The OVH ARC Newsletter "OLE VIRGINIA HAMS" AMATEUR RADIO CLUB, INC.

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OVH Nodes - Port 1: 145.030 Mhz; Port 3: 223.540 MHz;

Port 4: 440.925Mhz 9600 Baud backbone / N3OH (SYSOP--BILL)

http://www.w4ovh.net

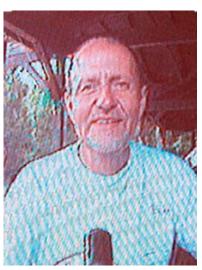
OLE VIRGINIA TIMES

JULY 2007

Next Meeting: July 16, 2007

PRESIDENT'S LETTER:

Greetings, hope everyone is enjoying summer. Another Field Day has come and gone; the weather was perfect, turnout was a little less than expected but everyone enjoyed the event and had a great time. This year we placed two towers at opposite sides of the pavilion. On the west side of the pavilion we placed the tri-band beam with the help of Brian's (WC4J) trailer tower Thank you Brian. On the east side we placed three sections of Rohn 25 with 6M and 2M beams. Unfortunately 6M was not very active. John (KG4NXT) placed his "BIG LOOP" antenna again which worked like gangbusters!



Unfortunately the satellite station failed to work satisfactorily. Reason: the latest tracking software upgrade which I loaded just before Field Day – without testing – introduced a major tracking error! We spent time looking for defects in the coax and antennas but didn't figure out the real problem until the last usable satellite pass when it was too late to fix it. No more using mission critical software without testing; I've notified the Ph.D. software author of the problem so this should not occur again.

A Journal Messenger reporter visited Field Day, took pictures and wrote a nice front page article with a picture of Wayne (N7QLK) with his Kenwood TS-440s. Positive press for the Ham community. "Way to go Wayne!" My gratitude to all that participated in the Field Day setup, tear down, and operations, not to forget our chef Phil AC4PL. To all the participants, it's because of you that this event is so successful and rewarding thank you. We all had lots of fun, good food, and wonderful company at the OVH Field Day.

2007 OVH Field Day pictures are available at http://www.k4gvt.com/field_day_2007/index.html. You can also review 2005 and 2006 by simply changing the year in this link.

Update on the CNC design competition won by Karl/W4KRL: we are trying to get the milling demonstration scheduled later this month. As soon as we have a date, we'll email everyone on the OVH reflector. Anyone interested in watching the CNC machine manufacture the panel will be welcome.

73 George K4GVT

Ole Virginia Hams Amateur Radio Club, Inc.

Post Office Box 1255 Manassas, Virginia 20108

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All telephone numbers listed above are for Area Code 703 unless otherwise noted.

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The OVH ARC meets at 7:30 p.m. local time every third Monday of the month at the NOVEC Tech Center on Wellington Road in Gainesville, Virginia. Prospective members or other interested persons are invited to attend. Local information can always be obtained, at any time, through the OVH's FM repeaters on 146.97 & 224.660 Mhz. All are welcome. Up to date information about OVH activities and meetings is also available on the OVH web site at http://www.w4ovh.net.

Permission is hereby granted for the reprinting of articles and quotations in this letter provided full credit is given to the OVH ARC and the author or other source of the article. Contribution of printed articles by both members and non-members is encouraged. The deadline for submissions is the 5th of each month. Submissions should be forwarded to OVH TIMES Editor: W4ZB@RLAW.COM.

Letters to the Editor and Classified Ads are accepted and welcome. Approx. Circulation - 170.

Last Rev: 07/09/2007

Sunshine Corner:

Happy Birthday to our friends and fellow Hams this month: Dwight/AI4II, Michael/KC4ZNQ, John/N4YOB, Robert/KI4IST, Kenneth/KB4BWM and George/K4GVT.

Former FCC Commissioner and OVH member Ken/W5AOC is in his early 90's and having some health problems. OVHer sent him a get well card. +-

Special thanks to George/K4GVT and Butch/W4HJL who organized and oversaw most of what went on at Field Day, to Art/W1CRO who prepared excellent ops manuals and kept the computerized logging systems working well; to Phil/AC4PL who kept us all very well fed; to Al/KB4BHB who tuned up the generators ahead of time; to Steve/N4OGR and Keith/KM4AA - logistics and generators, to Wayne/N7QLK who ran the GOTA station and helped several young lady, non-ham visitors experience the excitement of making their first SSB contacts by radio with distant places; and everyone else too who assisted and participated in the very successful 2007 OVH Field Day.

Jan/KE4TMW has finally stepped down after quite a few years of writing the Sunshine Corner column. Special thanks to Jan for her dedication and work on this for so long!

This monthly Sunshine Corner column now needs a new volunteer! Qualifications: someone who is somewhat active in the OVH Club and in touch with at least some of the other members regularly; minimal writing skills but must be able to compose and send short email information tidbits to the editor for inclusion in the Newsletter. Someone please step forward and volunteer for the Sunshine Corner! Of course, anyone can send information to be included too.

Minutes of the Ole Virginia Hams Amateur Radio Club Meeting June 18, 2007:

George / K4GVT called meeting to order at 1930 Eastern Time.

Following the Pledge of Allegiance, all present stated their names and call signs. There were 23 OVH members present.

BUSINESS MEETING: The minutes of the May 2007 meeting were approved.

Treasurer's report by Bill/WA4FIC: Balance is in good standing. Report approved. The Hamfest resulted in \$312 profit total, of which \$186 come from the Bake Sale. Moved, seconded and approved that the Bake Sale proceeds be donated to Mendahouse. Art W1CRO moved, it was seconded and approved that the donation to Mendahouse be rounded up to \$200. That leaves \$112 for the general fund. Rain was a determining factor in decrease revenue; indoor vendors did very well. Art/W1CRO suggested more indoor space be made available next year.

Committee Report: Hamfest: Brian/WC4J noted that some vendors were not satisfied with their table arrangement/location. George/K4GVT noted that we need to be more alert/cautious about "strangers" at the gate collecting entrance money. Bill/N3OH also noted that a few years ago cash was found in a collection apron from the prior year.

Training: no report; Brian (WC4J) said he would help find an instructor for a General class. Mark/WA4KFZ had offered previously to run a General class. Scholarships: No report.

Repeater: Butch (W4HJL) and Art (W1CRO) reported all repeaters are working.

George K4GVT) presented Certificates of Appreciation to members who have held recent offices: Bill/N3OH - 8 years as Treasurer; Ruth/KU4WH - 2 years as President; John/KG4NXT - 2 years as president; and Phil/AC4PL - 3 years as Secretary.

Membership report: David / KI4HE read in as a potential new member. Bruce / AB8CI-voted in - welcome aboard!

Field Day: George / K4GVT handed out maps to be used for layout; Bill /N3OH will post to the OVH website. Art /W1CRO presented an overview of the 2007 Field Day operating rules. George/K4GVT will bring satellite equipment as usual. Phil/AC4PL will man the grills with his cooking expertise; Art/W1CRO will provide (thanks to the Red Cross) five Dell laptops for the computerized logging system. Chris /KI4POT and Wayne/AG4ZZ will provided QRP stations. Operators and participants welcome. [Postscript: see the President's Letter and other reports about 2007 OVH Field Day in this Newsletter.]

ARES: No report. Old Business: None. Other New Business: None.

Other Announcements:

August 25, 2007 – Second Battle of Manassas commemoration - Special Event Station. Bill/N3OH is preparing for this; further details will be on the OVH website; Brian/WC4J offers his trailer again; the setup this year will on Strayer College grounds right next to the edge of the Manassas National Battlefield Park.

Joe/KI4OHR: reported that Vicki Belcher of Cedar Point Elementary School is looking to continue with ISS communications.

50/50: John/KG4NXT won \$26 and donated all to the Bake Sale.

Meeting adjourned at 21:00.

Reminders about some upcoming events / calendar dates:

HAMFESTS

August 5th (Sunday). The 57th Annual Berryville Hamfest, Berryville, Virginia sponsored by the Shenandoah Valley Amateur Radio Club. Details at http://www.svarc.us/hamfest/

September 15th and 16th. Roanoke Division Convention, Virginia Beach, Virginia sponsored by Tidewater Radio Conventions. Details at http://www.vahamfest.com/

OPERATING CONTESTS

August 11th (Saturday) / 12th (Sunday) - the WAEDC CW Contest. This very popular and very long running CW contest is probably the best one all year for making contest contacts with amateur radio stations throughout Europe. Details at http://www.waedc.de/

Building Or Improving Your Station?

David Robins/K1TTT published a full color, 8.5 x 11 inch size, 280 page paperback in 2005 using the self-publisher LULU.COM. His book is titled: Building A Superstation. The printed version is pricey at \$50, but the electronic 15.6 Mb PDF version is a bargain at \$5 and may be purchased and downloaded online. The book includes 280 photographs and its text explains the development and evolution of K1TTT's station from 1985 through 2005; post-2005 info can be found at: http://www.k1ttt.net. The book is filled with ideas, technical details and first person "how I accomplished that" accounts about setting up and improving an HF station with emphasis on contest type setups. Lots of very good information, recommended reading for anyone setting up or improving a station. Even if you already know a lot or think you do, you'll be certain to learn more and avoid future missteps by reading this!

Updates from the ARRL's Website — the BPL Regulatory Controversy

New on July 9, 2007: http://www.arrl.org/news/stories/2007/07/06/104/?nc=1 provides hyperlinks for downloadable PDF files with the initial Court briefs as actually filed.

ARRL Files Federal Appeals Court Brief in Petition for Review of BPL Rules

NEWINGTON, CT, May 24, 2007 -- The ARRL has filed a federal appeals court brief outlining its case and requesting oral arguments in its petition for review of the FCC's broadband over power line (BPL) rules. The League has petitioned the US Court of Appeals for the DC Circuit to review the FCC's October 2004 Report and Order (R&O) in ET Docket 04-37 and its 2006 Memorandum Opinion and Order. In its brief filed May 17, the ARRL contends, among other things, that the FCC's actions in adopting rules to govern unlicensed BPL systems fundamentally alter the longstanding rights of radio spectrum licensees, including Amateur Radio operators.

"For the first time ever, the FCC has permitted new unlicensed devices to operate in spectrum bands already occupied by licensees, even if the unlicensed operations cause harmful interference to the licensees," the League said in stating its case. "The orders under review reverse nearly seven decades of consistent statutory interpretation and upset the settled expectations of licensees without so much as acknowledging the reversal, let alone justifying it."

The ARRL argues that the FCC's approach to adopting rules to govern BPL flies in the face of Section 301 of the Communications Act, which requires that operators of devices that emit radio frequency energy first obtain an FCC license. "For years, the FCC has consistently read Section 301 to apply to unintentional radiators, such as BPL devices, and has expressly embodied that interpretation in its rules," the League's brief recounts.

The Commission then compounded its error by asserting that BPL devices do not fall within Section 301 at all, the League said. "This hail-Mary attempt at justification is another unexplained departure from prior policy that independently requires invalidation of the orders." the ARRL remarked in its brief.

The ARRL contends that the FCC orders under review "jeopardize the license rights of ARRL's members and other license holders by authorizing providers of a new device -- Access Broadband over Power Lines, or 'BPL' -- to send radio signals across the electric grid in the frequencies the license holders occupy, but without having to obtain an FCC license."

In his "It Seems to Us . . ." editorial, set to appear in July QST, ARRL CEO David Sumner, K1ZZ, says the League's brief "sets out the history of how the FCC has treated unlicensed devices since they were first authorized in 1938 and demonstrates that the new [BPL] rules change the bundle of rights and protections that radio licensees enjoy without a shred of the 'reasoned analysis' that legal precedent requires."

FCC Withholding Crucial Information

The League's brief further asserts that the FCC "has failed to discuss or disclose significant information in the record that potentially contradicts its key interference findings." The Commission not only withheld its internal studies until it was too late to comment, the ARRL alleges, but has yet to release portions of studies that may not support its own conclusions. The FCC has claimed that these are "internal communications" that it did not rely upon in reaching its decision to adopt the BPL rules.

The ARRL wants the appeals court to determine if the Commission acted in an arbitrary and capricious manner for not disclosing "significant information that potentially contradicts its key interference finding," the League said in its brief.

"If the Commission's claim of nonreliance on the redacted material is taken at face value, then its

failure to consider the contrary evidence from its own engineers' field tests strongly suggests a willful blindness toward any information not in accord with its preferred outcome," the ARRL's brief contends. "If, as seems more likely, the Commission actually considered and rejected the information contained in the redacted portions of its studies, then it had a duty to disclose the information and reasons for rejecting it. Either way, the FCC acted improperly."

BPL Measurement Standard Also at Issue

The League also has taken issue with what it argues is the FCC's "arbitrary and capricious" adoption of a BPL emission measurement standard that's unsupported by the record in the proceeding and ignores contrary evidence. Additionally, the ARRL says, the FCC rejected a proposed alternative without even considering it.

Said Sumner in his editorial: "The Commission's penchant for ignoring contrary evidence is illustrated even more vividly with regard to how quickly RF emissions are assumed to decay as one moves away from the source. This is important because if the signal is assumed to decay more quickly than it really does, the interference potential of the emissions will be underestimated."

As Sumner notes, the FCC has claimed that "many parties" have presented experimental data supporting a 40 dB per decade (10 times increase in distance) rate.

"In fact, there is no such evidence in the record -and empirical evidence supporting a lower number was ignored," Sumner asserts.

The League maintains that the Commission failed to consider the ARRL's sliding-scale alternative that would have avoided what Sumner calls "the logically indefensible situation that now exists in the rules: the extrapolation factor is 20 dB/decade at 30.001 MHz and 40 dB/decade at 29.999 MHz."

In addition, the ARRL wants the court to determine if the FCC was arbitrary and capricious in failing to limit BPL providers "to frequencies where interference was less likely to occur without materially harming BPL deployment." The League argues that the FCC ignored evidence that restricting BPL to the 30-50 MHz frequency range would have obviated interference to long-distance HF communications without causing problems for public safety services.

FCC Concedes that BPL Can Cause Interference

The ARRL brief asserts that, for the first time ever, the FCC "has authorized the operation of unlicensed devices that it concedes interfere with licensed devices" and has declared that such devices "may continue operating even where proven to cause interference."

The FCC, ARRL contends, has concluded that BPL's acknowledged interference risks are manageable, but it bases that conclusion -- which ARRL calls "the linchpin of the challenged orders" -- on FCC studies the Commission has declined to make public in unedited form.

"It is clear," the ARRL contends in his brief, "that the withheld pages contain information" that is at odds with the FCC's conclusion to adopt the current rules governing BPL deployments.

League Not Opposed to BPL As Such

"ARRL is not trying to stop the deployment of BPL," the League's brief concludes. ARRL and other commenters have provided the FCC with alternative proposals -- ones that have been demonstrated to work in the real world -- that would have allowed BPL to prosper without harm to licenses or to Congress's licensing regime."

"What is perhaps most unfortunate about the FCC's radical actions in this case is that they were entirely unnecessary."

The FCC's response to the League's brief is due July 2.

More on next page

FCC Responds to ARRL's BPL Brief (on July 2, 2007)

Earlier this week, the FCC filed its reply brief with the US Court of Appeals for the District of Columbia Circuit. The FCC attempted to rebut the ARRL's challenge to the FCC's Broadband over Power Line (BPL) rules enacted in late 2004 and affirmed by the agency in 2006. According to ARRL General Counsel Chris Imlay, W3KD, "The FCC's brief does not accurately describe ARRL's arguments concerning harmful interference."

Given what is in essence a 100 percent probability of interference from BPL systems to fixed and mobile HF facilities at significant distances from power lines, Imlay said Section 301 of the Communications Act does not allow unlicensed BPL systems to operate in the HF bands. "Basically, Section 301 says you can not operate a radio frequency emitting device without a license. The legislative purpose of Section 301 is clearly to avoid interference. FCC's Part 15 rules have assumed that certain very low power devices and systems can operate without predictable interference, thus allowing them to operate without a license, notwithstanding Section 301. But with BPL, the FCC has ignored conclusive record evidence which shows that there will be, and in fact our experience conclusively demonstrates. that BPL causes severe interference to licensed services," Imlay said.

The FCC claims that it has the authority to permit unlicensed BPL under Section 302 of the Act; this section allows the FCC to regulate the interference potential of RF devices. What Section 302 does not do, Imlay said, is to create a loophole in, or modify, or invalidate Section 301.

"It is the ARRL's position," Imlay said, "that the FCC can regulate and authorize BPL with certain safeguards, consistent with the terms of Section 301. However, the FCC simply cannot honestly maintain the position that BPL has an inherently low interference potential. It has a high interference potential, and the rules they have enacted to date are woefully inadequate and insufficient to address it". The ARRL has long maintained that BPL, when not adequately "notched," causes harmful

interference to Amateur Radio operations. In its brief, the FCC claims BPL does not cause significant interference and the Courts must defer to the FCC's expertise to decide this issue.

ARRL Chief Executive Officer David Sumner, K1ZZ, said, "The FCC misrepresents the ARRL's position as being that the FCC has no authority to allow unlicensed devices that pose any risk whatsoever of causing interference to licensed services. That's not our position at all. Our position is that the FCC possessed clear evidence, at the time it made its BPL decisions, that the limits it was adopting would allow the deployment of BPL systems with a near-100 percent probability of causing harmful interference to radio receivers hundreds of feet from the power lines. Yet, despite this evidence it characterized the likelihood of harmful interference as 'low."

The brief goes on to say that, in the FCC's view, mobile stations and fixed stations are protected against harmful interference from BPL. But with respect to mobile stations complaining of interference, the FCC requires only that BPL operators reduce the radiated emission levels to 20 dB below the Part 15 maximum levels for radiated emissions. This, in the HF bands, still permits BPL noise at levels that preclude communications entirely. It offers mobile stations no protection whatsoever, Imlay stated.

Sumner explained, "The FCC claims that it continues to protect mobile stations from harmful interference, but it does so simply by defining whatever interference a mobile station might encounter from a notched BPL system as not harmful! None of the steps to limit the interference potential of BPL systems that the FCC took in this rulemaking proceeding reduce the likelihood of interference to the amateur service, and to this day the FCC has declined to enforce its rules even when protracted violations and interference have been documented."

FCC's brief also attempted to justify its presumption that a BPL radiated interfering signal decays at a rate of 40 dB per decade of distance. "A 'decade

of distance' is a factor of 10," Imlay explained.
"For example, if a victim receiver moves from 3-30 feet from the power lines (10 times further away), that is one decade of distance. For each decade of distance, the FCC believes that there is a 40 dB signal decay. In the HF bands, however, the evidence in the record shows that the signal decay is closer to 20 dB than 40 dB per decade of distance from the power lines. The FCC's brief claimed that there was conflicting evidence on the subject, but ARRL's view is that the FCC merely avoided

consideration of the overwhelming evidence favoring the more conservative decay factor."

Imlay said the ARRL has asked the Court to order the FCC to "rethink the rules governing BPL and for the first time to take into account the evidence on the record concerning harmful interference to Amateur Radio." ARRL's reply brief is due for filing with the Court July 28, 2007. There is no date set yet for oral argument before the three-judge panel in Washington, DC.

The ARRL will be filing it reply brief later this month, and all parties will then be filing their final briefs with their joint appendix (JA). Anyone who wants a good understanding of the BPL controversy from the regulatory/legal perspective should read or at least skim through the downloadable briefs. The ARRL's positions should prevail, but it is far from certain that will happen; the FCC's response brief is significantly non-responsive and slippery, and the ARRL and its supporting parties have high legal hurdles and presumptions favoring the FCC to overcome at the U.S. Court of Appeals. Let's hope that the panel of Judges to be assigned to decide this controversy and their law clerks, all likely to be non-technical, will read these papers carefully and make sincere, thorough efforts to comprehend them before reaching any decisions.

N4YG's Smart Keyboard — A Much Better Mousetrap

Joe/N4YG wrote a very understated article in July 2007 QST (pgs. 35-39) titled "The Smart Keyboard" about a device which he offers as a "put it together yourself" kit for \$60, all parts included. The latest software to run it is downloadable from his website at http://www.n4yg.com. Once assembled in about 3 hours, the small, low parts count, low power hardware connects via a USB port to a Win 98+ computer from which it is powered and the user program is loaded - transforming the hardware into a precision timed CW keyer which can be controlled interchangeably from the computer keyboard and/or standard keyer paddles. The user program includes a GUI expertly designed with user convenience and usability in mind. It includes plenty of single key recallable storage memories, user profiles and other advanced features. CW generated with this sounds "perfect" - like punched tape, machine sent CW. It is free from objectionable timing variations typical of most other computer keyboard CW systems because the critical timing is crystal controlled in the outboard hardware.

No more excuses for not sending perfect on-the-air CW with this device / system now available. In fact, a new user can send perfect CW without knowing Morse Code at all and, thus, could use this system to self-teach himself/herself to copy CW and/or to improve CW copying speed. Quite an amazing system which far surpasses all (?) earlier automated CW keyers and computer keyboard CW systems. Recommended!

Query: how long will it be now before there will be CW operators on HF who don't know any Morse Code which is no longer required for a license? Is that possible? Probably. Why and how? Computer programs already exist which are quite good for decoding "perfect" CW; those systems degrade or fail to decode properly when poorly formed, hand sent CW with unpredictable timing and speed variations is received even though a skilled human CW operator can "compensate" in his/her brain for such variations. Better software for automated reception of CW is part of the answer, but the ability easily to send "perfect" code is a essential part of the solution for automated CW. After all, no one even tries to decode RTTY, PSK31, etc. in his/her head, yet modern software allows those modes to be used very effectively on HF without operator difficulty!

Armed Forces Radio - Still on Shortwave AM?

Anyone who has listened to Shortwave AM broadcasting over the years knows how much it has changed. Why is AM still being used now when SSB all but had replaced AM on the HF ham bands more than 40 years ago? Who knows? At least part of Armed Forces Radio is now on SSB! Check out 5446.50 and 7811.00, both upper side band (USB). It appears these transmission may originate near Miami; transmissions on both frequencies can be heard in this area in the evening.

Interesting Video Sources?

Want still more military related news and have DSL or better? Check out the free, 24/7 video feed from the Pentagon - the Pentagon Channel on VDC.COM. Amazing! VDC.COM also provides a 24/7 video feed from Aljazeera - Aljazeera English for \$10 per month with no term commitment. Neither of these are available (yet?) on Directv or Dishnetwork satellite.

Mobile Radio Information

KØBG maintains a website at http://k0bg.com with an excellent and almost overwhelming amount of information about mobile radio. How to select radios, antennas, tuners and other components, how to install them, how to operate, what to do and what not to do, etc. Be sure to check this out that website next time you are planning to do anything relating to mobile radio.

Install A Radio Without Tearing Your Vehicle Apart

NA5K has made a YouTube video: http://www.youtube.com/watch?v=Hkyl_uwhHSU which shows how he installed a Yaesu FT-7800R in his car without tearing it apart. The video is very well produced and you are certain to learn something from it about how to install a mobile radio unless you are already a professional installer.

Pictures / Images from 2007 OVH Field Day Follow.

The following images on this and the next page are all posted at http://k4gvt.com/field_day_2007. Go visit there if you want to see more. George/K4GVT put together a great assortment! No one should be slighted if your picture didn't make into the Newletter - space and file size limitations are tight.



