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WAVELENGTH

Official bulletin of
Scarborough Amateur Radio Club, Inc.
www.ve3we.org
PARTICIPATE – LEARN – ENJOY
November 2009 Volume 3 Issue 9

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SARC Nets

Sunday	28.730 Mhz CW 10:00 AM SSB 10:30 AM
Tuesday	147.060 MHz (VE3RPT) 7:30 PM Alternate frequency 146.520 MHz simplex
Thursday	28.730 MHz SSB 7:00 PM

Everyone is invited to check in on CW before the nets start.

These are open nets. All licensed hams are welcome. Come and join us.

We also want to emphasize that 28.730 MHz is our calling frequency. Please monitor and/or call your friends. 7:00 PM is a good time.

2010 Elections

Elections for the 2010 Board of Directors and Executive Panel will be held on Monday, December 7. All positions are open. To vote, you must be a member in good standing (dues paid by December 7). If you are interested in standing for office, or if you wish to nominate someone, please fill in the contact form at http://ve3we.org/

The Christmas party will be on December 14 at 7 PM.

Give Your Generator Some Space

By Dan Romanchik, KB6NU

The National Institute of Standards and Technology (NIST), the same folks that bring you WWV, publish a monthly newsletter called NIST Tech Beat. Here's an item from the 10/6/09 issue of NIST Tech Beat that will be of interest to radio amateurs:

To subdue the steaming heat of hurricanes or to thaw out during a blizzard, gasoline-powered, portable generators are a lifeline during weather emergencies when homes are cut off without electricity. But these generators emit poisonous carbon monoxide—a single generator can produce a hundred times more of the colorless, odorless gas than a modern car's exhaust. New research from the National Institute of Standards and Technology (NIST) shows that to prevent potentially dangerous levels of carbon monoxide, users may need to keep generators farther from the house than previously believed—perhaps as much as 25 feet.

Up to half of the incidents of non-fatal carbon monoxide (CO) poisoning reported in the 2004 and 2005 hurricane seasons involved generators run within 7 feet of the home, according to the U.S. Centers for Disease Control and Prevention (CDC).

Carbon monoxide can enter a house through a number of airflow paths, such as a door or window left open to accommodate the extension cord that brings power from the generator into the house. While some guidance recommends 10 feet from open windows as a safe operating distance, NIST researcher Steven Emmerich says the "safe" operating distance depends on the house, the weather conditions and the unit. A generator's carbon monoxide output is usually higher than an automobile's, he says, because most generators do not have the sophisticated emission controls that cars do.

"People need to be aware that generators are potentially deadly and they need to educate themselves on proper use," Emmerich says. With funding from CDC, NIST researchers are gathering reliable data to support future CDC guidance.

NIST building researchers simulated multiple scenarios of a portable generator operating outside of a one-story house, using both a test structure and two different computer models—the NIST-developed CONTAM indoor air quality model and a computational fluid dynamics model.

The simulations included factors that could be controlled by humans, such as generator location, exhaust direction and window-opening size, and environmental factors such as wind, temperature and house dimensions. In the simulations the generator was placed at various distances from the house and tested under different weather conditions.

"We found that for the house modeled in this study," researcher Leon Wang says, "a generator position 15 feet away from open windows was not far enough to prevent carbon monoxide entry into the house."

Winds perpendicular to the open window resulted in more carbon monoxide entry than winds at an angle, and lower wind speeds generally allowed more carbon monoxide in the house. "Slow, stagnant wind seems to be the worst case because it leads to the carbon monoxide lingering by the windows," Wang explains. Researchers determined that placing the generator outside of the airflow recirculation regions near the open windows reduced carbon monoxide entry.

In the next phase of the study NIST will model a two-storey house that researchers believe will interact with the wind differently. NIST researchers also have worked with the Consumer Product Safety Commission on related work. (See: "NIST to Study Hazards of Portable Gasoline-Powered

Generators," NIST Tech Beat, March 5, 2008.
http://www.nist.gov/public_affairs/techbeat/tb2008_0305.htm#generators)

The generator study can be downloaded at http://fire.nist.gov/bfrlpubs/build09/PDF/b09009.pdf.

* L. Wang and S.J. Emmerich. Modeling the Effects of Outdoor Gasoline Powered Generator Use on Indoor Carbon Monoxide Exposures. (NIST Technical Note 1637,) 2009.

Dan Romanchik, KB6NU, is the station manager for WA2HOM, the ham radio station at Ann Arbor's Hands-On Museum, and the ARRL MI Section's Training Manager. You can read more about his adventures in ham radio by going to www.kb6nu.com.

Upcoming Events

All meetings start at 7:00 PM unless otherwise noted. We meet in the Seniors' Lounge at the Don Montgomery Community Centre, 2467 Eglinton Avenue East, near Kennedy subway.

November 23 – Discussion on setting up a club repeater (CW practice at 6:00 PM)

December 7 – Elections

To vote, you must be a member in good standing (dues paid by December 7, 2009). All elected positions on the Executive and Board of Directors are open:

President
Vice-President
Secretary
Treasurer
Assistant Secretary
Assistant Treasurer
Membership Coordinator
Education Coordinator
Field Day Coordinator
Communications Coordinator

This is your club – think about how you can help make it better.

December 14 – Christmas Party (CW practice at 6:00 PM)

January 11, 2010 – Annual General Meeting (CW practice at 6:00 PM)

CW Classes

Earle VE3KCO and Peter VE3FJI conducted an introductory CW class for an hour before the start of our October 26 meeting. We will have CW classes on the same days as the regular club meetings, starting at 6 PM. The class is intended to supplement self study. You should download appropriate software to learn the code yourself.

Tony VE3FDU recommended the G4FON Morse Trainer software. This is a Windows application that teaches CW using the Koch method. You can find this at http://www.g4fon.net/CW%20Trainer.htm

For Mac users there is Morse Mania: http://www.blackcatsystems.com/software/morsemania.html. This is a shareware program but it is free to try.

Thomas VA3TSE also sent in a link to Learn CW Online, a web site that may be useful for those who have a fast connection- no software needed. Visit http://www.lcwo.net/

Membership Dues

Membership dues for 2010 are now payable. Thanks to those members who have joined or renewed. Dues are still only $25 per year.

Propagation Forecast

QST de W1AW
Propagation Forecast Bulletin 45 ARLP045
From Tad Cook, K7RA
Seattle, WA November 6, 2009
To all radio amateurs

Thanks so much to Steve Nichols, G0KYA for writing the Propagation Forecast Bulletin last week. See his blog at, http://g0kya.blogspot.com/.

In addition to the sunspot group 1029, which graced us from October 23-30, a new one (1030) just emerged on Thursday. It is currently in a maximally geo-effective position (in other words, in the center longitudinal meridian as viewed from earth), and may provide some enhancement for the ARRL CW Sweepstakes Contest this weekend. On Thursday the daily sunspot number was 15. Of course, this is a new Cycle 24 spot.

Geomagnetic indices continue to stay very quiet. Checking numbers at http://www.swpc.noaa.gov/ftpdir/indices/DGD.txt you can see that the planetary K index and the college K index were a solid 0 for all of November 3-4 and most of November 5. One strange (to me) set of numbers is on November 5, when the K index in all three zones was exactly the same. It was 0 all day, then for one three hour period it was 1, then back to 0 for all three, planetary, college and mid-latitude. The A index is calculated using the K index data, and the A index for that day was 0 at mid-latitude and high latitude, but was 1 for planetary numbers. Why was that?

Expect geomagnetic conditions to remain quiet and stable. NOAA and the US Air Force predict planetary A index at 5 for today, November 6, and 7 for November 7, then back to 5 for November 8-19.

Geophysical Institute Prague predicts quiet to unsettled conditions November 6-7, and quiet conditions November 8-12.

October had some good numbers, with an average daily sunspot number of 7.0. That is the highest level since March 2008. Our three-month moving average showed 4.64 for August through October, centered on September. This was up from 4 centered on both July and August. Three month averages centered on January through September 2009 were 2.19, 2.02, 1.49, 2.01, 4.22, 5.2, 4, 4 and 4.64.

Tom Morton, CX7TT in La Paloma, Rocha, Uruguay sent a message on October 30 concerning the CQ World Wide SSB DX Contest, and his operation on 10 meters. He wrote, "Around 1:00 PM local Saturday, 10 meters opened with a bang and propagation was awesome to EU then later the US. I expected 10 to shut down on Sunday so spent a lot of time Saturday milking the band. Even though I did foray down to 15 meters on both days, I wound up with 1000 QSOs, 93 countries and 22 zones. What a blast!"

Jim Brown, W5ZIT of Farmersville, Texas had a question about propagation that surprised him on 17 meters. Jim wrote, "I thought I would drop you a note concerning an unusual QSO I had on 10/30/09. At 2350 UTC I worked AE5PW in Newport Arkansas on 17 meters using the Olivia mode. Signals were 20 over 9 for a few minutes and then faded down to S5 before we signed. I am located near Farmersville, TX, about 30 miles NE Dallas. This distance was something like 250 miles or less, and I thought this very unusual at the time. I was wondering what type propagation would support this short skip on 17 meters. It would seem to be too short even for sporadic-E. I was using a 550 ft loop up 30 ft at the time."

I took the addresses for W5ZIT and AE5PW from FCC records, and calculated the distance at 297 miles. But note that for an antenna, Jim is using a 550 foot wire strung in a loop, 30 feet above the ground. Perhaps there is some high angle radiation going on, and the change in signal strength was due to some drifting patch of ionosphere above the two stations. This was on the last day of an 8 day run of sunspots.

Jim said he is using Olivia, which is a robust digital mode for HF. See http://www.oliviamode.com/ and http://hflink.com/olivia for more info.

I thought perhaps the 550 foot figure was a typo, but I checked out Jim's QTH at http://tinyurl.com/yk8d95s (clicked on "Bird's eye," then zoomed in) and saw there is plenty of room to stretch out.

Clay Melrose, WA6LBU of Wellston, Oklahoma and Chuck Kershner, W1EMQ of Clinton, New York were both pleased by long distance contacts on 40 meters on November 1.

W1EMQ worked UU1CC in Crimea on CW at 0050z with good signals using an old 4BTV vertical in wet soil and a Drake TR4. WA6LBU worked ZS3D running 25 watts SSB with a MP-25 manpack military radio into a G5RV at 0600z. ZS3D was using a 40 meter hex beam.

If you would like to make a comment or have a tip for our readers, email the author at, k7ra@arrl.net.

For more information concerning radio propagation, see the ARRL Technical Information Service web page at, http://www.arrl.org/tis/info/propagation.html. For a detailed explanation of the numbers used in this bulletin see, http://www.arrl.org/tis/info/k9la-prop.html. An archive of past propagation bulletins is at http://www.arrl.org/w1aw/prop/.

Monthly propagation charts between four USA regions and twelve overseas locations are at http://www.arrl.org/qst/propcharts/.

Instructions for starting or ending email distribution of this bulletin are at http://www.arrl.org/w1aw.html#email.

Sunspot numbers for October 29 through November 4 were 19, 13, 0, 0, 0, 0, and 0 with a mean of 4.6. 10.7 cm flux was 76.7, 75.2, 75.1, 72.3, 71.4, 71.5, and 71.4 with a mean of 73.4. Estimated planetary A indices were 7, 11, 1, 2, 2, 0 and 0 with a mean of 3.3. Estimated mid-latitude A indices were 5, 8, 1, 2, 2, 1 and 1 with a mean of 2.9.

Lunar Eavesdropping

(via Make Magazine)

In July 1969, two men from Louisville, Kentucky named Larry Baysinger and Glenn Rutherford used homebrew equipment to detect signals from Apollo 11 astronauts on the moon. The equipment included a rebuilt 20-year-old radio from an army tank, and an antenna made from spare pieces of aluminum, nylon cord, and chicken wire. Baysinger was a ham radio operator (W4EJA) with an interest in astronomy and UFOs. At the time he was working at WHAS-AM in Louisville. Rutherford was a reporter for the Louisville Courier-Journal. They made recordings of the transmissions.

The full story is available at http://www.jefferson.kctcs.edu/observatory/apollo11/ - this page includes pictures, scans of the newspaper article, audio clips converted from the original tapes, and PDF files of radio hobby magazines and reference materials.

Canadian Experiments at 500 kHz authorized

(RAC Bulletin 2009-034E, 2009-10-30)

After months of negotiations between RAC and Industry Canada over the details of the licence applications and reporting conditions, the first two licences granted to Canadians for experiments at 504 – 509 kHz in preparation for WRC-12 have been issued by Industry Canada (see RAC Bulletin 2008-29).

Jack Leahy, VE1ZZ, has been assigned call sign VX9PSO in the Developmental Service for his experimental transmissions. Joe Craig, VO1NA, has been assigned call sign VX9MRC. Both of these stations have been on the air already, with VX9PSO having been reported at 504.6 kHz and VX9MRC at 507.77 kHz. Signal reports can be addressed to the operators at their call book addresses.

Two more authorizations, in Ontario and British Columbia, are expected soon.

Richard Ferch, VE3KI
Vice President, Regulatory Affairs - Radio Amateurs of Canada