minus offset, PL 167.9 tone) repeater.

A rag chew net is held each Wednesday at 7 p.m. on 3910 KHz +/- 3 KHz.

To obtain information about joining **BVARC** or its activities, contact the club’s “**Elmer,**” Ross Lawler, W5HFF at 281-701-7602 or see the BVARC website: [www.bvarc.org](http://www.bvarc.org)

Other contacts include:

President:, Mike Hardwick, N5VCX, n5vcx@att.net

Newsletter Editor, John Chauvin, K5IZO, k5izo@yahoo.com

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**FIRST CLASS POSTAGE**

**BVARC General Membership Meeting – Thursday, November 10**



*If your mailing label is highlighted in color, it's time to renew your membership!*