

# WCARC NEWS

June 2007

www.wcarc.com

## Williamson County Amateur Radio Club

PO Box 1644  
Georgetown, TX 78627

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### WCARC Officers

**President**  
Bob Thompson, W5VGJ

**Vice-President**  
Bob Farmer, W9BF

**Secretary**  
Tim Stevens, KD5WML

**Treasurer**  
Jon Boles, K5AEM

### WCARC Staff

**Public information Officer**  
Virgil Buell, KD5KQV

**Newsletter Editor**  
Mark Stennett, NA6M

**Webmaster**  
Dallas Mellichamp, KD4HNX

**Guest Speaker Committee**  
VP - Bob Farmer, W9BF,  
Chairman  
Tom Whiteside, N5TW  
Bob Redoutey, N5KF

**Emergency Coordinator**  
Jim Russell, NQ5L

## May Meeting Minutes

May 3, 2007

President Bob Thompson, W5VGJ, called the meeting to order and John Rupprecht, K3NOQ identified himself as a visitor. Roll call during the meeting produced 39 responses and 36 signed the roster. The previous meeting's minutes were approved by the members.

### Treasurer's Report - Galen Helmchamp, WA0YVQ

John presented his Treasurer's report, which was approved by the members..

Beginning Balance:	\$4,199.71
Receipts/Deposits:	\$ 90.00
Expenditures:	\$ 789.49
Ending Balance:	\$3,500.22
ARES Funds Available:	\$ 965.45
WCARC Funds Available:	\$2,534.77

### Paid Membership

	Beginning	Ending
Individual	57	60
Family	17	21
Honorary	3	3
Total	77	84
Total Persons		111

### WCARES Report - Bob Thompson, W5VGJ

Jim Russell, NQ5L, was out of town. Bob, W5VGJ, wished to remind everyone that meetings are held on the second Thursday of the month at 7 PM in Round Rock Fire Station #6 by the Dell Diamond. Some discussion followed about weather nets that were called up during recent storms. ARES weather nets are called up on the 146.64 repeater when needed.

### Repeater Report - Tom Whiteside, N5TW

Tom Whiteside, N5TW, was out of town, so there was no discussion about the status of the repeater. (146.64 MHz with a tone of 162.2 Hz).

### DX Report & Contests - John Warren, NT5C

John reported that the rarest country in the world (ARRL), Scarborough Reef (BS7H), was the site for a DXpedition in the past week. They were difficult to work due to poor propagation. Find out more about this DXpedition by visiting [www.scarboroughreef.com](http://www.scarboroughreef.com).

Contests are listed in the Newsletter.

## OLD BUSINESS

### New WCARC Meeting Place - Bob Thompson, W5VGJ

Bob Thompson, W5VGJ, showed pictures of the Georgetown Library, the Georgetown Hospital, and the new site for the Wesleyan Retirement Home off Williams Drive that will soon be under construction. He described the pros and cons of each, with additional discussion about facilities run by public utilities. After some consideration, the members voted to continue to use the current location until we can transfer to the new Wesleyan facility.

### Field Day 2007 - Bob Thompson, W5VGJ

Tom Whiteside, N5TW, will coordinate the Field Day activities this year. Assignments so far are: Mark NA6M - photographer, Dick W5TA - CW, Bob W5VGJ - side-band, Dallas KD4HNX - GOTA, Galen WA0YVQ - VHF, Dan KD5TWO - cook, Coleman N4IM - Winlink. The natural power spot is open but Jim KB7UQD will peddle. The ARRL Field Day message captain spot is open. Tom is still looking for anyone who can provide demonstrations. Based on past events, Tom would like the Club to approve a \$400 food budget for Field Day expenditures but does not expect to spend that much. No other expenses are expected. All operating stations will be set up in air conditioned RVs and no portable toilets will be leased. The members approved the budget. Dick Foster, W5TA, asked that those with special mode equipment come. This includes satellite, APRS, D-Star, and spread spectrum. It does not include packet or PSK31. Young people and licensed spouses were also encouraged to attend.

## NEW BUSINESS

A question was asked about whether Southwestern University had put a radio in the air. No one was certain whether they had completed the project.

**WCARES NET... Sunday's  
8 p.m. on 146.640, PL 162.2**

**WCARC Repeater: 146.640  
MHz, 162.2 PL**

## Minutes continued, ARES And More...

### Refreshments

May - Dallas Mellichamp, KD4HNX  
June - Coleman Callaway, N4IM

### Program for May

Jim Parnell, W5JAW: Using modeling software to set up a neighborhood friendly antenna.

*Minutes by the honorable club Secretary, Tim Stevens—KD5WML*

### No ARES Report this month.

### WCARES Meetings, 2nd Thursday - 7:00 PM

**Round Rock Fire Station No. 6**  
**2919 Joe DiMaggio Drive**  
**Round Rock, TX 78664**

### Web Site Of The Month

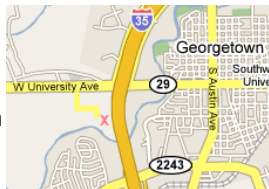
**Elecraft—Hands On Ham Radio** <http://www.elecraft.com/>

#### **Building Your Own Gear is Half the Fun!**

The Elecraft [KX1](#), [K1](#), [K2](#) and [K2/100](#) amateur radio kits capture the excitement of building and operating your own full-featured HF radio. Discover the thrill of building and really understanding your own radio equipment. Imagine the feeling you will get from your first QSO when you tell the other operator that you built it yourself!

### Join Us For Breakfast

Saturdays at 7:00AM  
Village Inn Restaurant, Wolf Ranch  
1007 West University  
Georgetown, TX 78626



### WCARC Meetings, 1st Thursday - 7:30 PM

**Wesleyan Retirement Home**  
**1105 S. Church St.**  
**Georgetown, TX 78626**

### UHF Repeaters in Northern California Reduced to 5 Watts Transmitter Output Power

#### ARRL letter to affected repeater trustees.

June 4, 2007

As I am sure you are aware, the Air Force and Department of Defense (DoD) have raised concerns about interference on the 420-450 MHz band to the Pave Paws Radar (PPR) installations, located at Beale AFB near Sacramento, CA and Otis AFB at Cape Cod in Massachusetts. Let me begin by saying thanks for your patience in this process. While rumors and stories have been circulated over the past several months, hopefully this letter will serve to give you a true understanding of the situation, bring you up to speed what the DoD is requesting in terms of mitigation, and lay out a plan of action that the DoD has agreed to try in resolving the issue.

At the request of the DoD, on March 21, 2007 representatives of the ARRL met with Air Force Spectrum Management officials to discuss their claims of an escalating problem of interference to the PPR sites. According to the DoD, the in-band interference from Amateur Radio fixed FM voice repeaters had increased to an unacceptable level. Pave Paws radars are used for national security functions, including early detection of water-launched missiles. They are critical to our national defense and are in use 24 hours per day, seven days per week. It is important to note that the Amateur Radio Service is a secondary user in the 420-450 MHz band, both by the Table of Frequency Allocations and the FCC Part 97 regulations. As such, Amateur Radio licensees, jointly and individually, bear the responsibility of mitigating or eliminating any harmful interference to the primary user, which in this case is the Government Radiolocation Service that includes the DoD Pave Paws systems.

Our goal has been to develop and implement a plan that would mitigate the interference, and at the same time to permit the repeaters to continue operation and to operate on as liberal a basis as possible. To do so, we have offered to work closely with the two involved repeater coordinating groups as well as the individual repeater owners. Our plan is to share information and to deal with this issue on a coordinated basis with all stakeholders.

Since the meeting of March, 2007, ARRL staff members have been working with DoD officials to come up with a mutually acceptable plan to address the mitigation needs of the Air Force, which would also allow as many of the subject repeaters to remain operational as possible. While there are many unanswered questions due to the classified nature of the Pave Paws system, the ARRL has openly tried to share information.

In our communications with the DoD, we have asked for as much information as possible, especially the criteria by which particular repeaters were included on the list of interference contributors, and what level of signal strength would be acceptable to avoid interference to the radar. The DoD has not yet indicated what its agents relied on in identification of the repeaters nor the methodology used. It cannot (for security reasons) provide any of the technical parameters of the radars, except to tell us that it is not a matter of individual frequencies. Rather, they claim the noise levels in the entire band are an issue. In order to determine what actions to propose, the ARRL Laboratory has spent a significant amount of time trying to determine what technical parameters might be acceptable to the DoD for each individual repeater. This has included doing Longley-Rice calculations for each identified repeater (Longley-Rice calculations are based on electromagnetic theory and on statistical analyses of both terrain features and radio measurements. The studies predict the median attenuation of a radio signal as a function of distance and the variability of the signal in time and in space.)

*Continued on page 3...*

## In Other News...

## WA7BNM Contest Calendar — June, 2007

NCCC Sprint Ladder	0230Z-0300Z, Jun 1
Digital Pentathlon	1800Z-2200Z, Jun 1
Wake-Up! QRP Sprint	0400Z-0429Z, Jun 2 and 0430Z-0459Z, Jun 2 and 0500Z-0529Z, Jun 2 and 0530Z-0600Z, Jun 2
SEANET Contest	1200Z, Jun 2 to 1200Z, Jun 3
UKSMG Summer Contest	1200Z, Jun 2 to 1200Z, Jun 3
RSGB National Field Day	1500Z, Jun 2 to 1500Z, Jun 3
IARU Region 1 Field Day, CW	1500Z, Jun 2 to 1459Z, Jun 3
Alabama QSO Party	1600Z, Jun 2 to 0400Z, Jun 3
SKCC Weekend Sprint	0000Z-2400Z, Jun 3
RSGB 80m Club Championship, Data	2000Z-2130Z, Jun 4
ARS Spartan Sprint	0100Z-0300Z, Jun 5
NCCC Sprint Ladder	0230Z-0300Z, Jun 8
Digital Pentathlon	1800Z-2200Z, Jun 8
ANARTS WW RTTY Contest	0000Z, Jun 9 to 2400Z, Jun 10
Portugal Day Contest	0000Z-2400Z, Jun 9
Asia-Pacific Sprint, SSB	1100Z-1300Z, Jun 9
GACW WWSA CW DX Contest	1500Z, Jun 9 to 1500Z, Jun 10
REF DDFM 6m Contest	1600Z, Jun 9 to 1600Z, Jun 10
ARRL June VHF QSO Party	1800Z, Jun 9 to 0300Z, Jun 11
SKCC Sprint	0000Z-0200Z, Jun 13
NAQCC Straight Key/Bug Sprint	0030Z-0230Z, Jun 13
RSGB 80m Club Championship, CW	2000Z-2130Z, Jun 13
NCCC Sprint Ladder	0230Z-0300Z, Jun 15
Digital Pentathlon	1800Z-2200Z, Jun 15
All Asian DX Contest, CW	0000Z, Jun 16 to 2400Z, Jun 17
SMIRK Contest	0000Z, Jun 16 to 2400Z, Jun 17
SARL Youth for Amateur Radio	0700Z-1100Z, Jun 16
West Virginia QSO Party	1600Z, Jun 16 to 0200Z, Jun 17
AGCW VHF/UHF Contest	1600Z-1900Z, Jun 16 (144) and 1900Z-2100Z, Jun 16 (432)
Kid's Day Contest	1800Z-2400Z, Jun 16
DIE Contest	0600Z-1200Z, Jun 17
Run for the Bacon QRP Contest	0100Z-0300Z, Jun 18
RSGB 80m Club Championship, SSB	2000Z-2130Z, Jun 21
NCCC Sprint Ladder	0230Z-0300Z, Jun 22
Digital Pentathlon	1800Z-2200Z, Jun 22
Ukrainian DX DIGI Contest	1200Z, Jun 23 to 1200Z, Jun 24
His Maj. King of Spain Contest, SSB	1200Z, Jun 23 to 1200Z, Jun 24
Marconi Memorial HF Contest	1400Z, Jun 23 to 1400Z, Jun 24
Quebec QSO Party	1700Z, Jun 23 to 0300Z, Jun 24
ARRL Field Day	1800Z, Jun 23 to 2100Z, Jun 24
ARCI Milliwatt Field Day	1800Z, Jun 23 to 2100Z, Jun 24
NCCC Sprint Ladder	0230Z-0300Z, Jun 29
Digital Pentathlon	1800Z-2200Z, Jun 29
WLOTA Contest	0600Z, Jun 30 to 1200Z, Jul 1

Contest Calendar compliments of WA7BNM @ <http://www.hornucopia.com/contestcal/contestcal.html>

## WILLIAMSON COUNTY AMATEUR RADIO CLUB

## OWNED EQUIPMENT

Reviewed May 5th, 2007

## QTY—DESCRIPTION—LAST LOCATION—DATE

## Tower Work

- 1 Gin Pole - John Benedict—KE5RS - 05 May-07
- 1 Tower Step - Rick Trommer—W5NR - 05 May 07

## Antenna measurement

- 1 MFJ Antenna Analyzer - KA5OST Jay Hoffman - 07 Jun 07
- 1 MFJ Grid Dip Adapter W5TA, Dick Foster -20-Nov-05

## HF Antennas

- 1 Butternut HF Vertical 10M-80M - AF5Z, Bob Helms -1-Dec-05
- 1 Cushcraft 6-element 440MHz Beam - AF5Z, Bob Helms - 1-Dec-05
- 1 Cushcraft R7 HF Vertical - W5TA, Dick Foster - 20-Nov-05
- 1 Hygain triband antenna - W5TA, Dick Foster - 20-Nov-05
- 1 Mosley Triband Antenna (Donated by Harvey, N0AJP) - K5AEM, Jon Boles - 20-Nov-05

## Masts

- 2 Push Up Masts - AF5Z, Bob Helms - 1-Dec-05
- 1 Push Up Masts - KC5RPF, Ken Larsen - 23-Nov-05
- 2 Push Up Masts - W5VGJ, Bob Thompson—07 Jun 07

## Power Supplies

- 1 20 Amp Power Supply - N5TW, Tom Whiteside - 20-Nov-05

## Miscellaneous

- 2 Heavy Duty Power Cords - K5HTK, Jim Hester - 24-Nov-05

## VHF/UHF Antenas

- 1 DB Commercial grade Antenna VHF high-band 158MHz - AF5Z, Bob Helms - 1-Dec-05

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The two repeater coordinating groups (NESMC and NARCC) cooperated by sending information from their records on each coordinated repeater.

In mid-April the ARRL asked affected repeater owners to voluntarily reduce transmitter power output for each repeater to 5 Watts. Many repeater owners responded accordingly, though some did not or chose to reduce power but not to the 5 Watt transmitter output level. This reduction was a temporary recommendation pending the outcome of the Longley-Rice calculations and further mitigation strategies. We conveyed this proposal to the DoD on April 23, 2007. We received back their response on June 1, 2007. These exchanges lay out the mitigation plan detailed below.

The DoD requested that a single point of contact be identified through which all of the repeater owners would direct questions/inquiries. The ARRL has agreed to serve as that single point of contact and designated my office as that point of contact. Please direct all questions to me by email at [n1nd@arrl.org](mailto:n1nd@arrl.org) or by telephone at 860-594-0236. Depending on the nature of your query, I will bring in other resources (such as lab expertise) as necessary.

We have also been in contact with representatives of the FCC, who have the ultimate responsibility for enforcing any mitigation plan, up to and including ordering specific repeaters to shut down operations. The FCC is aware of the complex nature of this problem and the mitigation strategy being proposed in this letter.

Continued on page 4...

## Extra Space

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The DoD has indicated a willingness to try a mitigation proposal, but have also indicated their need is for these issues to be resolved sooner rather than later. With that expediency in mind, the proposed mitigation strategy is as follows:

- 1) All repeaters on the DoD list in the affected areas will immediately reduce power to 5 Watts transmitter power output. Each repeater licensee/trustee should contact my office to confirm this once this has been done for their system. We need confirmation of this being done from each repeater owner by June 15, 2007.
- 2) The ARRL will provide the Longley-Rice calculations for each repeater to the DoD by June 15, 2007. The DoD will provide engineering data to the ARRL and FCC by June 15, 2007. These studies will be reviewed by the DoD, the ARRL Lab and the FCC to determine the amount of mitigation necessary for each repeater. Based on this review by the DoD, additional mitigation proposals for individual repeaters (including further power reductions, lowering of antenna heights, use of more directive antennas and other possible mitigation techniques) will be provided by the ARRL as needed to individual repeater owners. If there is a disagreement on the conclusions, a conference call will be held to resolve any outstanding issues.
- 3) All interference must be resolved no later than August 1, 2007.
- 4) Beginning in August, 2007 (and continuing on a periodic basis), the DoD will have a follow-up engineers study at each PPR site to ensure corrective actions have been taken and the interference and to ensure that successful mitigation continues.

As secondary users on the band, we have few options; and all options involve cooperation with the DoD. Hopefully the Longley-Rice calculations from the ARRL and the DoD's engineering studies will provide enough data to allow as many of the repeaters in the affected areas as possible to remain on the air at reasonable power levels. It is entirely probable that even with extreme mitigation techniques, some repeaters in close proximity to the PPR sites may have to be shut down permanently. If that happens, official notice would come from the FCC. It is also possible that some repeaters might be required to operate permanently at a lower power level than the maximum 50 watts permitted by the FCC rules in the areas near these Air Force bases. In those cases, we will be in contact with the individual repeater owners with that information, and the FCC will be notified.

It is important to note that once an acceptable field strength for a given repeater is determined and implemented, the repeater owner will need to be diligent to make sure that the non-interfering RF level is not exceeded in the future by any combination of antenna gain, directivity and transmitter power. We understand that the mitigation strategies are going to mean some repeaters will have a smaller coverage area than they currently have. Unfortunately the option of reduced power or antenna gain or height may be the necessary alternative to shutting down permanently. The cooperation and good faith of the amateur community is important in this arena, as the long-term goal is to continue to allow amateur radio activity on these bands in the affected areas.

We ask that you, and all repeater owners affected by this issue, immediately implement the 5 Watts TPO for your repeater/s. We again ask that you please contact me by June 15 indicating if you have implemented the power reduction. This will allow us to have on hand levels of voluntary compliance that can be used to show the cooperation of the amateur community. It is to each repeater's long-term advantage to implement the power reduction as soon as possible. The DoD has indicated they will be collecting engineering data during June. This presents the opportunity to assess a repeater's actual impact at the lower power level and a more honest determination of its continued potential for harmful interference to the PPR sites. If any repeaters are running at higher power levels, then the determinations can only be based on assumptions rather than on actual data.

Thanks for your understanding in this complex matter and your cooperation in helping implement this plan of action immediately in order to meet the June 15 initial deadline requested by the DoD. If you have any questions you may contact me at 860-594-0236 or by email at n1nd@arrl.org Please do not hesitate to contact me with any questions or queries.

Sincerely,

Dan Henderson, N1ND  
ARRL Regulatory Information Specialist