



June 2007

Society of
Broadcast Engineers
Newsletter
Chapter 24
Madison, Wisconsin

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Next Meeting

Thursday, June 14

Annual Chapter 24 Picnic

The Chapter will supply burgers and brats, condiments, buns, paper goods and utensils. The grill goes on at 5:15 p.m. Bring a dish to pass, an alternate entrée if desired and your preferred beverage; we do have an alcohol permit. There will be a brief business meeting around 7 p.m. to introduce our newly elected officers.

Please sign-up on the chapter Web site at www.sbe24.org.

There is a playground for the kids; the evening's music will provided by Two Kevins of Trailing Edge Entertainment. Come for the food and company, stay for the relaxing atmosphere!

Picnic 5-9 p.m.

Badger Prairie Park, Shelter #1
Verona

No park admission required

See page 2 for map

Upcoming Events

Tuesday, July 17: DTV Audio

Wednesday, Aug. 15: Demystifying
Loudspeakers

Thursday, Sept. 13: Open

The ballots have been counted and...

the results are in

Submitted by Steve Paugh, Elections Chair

The Chapter 24 election ballots were certified and counted on May 21, 2007. There are 65-voting members in Chapter 24. We received 16 ballots, all were certified as valid. Thirteen ballots were collected either prior to the weather postponed April 10, 2007 meeting or collected at the May 16, 2007 chapter meeting. Three ballots were received by mail. We thank everyone who took part in the election process.

Congratulations to our newly elected officers.

Chairperson: Dennis Baldrige

Vice Chair: Clifford Groth

Secretary: Tom Smith

Treasurer: Leslie Franzen

The nomination committee members were Steve Paugh, Jim Hermanson and Leonard Charles.

Chapter 24 Officers

Chair

Clifford Groth (Clear Channel Radio)
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cliffordgroth@clearchannel.com

Vice Chair

Dennis Baldrige
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Secretary

Tom Smith (WHA-TV)
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Treasurer

Leslie Franzen (WMTV-TV)
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Past Chair

Jim Magee
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Committee Appointees

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Map to Picnic

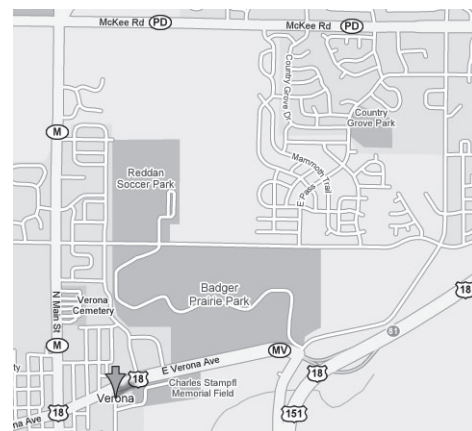
Annual Chapter Picnic

5-9 p.m.

Badger Prairie Park, Shelter #1
Verona

This park located just east of the city of Verona at the intersection of County Highway PB and U.S. Highway 18 and 151.

Map courtesy of Google Maps



May 2007 Meeting Minutes

Chapter 24 of the Society of Broadcast Engineers met on May 16, 2007 at the offices of Discover Media Works for the monthly meeting. There were 12 members present, of which 10 were certified. There was one guest present.

Chairman Clif Groth opened the meeting shortly after 7 p.m. The minutes of the March meeting and the April Secretary report for the canceled April meeting was approved on a motion by Steve Paugh and a second by Dennis Baldrige.

Program Chair Steve Paugh gave a rundown of upcoming meetings noting that next meeting would be the annual picnic on June 14 and would be held at Badger County Park once again. The July meeting program would be on DTV and 5.1 audio, the September and November programs were still open. There is a possible program in November by Logitech.

Mike Norton gave the sustaining membership report for Fred Sperry and reported that there was one renewal, which was Roscor, giving a total of 24 sustaining members.

Certification Chair Jim Hermanson noted that there were two new certification classifications. They are for AM Directional Antennas and Digital Radio. Jim noted that the application period for the June exams was closed and that the next exam would be August 10 through 20 with applications due by June 8.

Chair Clif Groth gave a rundown on the Summer WBA Conference Program. Clif also gave the treasurer's report for Leslie Franzen giving the current bank balance and noting that Leslie is working on the Annual report.

Frequency Coordinator Tom Smith reported that he had a request for wireless mike information from WISC-TV and that PCN from Midwest Family Broadcasting was received. He noted that the wireless mike database was in need of updating. There was a comment that Nextel was asking for a 12-24 month extension on the 2 GHz transition.

Clif mentioned that the Green Bay Flight service station has closed and that tower light outages would be reported a regional center in the future with calls currently going to an East Coast office of the FAA.

Newsletter editor John Salzwedel reported that postage for the newsletter was increasing and asked for articles for the newsletter.

In other announcements, John Salzwedel noted the start of Wisconsin Eye broadcasting on the internet and Clif Groth mentioned the a good source of HD radio and other audio and video information could be found at www.AVSForum.com.

The meeting was adjourned and Joe Demario of Discover Media Works gave a tour of their facility.

*Respectively submitted,
Tom Smith, Secretary*

Amateur Radio News

Compiled by Tom Weeden, WJ9H

Field Day June 23-24

Amateur Radio's biggest operating event of the year, Field Day, will be held June 23-24 this year. While Field Day's focus is on setting up temporary portable stations operating on emergency power, stay-at-homes and mobiles also participate. Since 2003, there has been a special category for stations operating from established Emergency Operations Centers.

Cell phones are ubiquitous these days, and it's natural to rely on them—but what happens when they don't work? As the world becomes ever more dependent on complex telecommunications systems to cope with daily life, the goal of Field Day is to show that hams can communicate with one another, no matter what, without the need for any infrastructure. This is a capability that tends to be taken for granted, but that is increasingly rare—and increasingly valuable.

Among other area clubs, Madison's Four Lakes Amateur Radio Club (FLARC) will be operating Field Day near Verona at Badger Prairie Park.

ARRL demands Ambient's BPL be shut down

The American Radio Relay League has again demanded that the FCC shut down Ambient Corporation's broadband over power line (BPL) pilot project in Briarcliff Manor, New York. On May 21, the FCC called on the BPL equipment maker and system operator to demonstrate it's complying with all terms of the Part 5 Experimental license authorizing the system, or face possible enforcement action. In a May 31 letter to FCC Spectrum Enforcement Division Chief Kathryn S. Berthot, ARRL General Counsel Chris Imlay, W3KD, contended that it's "long past time that the Commission enforce its own rules," and again objected to the Commission's "inexplicable inaction" in the face of evidence the system is noncompliant. Imlay pointed out that the FCC's May 21 letter made no mention of Condition #1 of Ambient's Part 5 Experimental license.

"That condition requires that if any interference occurs, the holder of the authorization will be subject to immediate shutdown," Imlay wrote. "Interference has repeatedly occurred, and it has been witnessed and verified by a member of the Commission's Enforcement Bureau staff. Yet no action has been taken whatsoever to terminate this experimental authorization over a period of more than two and one-half years. This is inexcusable."

Ambient operates the Briarcliff Manor BPL pilot program under Experimental license WD2XEQ. ARRL testing as recent as late May indicated the system is operating outside of the parameters of its FCC authorization.

The ARRL's complaints regarding interference to Amateur Radio communication from the Briarcliff Manor system

date back to October 2003 and included supportive technical reports and test results.

New measurements done May 24 by ARRL Laboratory Manager Ed Hare, W1RFI, conclusively establish that the Ambient BPL system, in Hare's words, "continues to operate well above the Part 15 emission limits that are stipulated as a condition of its Experimental license." Hare said his latest excursion marked the third time his emissions testing in Briarcliff Manor showed the system to be operating significantly above Part 15 emissions limits.

"The spectral masks in this system intended to protect some radio services from interference work poorly enough in this generation-1 equipment, but when the system is operated at excessive levels, strong interference is an inevitable outcome," he commented. "By operating this system above the Part 15 emissions limits, Ambient is making it impossible for any electric utility to use results from this experiment to reach any conclusions about the technical and commercial viability of BPL."

ARRL seeking relief

The ARRL is going to court to attempt to get relief from recent FCC inaction. The League 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 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 assert-

Amateur radio news continued on page 4

DTV tuners & interference

By Tom Smith

On March 30, the FCC released a notice that requested comments on tests the FCC took to determine the interference immunity of DTV tuners. The FCC tested 30 fifth-generation DTV tuners taking 2,055 measurements. They selected eight of the DTV tuners for more extensive test measurements. The tests resulted in a 221-page report.

The report was done to determine how DTV tuners would tolerate interference from other DTV channels to the one that the set was tuned to, operations on the channels 52-69 from other services after they start operations on that band, and from unlicensed transmitters using white spaces. The report concluded that all of the tuners were single conversion tuners where the channel selected is converted to a lower IF frequency. The tuners that the DTV allocation table and most of the early DTV tests used was a double conversion tuner in which the incoming TV channel is converted to a frequency above the highest TV channel, about 900 MHz and then converted to the standard 44 MHz IF frequency.

The Commission's tests found that the DTV tuners exhibited many of the same interference issues as analog TV tuners did. They were subject to interference from second adjacent channels above and below the channel selected as well as from a number of the former analog taboo channels. These channels were the first, second, third, fourth and sixth channels below the selected channel. These issues were found to occur when tuned to a station with low signal levels. The sets also exhibited interference from channels located at seven channels above the selected channel. This is the IF oscillator frequency. The DTV tuners did perform better from the IF image channels located at 14 and 15 channels above the selected channel. The IF interference was exhibited at moderate signal levels.

The Commission did state that the digital tuners tolerated interference slightly better than analog tuners. But because of the use of single-conversion tuners instead of the ATSC-specified double-conversion tuners, none of the tuners meet the ATSC specs for interference rejection that the DTV table of allotments was based on.

This report was entered as part of the comments of the unlicensed use of TV "white spaces." The FCC also took comments on the report for 30 days after it was released. There was little comment on the report. The Association of Maximum Service Telecasters (MSTV), various consumer electronics companies and wireless mike interests stating that the report verified what they had said about unlicensed devices impairing TV reception filed comments. A joint filing was made by Dell, Microsoft, Phillips and other computer interests on their test methods, and another was made by a computer industry interest group stating that the report showed the TV broadcast signals would cause more interference to DTV reception than unlicensed devices. Motorola said that while it believes that unlicensed devices would work in the TV band, they said that the FCC should exercise care in going forward with the rulemaking. Many of the filings pertaining to the Unlicensed Devices in the TV Band rulemaking, since the report was released, were notices of ex-parte meetings at the FCC by the MSTV and wireless mike users. The MSTV has made presentations at the FCC a number of times since the report was released to show that the report supported their contention that unlicensed devices would cause interference to TV reception.

The results of this report will no doubt impact the debate on allowing unlicensed devices on the TV bands for some time.

*From FCC Report and Releases
(www.fcc.gov)*

Amateur radio news cont.

ing 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."

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

Excerpts from the American Radio Relay League's Web site, arrl.org



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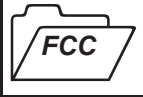
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FCC Rulemakings

Compiled by Tom Smith

FINAL RULEMAKINGS

ET Docket No. 03-237

Establishment of an Interference Temperature Metric to Qualify and Manage Interference to Expend Available Unlicensed Operation in Certain Fixed, Mobile and Satellite Frequency Bands

ET Docket 03-65

Interference Immunity Performance Specifications for Radio Receivers.

On May 2, 2007, the FCC terminated two Notices of Inquiry and Proposed Rulemaking on interference standards for radio receivers. The first dealt with the amount of background noise or interference that a receiver would be able to tolerate. The FCC proposed to set limits to how much noise or interference an unlicensed device could add before it would affect the ability of the receiver to recover the desired signal.

Comments were generally opposed and no one provided any information on technical rules that would allow for the implementation of any technical rules.

The second inquiry and rulemaking pertained to receiver standards. The FCC had wanted to create rules for making receiver standards on a broad basis, but decide that it would make any receiver standards on the basis of a frequency band or service specific proceeding.

These proceedings were undertaken in order to allow for more unlicensed devices to share various bands with licensed services.

In the Matter of the DTV Buildout Requests for Waivers of July 1, 2005 and July 1, 2006 "Use or Lose" Deadlines

Request for Waivers of August 4, 2005 Checklist deadline

In the Matter of the DTV Buildout

Applications Requesting Extension of the Digital Television Construction Deadline

These are two separate notices that concern the deadlines for final construction of existing DTV stations before the February 17, 2009 transition deadline.

The first notice lists DTV stations that have not yet built their full DTV facilities to replicate their analog coverage. Many of these stations have filed for waivers for additional time to complete the construction of their DTV transmission facilities or in some cases have asked to oper-

ate with reduced facilities because they wish to return to their analog channel and do not wish to construct a temporary full power DTV facility on their second channel for DTV. Stations that did not receive an additional waiver lose the interference protection that they would have received if they had their full DTV coverage. The order gives a full list of stations affected and the FCC did list the current status, reason for the waiver request, and why they either approved or denied the request. Those with waivers that were approved may be required to file for new construction permits in order to modify their facilities to meet the waiver requirements.

The second notice lists the stations that have received extensions of the construct permits deadlines for stations that either received waivers or just recently received new construction permits, but were unable to complete construction within the time required. There were two stations that were denied extensions because of interference issues from their proposed maximized analog replication facilities. They will operate with facilities that are less than the maximum proposed.

These notices were adopted on May 17 and released on May 18. They are unusual as they were released without a docket number.

PROPOSED RULEMAKINGS

MM Docket 93-17

An Inquiry into the Commission's Policies and Rules Regarding AM Radio Service Directional Antenna Performance Verification.

On May 4, a group of radio broadcasters, equipment manufacturers and consulting engineers acting collectively as the AM Directional Antenna Performance Verification Coalition ("Coalition"), submitted recommendations to the Commission on computer modeling to assess operation of AM antenna systems as authorized. The computer modeling would also be used to assess the effects of construction of other towers near an AM direction array. A copy of the report can be found on the FCC Web site at http://gulfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi.

Comments are due by July 23 and replies due on August 22.

FCC Rulemakings continued on page 6

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FCC Rulemakings cont.

- WT Docket No. 06-150
Service Rules for the 698-746, 747-762 and 77-792 MHz Bands
WT Docket No. 03-264
Biennial Regulatory Review-Amendment of Parts 1,22,27 and 90 to Streamline and Harmonize Various Rules affecting Wireless Radio Service
WT Docket No. 06-169
Former Nextel Communications Inc. Upper 700 MHz Guard Band Licensed Revisions of Part 27 of the Commission's Rules
PS Docket No. 06-229
Implementing a Nationwide Broadband Interoperable Public Safety Network in the 700 MHz Band
WT Docket No. 96086
Development of Operational Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*

The report and order and notice of rulemaking, despite the length of its title, mainly concerns what the Commission plans to do with TV channels 52-69. This band includes four channels that are reserved for public safety use. The rest of the channels will be auctioned off. In the part of the band current occupied by channels 52-59, the band is divided up in blocks that match the current TV channels. In the channel 60-69 band, there are two 12 MHz blocks; channels 63 and 64 and 68 and 69 are for public safety; and the rest of the band is divided into two 1 MHz pairs, two 2 MHz pairs, two 5 MHz pairs and two 10 MHz pairs. The FCC has auctioned of one 6 MHz pair

and a single 6 MHz channel in the channel 52-59 band, and the 1MHz and 2 MHz pairs in the channel 60-69 band. The single 6 MHz channel auctioned in the channel 52-59 band is being used by Qualcomm for its national MediaFLO service on Channels 55. The FCC has also auctioned off several licensed in one of the one MHz pairs on the channel 60-69 band.

In this notice, FCC is proposing changes in the bandwidth of the various groups in the channel 60-69 group. They are proposing that TV channels 62 and 67 become one 6 MHz paired group and TV channels 60/61 and 65/66 become a one megahertz paired group and an 11 MHz paired group. A second proposal would have two 5.5 MHz pairs instead of the 11 MHz pairings. The bands in the channel 52-59 group would remain the same as the present TV channels.

The Commission has also proposed some changes in the number of participants in the auction. They are proposing that having each license cover a smaller area, increasing the number of licenses. In the lower channel 52-59 band, they are proposing increasing one group from 6 licenses to 734 licenses in order to allow greater access by small business. Other potential increases would allow 176 licenses in a particular band.

In the public service band, the FCC is asking for comments of a proposal from a group called Frontline to allow commercial use of part of the public safety band for broadband use. There would be single nationwide license in which the holder would be

required to construct a national network that would serve as a common interoperable public safety broadband network. It could be used for commercial broadband operations with emergency public safety use having priority.

This was a very complex notice and this is only a small portion of the rulemaking. The notice was adopted on April 25 and released on April 27. The notice was published in the federal register on May 2 with comments due 21 days later on May 23 and replies due on May 30. The reply date was extended to June 4.

On May 24, the FCC issued a notice on a proposal from Google asking for immediate comment on their proposal for dynamic real-time auctions of all or part of the spectrum in the remaining parts of the channel 52-59 band and that channel 56 be set aside for broadband use. Access for the spectrum would be through the bidder's radio system and would be for the spectrum they would use for the period of use. The Comment period would be for 7 days after publication in the Federal Register with an additional 7 days for replies.

*From FCC Releases and Notices,
(www.fcc.gov)*



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JOB OPPORTUNITY

Assistant Chief Engineer
CBS-58 Milwaukee

CBS-58 in Milwaukee seeks a full-time Assistant Chief Engineer. In this role you will assist in the management of the station's technical facilities. Must have strong UHF transmitter experience, studio maintenance background, FCC compliance, as well as component level and troubleshooting abilities. Digital television knowledge and computer/LAN experience a plus. Must have strong organizational skills and be detail oriented. SBE certification preferred.

Send resume to:
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EOE

SBE Chapter of the Air

HamNet meets the second Sunday of each month at 0000 GMT on 14.205 MHz. Hal Hostetler WA7BGX is the Control Station. Any amateur operator is welcome and encouraged to participate.

July SBE 24 newsletter

Copy deadline: Friday, June 6
Folding party: Wednesday, July 11

E-mail submissions to John Salzwedel at tcp@tokencreek.com

CHAPTER 24 SUSTAINING MEMBERS


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Contributors this month: Tom Smith, Tom Weeden and Steve Paugh.
Thanks to Leonard Charles for his work on the Chapter 24 Web page.

FIRST CLASS MAIL

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