



**Chapter 24, Inc.  
Madison, Wisconsin**

*Society of Broadcast Engineers*

*April 2004*

## **Tower Site Monitoring Down To A Science**

*By Vicki W. Kipp*

How do you monitor more than 17,000 different transmitter sites across the country from one monitoring facility with a staff of 21 people? When I heard this claim made of Dielectric Corporation's Flash Technology division in April 2003, I was a little doubtful. After all, 17,000 tower sites is an awful lot of potential light failures, security violations, and power outages to keep an eye on. I traveled to the Nashville suburb of Franklin, Tennessee to see for myself how monitoring on this grand of scale could be accomplished.

Dielectric Corporation acquired Flash Technology in 2003. Dielectric's Flash Technology division includes a tower site monitoring service, tower light manufacturing plant, a post-manufacture tower light testing lab (Figure 1), a tower light research and development laboratory (Figure 2), and a tower light classroom known as "Flash University".

### **ARC**

My first concern was trying to understand how any monitoring service could handle the sheer call volume of 17,000 wireless telephony, broadcast, and public safety tower sites. A great thing happens when you provide a service for more than 14 years: you get very, very efficient at it.

The tower monitoring service head end is called the Alarm Response Center (ARC). Staffed 24x7x365, the ARC always has at least three Monitoring Technicians on duty and an experienced supervisor on call.

The ARC contains three sections: the Call Center staffed by Monitoring Technicians who investigate alarms; Customer Support staffed by Technicians who diagnose problems, manage trouble tickets, and interact with clients; and

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## **Next Meeting:**

**Thursday,  
April 15, 2004**

**911 Center Tour  
and Elections**

**Dutch Treat Dinner  
at 5:30 PM**

**The Great Dane Pub  
123 East Doty Street**

**Meeting and Program  
at 7:00 PM**

**Dane County 911 Center  
210 Martin Luther King Jr.  
Boulevard**

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## **Cast Your Ballot!**

**By Steve Paugh,  
Nominations Chair**

Enclosed with this newsletter is the official ballot for the SBE Chapter 24, 2004 election of officers. The deadline for returning your ballot to the nominations chair is Monday, April 26th, 2004. The nominations committee will count the ballots on the evening of Wednesday, April 28th, 2004 at WISC-TV.

You may turn in your ballot in person during the April 15th, 2004 chapter meeting at 7:00PM at the Dane County 911 Center. If you are unable to attend

the April meeting, you may mail your ballot directly to me at:

Steve Paugh- c/o WISC-TV  
Ballot  
7025 Raymond Road  
Madison, WI 53719

Please indicate "Ballot" on the envelope and we will hold your ballot unopened until the official counting process. Your ballot must be in our possession before we begin the counting on April 28th.

Remember that your membership must be current to be eligible to vote.

Your membership number must be entered on the ballot for it to be valid.

The following are on the ballot: Chapter Chair – Vicki Kipp; Chapter Vice-Chair – Tom Smith; Treasurer – Leslie Franzen; Secretary – Jim Magee.

Included on the back of the ballot is a short biography from each of the candidates and their industry background.

Thanks to the nomination committee members Jim Hermanson and Leonard Charles.

## CHAPTER 24 OFFICERS

### CHAIR:

**Vicki Kipp (ECB-TOC)**  
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### VICE CHAIR:

**Tom Smith (WHA-TV)**  
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### TREASURER:

**Stan Sarch (WISC-TV)**  
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### Past-Chair

**Tom Smith (WHA-TV)**  
smithtc@vilas.uwex.edu

## COMMITTEE APPOINTEES

### Program Committee:

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**Fred Sperry** 264-9806  
**Steve Zimmerman** 274-1234

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stoffel@vilas.uwex.edu

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### Special Events:

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### Certification and Education:

**Jim Hermanson** 836-8340  
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### Frequency Coordination:

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### National SBE Chapter Liaison:

**Leonard Charles**  
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lcharles@wisctv.com

## March Business Meeting Minutes

Chapter 24 of the Society of Broadcast Engineers met on Wednesday, March 17, 2004 at Grassland Media, Madison, Wisconsin for the Chapter's monthly meeting. There were 13 members in attendance, 12 of whom were certified and 2 guests.

The meeting was called to order at 7:12 PM by Chapter Chair Vicki Kipp. The minutes of the February meeting as published in the March newsletter were approved. Newsletter editor Mike Norton announced the deadline for articles for the April issue will be Friday, April 2<sup>nd</sup> at midnight. The folding party will be held Wednesday, April 7<sup>th</sup> at 5:30 PM at WKOW-TV.

Treasure Stan Sarch submitted his report that the chapter's account had a balance in the black. Sustaining Membership Chair Fred Sperry reported on the recent renewals of Sarch Electronics and Maney Logic. Currently the Chapter has 24 sustaining members.

Program Committee Chair Steve Paugh reported on upcoming chapter meetings. Tentatively, the April meeting will be a tour of the Dane County 911 Center. The May meeting will feature In Game Systems, the chapter annual picnic will be in June, and Taste of NAB will be in July.

Certification Chair Jim Hermanson submitted his report that Dennis Baldrige of Hillsboro has received his CBNT certification. The next certification date is April 20<sup>th</sup> at NAB. The next local exam is June 4-14 with the application due by April 23<sup>rd</sup>.

Frequency Coordinator Tom Smith reported an FCC making rule making that IBOC FM stations can use a separate antenna for their digital signal than their analog signal.

Tom Weeden reported that he had attended the Milwaukee SBE frequency coordination meeting where there was discussion about the transition from the existing 2GHz band to the smaller band. They had decided to go with 7 narrow channels as opposed to 5 wide channels. The stations will move one channel at a time. The move would be triggered when the first MSS satellite is launched or licensee approaches broadcasters.

National Liaison Leonard Charles reported that the SBE has hired a software developer to work on new frequency coordination software that will be shown at NAB. Currently the software is in beta test and should be available for distribution in May. A web form is also being developed for the National SBE website for frequency coordination locating.

There is a new National SBE Education Committee that will look into educational opportunities being offered by the SBE and develop new programs, including a traveling broadcast school. The committee is looking for members and will be meeting at NAB. There is new sample certification test software for Windows and it will be released at NAB.

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## March Business Meeting Minutes (continued)

SBE is celebrating their 40<sup>th</sup> anniversary this year and will be handing out prizes to the first 100 members at the NAB membership meeting as well as other drawings and door prizes. A reminder that membership renewals are due April 1<sup>st</sup>.

Nominations are open for Chapter and Individual National Awards. Nomination forms are available from the SBE National website. SBE Fellow nominations are also being accepted. The National Leadership Skills Seminar is being held in Indianapolis in June and August.

Under new business, Chapter elections would be held at the April meeting. Ballots will be mailed in the April newsletter. The following are on the ballot: Chapter Chair – Vicki Kipp; Chapter Vice-Chair – Tom Smith; Treasurer – Leslie Franzen; Secretary – Jim Magee. Chapter Chair Vicki Kipp also made a call for nominations for Individual and Chapter Awards. Also under new business, Steve Paugh announced that it is not always possible for an officer to attend the pre-meeting dinner. If Chapter members have waited at the restaurant for more than a few minutes without seeing other Chapter members or officers, they should go ahead and start eating on their own.

Under old business, the members present voted on 3 previously submitted by-law changes. The first amendment, which would entitle Sustaining Members to make 4 mailings to the chapter membership at the Sustaining Member's expense, was approved 9 for and 4 against. The second amendment would limit the Secretary and Treasurer to 3 year terms and was unanimously approved. The third amendment would add to the Treasurer's duties an annual

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## AMATEUR RADIO NEWS

By Tom Weeden, WJ9H

- The FCC is seeking comment on three plans that would reshape the Amateur Radio Service licensing structure. Each Petition for Rule Making responds to World Radiocommunication Conference 2003 actions last summer that made changes to the International Radio Regulations. While differing substantially in some other aspects, the three petitions call for modifications at amateur radio's entry level and for a three-tiered license system. One petition goes beyond licensing structure to recommend additional changes to amateur testing and HF digital privileges. A fourth petition focuses solely on the Morse requirement.

In one petition, an "unincorporated grassroots organization" calling itself the Radio Amateur Foundation (RAF) has asked the FCC to scrap existing amateur radio question pools and start over from scratch, keeping the question pools out of the public domain and requiring a 10-day waiting period before retesting. The RAF has also asked the FCC to permit digital experimentation from 29.0 to 29.3 MHz at bandwidths of up to 15 kHz. Comments are due by April 24 on all four petitions.

- A Broadband over Power Line (BPL) home demonstration in the Raleigh, North Carolina, area March 5 provided an opportunity for area amateurs to take their concerns about the technology to FCC Chairman Michael Powell face to face. While Gary Pearce, KN4AQ, says he only spent about 30 seconds with Powell at the demonstration, he did tell the chairman that amateurs believe BPL's interference potential has been understated and will prove more difficult to resolve than the FCC has suggested in its February BPL Notice of Proposed Rule Making (NPRM). "What I didn't know when I talked to him," he added, "was that a question that we had sent to the local newspaper had been posed earlier in the day at a press conference about interference."

Powell had responded to the question by saying the FCC would not let BPL interfere with critical services, the Raleigh News & Observer reported. "The question is whether it does, and to what extent, and what limits can be placed to make sure it doesn't," Powell said. "We've been fully committed to only allowing things within the range of what we're convinced won't create impermissible interference." But Powell went on to say that if BPL can provide broadband access anywhere there's a power outlet, "We're not going to be easily dissuaded from doing something that has that much potential."

(Excerpts from the American Radio Relay League's [www.arrl.org](http://www.arrl.org) web site)

Thanks to Steve Paugh for arranging the March meeting and program. Thanks also to Stu Stroup of Grassland Media for the tour of their production facility and edit suites.



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## Tower Site Monitoring Down To A Science (continued from page 1)



**Figure 1.** All lamps made by Flash Technology get tested for 24-hours before shipping out.

Technical Support staffed by Service Coordinators who do troubleshooting, equipment support, and field support.

Flash Technology has analyzed the records of the millions of phone calls they have received over the years to create algorithms which help them predict which times of the day and night when they will be busiest. Each of the 17,000 sites monitored by Flash Technology will be called by the ARC once every 24 hours to log its parameters. Additionally, each site will call in anytime it experiences an alarm condition.

Each site monitored by the ARC has a sign posted at the site entrance listing a toll-free phone number for the ARC and a tower reference number. This contact information is useful to members of the general public, tower neighbors, tower technicians, and public safety personnel who need to access the site. The ARC can provide the access touch pad security code to admit people authorized to enter the site. The ARC monitors and records the names of all individuals who access a site. Having a toll-free contact number posted at the site has paid off. The ARC sometimes receives calls from tower neighbors complaining that a strobe light is running in day mode after dark, making their home resemble a



**Figure 2.** The candelas of light output from this prototype lamp are being analyzed in a light tunnel (black square recess behind light).

bright, flashing disco dance hall. The ARC can manually place the tower lights in night mode, and then notify the tower's owner of the problem in the morning. Addressing the neighbor's lighting concerns promptly helps preserve good relations with tower neighbors. Timely acknowledgement of a problem may prevent a frustrated neighbor from taking matters into their own hands- perhaps even shooting an offending tower light.

### ALARMING

Whenever a site calls in an alarm, Flash Technology's Eagle software automatically creates a trouble ticket. An ARC technician analyzes the trouble ticket to see what action needs to be taken.

Monitoring Technicians in the Call Center answer 500 – 700 calls per day, responding to alarms, notifying authorities, and dispatching technicians. VoicePrint software records and logs incoming and outgoing calls. Site data is archived by the ARC for a minimum of three years and a maximum of five years after it is recorded. When the ARC receives an alarm about a tower light outage or notes an outage when the ARC calls a site for its daily logging cycle, the ARC Lighting Specialist will call a Notice to

Airmen (NOTAM) in to the appropriate FAA Flight Service Station. The ARC calls in about forty NOTAMs a day to the FAA. The ARC will notify the site's owner of the outage. For clients who contract with the ARC for tower maintenance, the ARC will dispatch a tower technician to the site to repair the light. In compliance with the FAA regulations, the ARC strives to get all light outages resolved within the FAA's 15 day outage window.

When the ARC receives an alarm from a site, they handle the event according to the site owner's preferences. If there is a light outage, the ARC will call the FAA Flight Service Stations (FSS) to report the failure within 30 minutes, as specified by FAA Circular AC No: 70/7460-1H and enforced by FCC Title 47 Code of Federal Regulations (CFR). But for less critical site events such as a door open or site temperature alarm, the ARC will respond according to the client's customized escalation procedure. The ARC will call and/or email the people specified by the site owner. If the alarm occurs at a site that the ARC is contracted to maintain, the ARC will notify the owner and then dispatch service technicians. If an urgent situation arises which requires that the site owner be called in the middle of the night, the ARC manager will make that phone call.

Clients can pick a custom solution from the Dielectric-Flash Technology suite of services: FTM monitoring hardware for their site, leasing Dielectric's Eagle software, or hiring Dielectric's ARC to monitor their tower site. Before the ARC begins monitoring a site, Dielectric's tower division must inspect the site. The tower division performs site erection, structural maintenance, and lighting maintenance

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## Tower Site Monitoring Down To A Science (continued)



**Figure 3.** Job tools help ARC technicians keep up with weather situations and lighting configurations.

and repairs. The inspection identifies any equipment issues. Since the ARC is responsible for filing NOTAMS, existing obstruction light deficiencies must be remedied before the ARC assumes responsibility for monitoring the site.

### SMART MONITORING

A large plasma television at the front of the ARC (Figure 3) displays the Weather Channel. ARC technicians constantly monitor the national weather map for storms, tornados, and hurricanes. They anticipate severe weather that could cause a power failure, lightning strike, or other damage to the sites that they monitor. When severe weather covers a wide geographic expanse, the ARC manager brings the on-call ARC technicians in to support the increased call volume.

To the left of the weather monitor are two FTM 5000 units and multiple strobe lights. These units allow the lighting specialists to practice wiring and configuring the monitoring telemetry when there are lulls in incoming calls.

### HARDWARE

Dielectric-Flash Technology manufactures the FTM 5000 remote telemetry module (Figure 4) for monitoring and control of various

equipment and operating conditions. Each FTM 5000 can hold up to nine control/monitoring cards. Each card is capable of monitoring six to ten parameters. A single card can be shared among multiple devices such as monitoring lighting and the site door. The number of site parameters that a FTM 5000 can monitor is unlimited since any number of FTM-5000 modules can be bussed together. The FTM 5000 has an Ethernet port and a modem.

The FTM 5000 works in conjunction with Eagle monitoring software. Clients with more than 125 sites need to use Eagle Eye software, in addition to Eagle software, to manage the polling of all of their sites such that each site stays in compliance by calling the ARC once every 12 or 24 hours.

Dielectric-Flash Technology's FTM monitoring hardware is highly customizable. You can use the FTM 5000 to monitor transmitter power levels and to control transmitter on/off. With the purchase of Dielectric's VSWR Vision software and some additional hardware, the FTM can measure antenna VSWR and transmission line pressure, in conjunction with Eagle software

Site owners can custom populate their FTM 5000 with the appropriate



**Figure 4.** Highly-customizable Flash FTM-5000 remote telemetry module.

cards based on their monitoring and control desires. Monitoring and control card choices include:

- A dry contact input to monitor equipment functions, door closures, and alarm relays. A dry contact card indicates whether a device is off or on.

- An analog input to monitor generator fuel levels, building temperature, hydrogen fuel cells, power metering, battery levels, voltage, oil pressure, and other measurable levels. In conjunction with a relay output card, you can set customized thresholds so the card will turn a particular device on or off if a threshold is crossed.

- A relay output card to monitor and control the generator, hydrogen fuel cell, climate control, and remote operation of equipment. A relay card is necessary for device control. When used in conjunction with a site generator, an analog card enables remote monitoring of the generator's fuel level and status. You can remotely cycle the generator to run for a while as part of its maintenance. The relay card allows you to remotely cut AC power to ensure that the site properly switches to the generator's DC power.

- A light monitoring card allows for tower monitoring of all types and brands of tower lights.

Each site monitored by the ARC must have a connection to the ARC so that it can communicate alarms. The vast majority of sites monitored by the ARC use a combination of a modem and a landline (70%) or wireless telephone (30%) to call in alarms and status updates. Most new tower sites connect to the ARC through a fiber optic line or a low-bandwidth Very Small Aperture Terminal (VSAT) satellite system provided by Flash Technology. Although a fiber optic connection can be pricey, new towers typically have fiber run to them during the construction process.

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## Tower Site Monitoring Down To A Science (conclusion)

Dielectric's Flash Technology site monitoring panels can monitor all FAA approved lighting systems. Eagle software, which communicates with the monitoring panel, can provide alarm information for any lighting type.

Sites who use Flash Technology's FTM monitoring hardware and have Flash Technology's lights installed on their tower receive especially elaborate light monitoring from the ARC. See how many triggers the flash tube has attempted and how many it has missed. If there is an alarm on Flash Technology brand tower lights, the ARC can diagnose what the cause of the problem is by analyzing the voltage, current, and emitted light for the failed lamp. If Dielectric- Flash Technology services that site, they guarantee that they will fix the lighting problem in one trip to the site. For sites not serviced by Dielectric-Flash Technology, the elaborate diagnosis of why the light failed helps the service know which lighting component needs to be serviced before they go to the site, cutting down on repeat trips.

### COMPUTER APPLICATIONS

Since reliability is a top priority at the ARC, they have redundant computer operations in a separate location. The ARC runs diagnostics to check the health of their communications network every fifteen minutes.

The trouble ticketing program used by the ARC is a custom application developed from Remedy Action Request System. Dielectric-Flash Technology employs two Remedy developers who continuously make improvements to the software and personalize the software based on client needs. Remedy Trouble Ticketing tracks how much time elapses from when an alarm is received to when an

ARC technician completes diagnostics on the problem. Incoming alarms are listed in a queue. An ARC technician selects an alarm to respond to as soon as they are available. The ARC has a system to ensure that each call is dealt with promptly. Once a staff member opens an alarm, their name is listed on the file. Each Monitoring Technician on duty is assigned a Monitoring Technician "buddy" during their shift. If a call isn't acted on within a certain time period, the trouble ticketing software sends a reminder to the Monitoring Technician's "buddy" and a supervisor.

VoicePrint digital call logging software is used to record and archive every phone call made to or from the ARC. Calls are saved with the records for the applicable tower site. Calls are recorded not only as a method of quality assurance, but to provide records of NOTAMs filed. VoicePrint ensures follow-through and accountability by recording the time each call was answered and the staff member who took the call.

The ARC uses NEC's CallCenterWorX product with automatic call distribution and management information system modules to design their call-handling process and route calls to designated staff. While routing incoming calls, CallCenterWorX collects data which is converted into useful statistics and reports.

Flash Technology's Eagle Monitoring System interfaces with all lighting systems, including their competitors' products. Eagle allows the user to dial up an individual lamp on a tower to query it. Each site monitored has a graphic which shows the location and status with each light on the tower, along with the FAA circular which is applicable to each of the lamps. If a light fails, an X is placed over it on the tower lighting graphic. The software also lists each FAA circular so the ARC staff can reference the rules if there are any questions. All site alarms are automatically recorded by the Eagle Monitoring System. Eagle keeps records of each instance of the site building's door opening and closing, and other monitored conditions.

Dielectric- Flash Technology creates real time web-enabled portals for clients to securely access and monitor their site status from any Internet connection. After logging in, clients can view tower operation status, alarms, and trouble-tickets. Clients can order equipment, track shipments, schedule maintenance, and track field technicians scheduled to perform repairs through the portal.

The Eagle Monitoring System allows in-depth monitoring and diagnosis of conditions for Flash Technology products installed on a tower. Eagle automatically monitors, diagnoses, anticipates, stores, and communicates high intensity strobe light events. I was impressed that Eagle Monitoring could remotely drill down to measure voltages and currents at various points in the lighting system. From the ARC, a technician could identify not only the specific tower light that is out or impaired, but also which lighting component was the likely cause of failure.

### FEEDBACK

On the day that I visited the ARC, their largest client, American Tower Corporation (ATC), was also visiting. Michael Mitchell, VP of National Operations, expressed abounding satisfaction with the quality of monitoring that ATC has received from the ARC.

### RESPONSE

My trip to Tennessee yielded an answer to the question, "How do you monitor more than 17,000 different transmitter sites across the country from one monitoring facility with a staff of 21 people?" If you happen to be the Alarm Response Center (ARC) of Dielectric's Flash Technology division, the answer is that you monitor more than 17,000 tower sites with exceptional reliability and accountability.

*Acknowledgements: Sally Rich, Dielectric Corporation and Bryan Adams, Dielectric Corporation- Flash Technology.*



## FCC OK'S SEPARATE ANTENNAS FOR IBOC-FM

By Tom Smith

On March 17th, the FCC issued a notice allowing FM stations to use a separate antenna for their IBOC digital transmitters. The FCC placed a number of limitations on the use of a separate antenna. A station must use a licensed auxiliary antenna, the antenna must be at 70 to 100% of the height of the main antenna and it must be located within 3 seconds of longitude or latitude of the main antenna.

The FCC also ruled that interleaved antennas were allowable as long as the digital section of the antenna was licensed as an auxiliary antenna. An FM station could get Special Temporary Authority as long it met FCC criteria and has filed 10 days in advance of the beginning of digital operation.

The STA application would have to list the date the operation is to begin, ensure that the system meets Ibiquity's specifications, and list transmitter output for both analog and digital transmitters.

They would also have to meet RF radiation exposure guidelines, state that the analog radiated power is not changed, that the antenna systems do not create any increase in spurious emissions, and give coordinates, elevations, and station file number for auxiliary antennas.

In a final ruling, the FCC said that dual feed antennas were legal and the dual input was considered another combining method.

From FCC Releases ([www.fcc.gov](http://www.fcc.gov))

## SBE Short Circuits – April 2004

By John L. Poray, CAE  
SBE Executive Director

### NEW CERTIFICATION SOFTWARE

New SBE designed certification sample test software is now available and will also be available at the NAB Convention. The new software is Microsoft Windows-based and will replace the current DOS-based software. There will be a new sample test available for Broadcast Technologist, Audio Engineer, Video Engineer and Broadcast Networking Technologist. It will also be available for Broadcast Engineer and Senior Broadcast Engineer in both radio and television.

Sample tests will include 50 to 100 questions and will indicate when an incorrect answer has been given and indicate resources to learn more about a subject. The cost for each SBE CERTpreview practice test is \$27 plus \$3 shipping.

### SBE CELEBRATES 40TH ANNIVERSARY

SBE is celebrating its 40th

anniversary this year. For those attending the NAB Spring Convention in Las Vegas, you can take part. The SBE Membership Meeting, held on Tuesday, April 20, at 5:00 pm, will celebrate 40 years of the Society's growth and service to the broadcast engineer. A commemorative souvenir will be given to the first 100 members in attendance and a digital camera will be awarded to one lucky winner. Other door prizes will also be given.

The meeting will take place in Room N110 of the Las Vegas Convention Center. Our thanks to Microwave Radio Communications for sponsoring our spring membership meeting. NAB Convention registration is NOT required to attend.

### LEADER-SKILLS SET FOR JUNE AND AUGUST

The SBE Leader Skills Seminars, Courses I and II, are planned for June 2-4 and August 11-13 respectively. These are outstanding opportunities for broadcast engineers to receive training in people and management skills at an affordable price. Both will

be held at the Marten House Hotel and Lilly Conference Center in Indianapolis. Course II participants must have already attended Course I this year or in the past.

We are pleased to have Dick Cupka as our seminar leader, who has led Leader Skills Seminars for broadcast engineers for more than 35 years. More than 1,000 broadcast engineers have taken part in this program since its inception. A registration form is available in the April issue of the SBE Signal. Please register by April 30 to assure a spot.

### MEMBERSHIP DRIVE CONTINUES THROUGH MAY

The annual SBE Membership Drive, "Invite Your Friends to the Party," continues through the month of May. Though new members may join at any time of the year, during the Membership Drive special prizes are available for recruiters. There is even a prize for one of the lucky new members, as well as recognition for chapters that have a high level of involvement in membership recruitment.



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## Technician Class Hams, Ready For An Upgrade?

By Vicki W. Kipp

Are you a Technician Class ham who would like to step up your operating privileges a notch? Are you starting to get "cabin fever" by being limited to transmitting on amateur VHF and UHF frequencies? Would you like to turn your rig frequency down to communicate around the world on any part of the 160, 30, 17, 12, and 10-meter bands, and much of the 80, 40, 20, and 15-meter High Frequency (HF) bands? If so, help is coming.

Members of the UW-Space Place Amateur Radio Center (Station N9UW) are planning a free General Class Workshop for the weekend of May 15 and 16, 2004. UW-Space Place, at 1605 South Park Street in Madison, will host the General Class Workshop. The workshop is intended for amateur radio operators who have already passed their Technician Class ARRL license exam and will help hams prepare for the written portion of the American Radio Relay League (ARRL's) General Class License Exam. The Morse code exam required for the General Class License will not be covered during this workshop. The ARRL General Class License Manual (ISBN: 0-87259-800-4, 4<sup>th</sup> edition, fifth printing, 2003©2000-2003) is required for this workshop. The manual is available from your local book seller, the American Radio Relay League, Inc. (#8004) at [www.arrl.org](http://www.arrl.org), or through AES at [www.aesham.com](http://www.aesham.com).

A 35-question general license exam (cost \$12) will be given at the workshop conclusion on Sunday, May 16. The general license requires the operator to pass a 5 wpm Morse code test. The Morse code test may be taken on a separate occasion, before or after taking the general license written exam.

This workshop is contingent on having at least eight people sign up. To register for the General Class workshop on May 15 and 16, send the following information to Don Michalski (W9IXG) by e-mailing [dem@sal.wisc.edu](mailto:dem@sal.wisc.edu), or by phoning (608) 274-1886:

- Your name
- Address
- E-mail address
- Phone number
- Age (Only needed for youth of high school age or younger)

### March Business Meeting Minutes (continued)

audit report to be submitted to the Chapter Executive Committee and was also unanimously approved.

Under Professional Announcements, Gary Wallace of WWRS-TV announced a job opening for a studio engineer.

Tom Weeden announced that WMTV and WBUW-57 would be jointly replacing the existing tower. The new tower would be 20' south of the existing tower and would be 200' higher. The target date for completion is August of this year.

Andrew Rothschadl announced that a new STS satellite uplink truck would be on display at NAB in the outside Frontline exhibit.

The meeting adjourned at 7:29 PM. The program was a presentation by Clay Moore of Focus Enhancements and their FireStore product.

*Submitted by Jim Magee, Secretary*

### Employment Opportunity

**WWRS TV-52/DT-43**  
National Minority TV, Inc.  
N6707 Madison Road  
Iron Ridge, WI 53035

#### Studio Engineer

**Description:** Must initiate and complete projects in a timely fashion. Attention to detail is imperative. Strong computer skills and electronics background required. Applicant should be a quick thinker, have strong problem solving skills, and react well in live program situations. A "can do" attitude and good interpersonal skills are required. High school graduate or GED certificate. Two or more years of college preferred. Completion of technical or vocational programs related to electronics or computers is a plus.

The ideal candidate will be responsible for on-air quality and automation system; live and recorded programming. Provide setup for playback programming and/or network feeds on Beta, DVCAM and DVR. Must be able to edit on Beta, DVC. Maintain and verify official FCC station air log and official FCC transmitter log. Maintain discrepancy reports. Dub clients spots, coordinate satellite receivers, and provide feed bay playback of B-roll tapes during public affairs programs.

#### Responsibilities & Requirements:

The candidate must have knowledge of practical theories dealing with switching, program flow, show timing and basic editing. Must be familiar with FCC rules and regulations. Basic understanding of RF theory and EFP/ENG production procedures. Experience in a medium to major size market television station. Prefer someone qualified to operate a videotape room using DVC, Digi-Beta, Sony SX and Beta SP formats, NEWTEK, Leightonix TCD/IP Automation. Camera shading experience is required. Successful candidate will receive training in maintenance of all equipment at WWRS's transmitter site to include; Thales water cooled high power UHF transmitter, as well as Burke transmitter remote control. Successful candidate will also have the opportunity to assist with the build-out and maintenance of a "new" broadcast production facility.

#### How To Apply:

Send your resume to WWRS TV52  
Attn: Dinah Calhoun  
P. O. Box 267  
Iron Ridge, WI 53035

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**Mark Bartolotta**  
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**DIGITAL SOLUTIONS**  
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**LOCAL LEGALS**

*Compiled by Tom Smith*

**PROPOSED**

**WMTV (TV/DT), Madison, WI,  
Analog Channel 15, Digital  
Channel 19**

Gray Television Licensee, Inc. has filed an application for a minor change for both WMTV-TV and -DT. Gray is asking permission to move to a new tower located 20 feet from the present tower. The new tower will be 395.9 meters in height with the Channel 15 antenna at 415 meters above average terrain, and the digital antenna for channel 19 at 386.8 meters above average terrain. Channel 15 will operate with a Harris TWSC-23 antenna at 891 kW and channel 19 will operate at with 56 kW. Gray will share this tower with Acme Broadcasting, which owns Channel 57 and DT station channel 32. Notice of the FCC accepting these applications was made on March 9, 2004.

**FM Translators**

There were a number of FM translator applications filed recently in the Southern Wisconsin Area. They are as follows with applicant, frequency, city and date announced as accepted for filing:

- Gateway Technical College, 101.7 MHz, Elkhorn, WI and 103.3 MHz, Lake Geneva, WI. Announced on February 10, 2004.
- EdgeWater Broadcasting Inc., 100.3 MHz, Beloit, WI. Announced February 19, 2004; 99.3MHz, Richland Center, WI Announced March 4, 2004.
- Sister Grace Inc., 96.9 MHz,

Watertown, WI; 100.9 MHz, Mayville, WI; 104.3 MHz, Waupun, WI; 107.9 MHz Plymouth, WI. Announced on March 26, 2004.

- Evangel Ministries, Inc., 101.7 MHz, Ripon WI. Announced on March 26, 2004.

Application for transfer of the license for translator station K221DH, operating on 92.1 MHz in Ripon, from the Ripon Baptist Church to VCY America, Inc. was announced on March 9, 2004.

**WAUK-AM 1510 kHz,  
Waukesha, WI**

Walt-West Wisconsin, Inc. wishes to transfer the license of WAUK to Good Karma Broadcasting, LLC. Good Karma Broadcasting owns WBEV (AM) and WXRO (FM), Beaver Dam, WTLX (FM), Columbus, and WJKT (FM), Evansville. Announced on March 2, 2004.

**GRANTED**

**WBUW-DT Channel 32,  
Janesville, WI**

The FCC granted the application of Acme Television Licenses of Madison, LLC to modify the construction permit for WBUW-DT to move to the joint WBUW and WMTV Tower. Announced on March 5, 2004.

**WMTV-DT Channel 19,  
Madison, WI**

The FCC granted a construction permit to Gray Television Licensee, Inc. to modified WMTV-DT. WMTV-DT will be allowed to move to the new joint WBUW and WMTV Tower. Announced on March 30, 2004.

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

**CHAPTER 24  
SUSTAINING  
MEMBERS**

**RECENT RENEWAL:  
Swiderski Electronics**

**THANKS TO ALL OUR  
SUSTAINING MEMBERS:**

- Alpha Video
- Belden Wire and Cable Broadcast Richardson CTI
- Clark Wire and Cable Fujinon Inc.
- Graybar
- Harris Corporation
- Heartland Video Systems
- maney-logic
- Norlight Telecommunications
- Roscor Wisconsin
- Ross Video
- Scharch Electronics
- Sony Broadcast
- Sound Devices, LLC
- Token Creek Productions
- WISC-TV 3
- WKOW-TV 27
- WMSN-TV 47
- WMTV-TV 15
- Wave Communications
- Wisconsin Public TV

**Tom Sibenaller**  
Sales Representative

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**ROSCOR WISCONSIN**  
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**SONY** Sean O'Reilly  
Broadcast Account Manager

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**Madison WI 53706 Fax 608.263.9763**

**www.wpt.org**

Thanks to WISC-TV for maintaining the web server for the Chapter 24 Web page!

Thanks to WKOW-TV for providing copying and folding facilities for the Chapter 24 newsletter!



**SBE  
NATIONAL**



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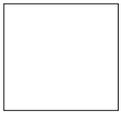


**Alan Tanielian**  
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**SBE Chapter 24 Newsletter**  
2029 Greenway Cross #11  
Madison, WI 53713-3000



**FIRST CLASS MAIL**

Newsletter edited on Pagemaker 7.0 by: Mike Norton  
Contributors this month: Vicki W. Kipp, Jim Magee, Steve Paugh, Tom Smith, and Tom Weeden.  
Thanks to Leonard Charles for his work on the Chapter 24 WWW page.

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# APRIL MEETING and PROGRAM



## Society of Broadcast Engineers CHAPTER 24 MADISON, WISCONSIN Thursday, April 15, 2004

### 911 CENTER TOUR & ELECTIONS

Join us for a tour of the Dane County 911 center given by operations manager, Rich McVicar. An item of special interest is the new Amber Alert system and the new E-911 system with GPS tracking. We will also be collecting ballots for the election of officers. Bring your prepared ballot. We will have extra ballots available. Due to the limited space in the 911 center, the meeting will be shorter than usual.

Dutch Treat Dinner at 5:30 PM  
The Great Dane Pub & Brewing Company  
123 East Doty  
(Corner of King St. & Doty St.)  
Madison, WI

(From John Nolan Drive, turn left on to S. Broom Street. Turn right onto W. Wilson Street. Take a slight left onto S. Hamilton. Turn right onto W. Doty Street. You can park in the Lot 88 Metered Ramp at 10 East Doty Street. There is an entrance to this ramp off of Doty Street.)

Meeting and Program at 7:00PM  
Dane County 911 Center  
210 Martin Luther King Jr. Blvd.  
Madison, WI

(The 911 Center is in the Dane County Courthouse at 210 Martin Luther King Jr. Blvd. which is southwest of the parking structure. The 911 Center is in room #109 which is just down the hall from the main entrance. We will meet outside room #109 in the hallway at 7 PM.)

**Visitors and guests are welcome at all of our SBE meetings!**

#### 2004 UPCOMING MEETING/PROGRAM DATES:

<u>Day</u>	<u>Date</u>	<u>Program</u>
Tuesday	May 18, 2004	In Game Services
Tuesday	June 15, 2004	Summer Picnic
Thursday	July 29, 2004	Taste of NAB

Program Committee:

Steve Paugh  
277-5139

Fred Sperry  
264-9806

Steve Zimmerman  
274-1234

# CANDIDATE BIOGRAPHIES

## **Vicki W. Kipp - Candidate for Chairperson**

My broadcasting career began at community access stations WOW-Oregon and WYOU-Madison. At the UW-Platteville, I was an on-air jock and Tech Ops staff member for WSUP 90.5 FM, and the technical director for the 1996 Wisconsin Badger Camp TV Telethon. I graduated from UWP with a degree in Broadcast Technology Management: Engineering/Operations. As an Electronic Technician: Media-Senior at the Educational Communications Board (ECB), I perform technical operations in the Wisconsin Public Broadcasting network head end, the Telecommunications Operations Center (TOC).

Having joined the SBE in 1994, I hold the SBE certifications of CSTE and CBNT, and have been awarded 'Best Technical Article or Program by a Student Member' and 'Best Technical Article, Book, or Program by an SBE Member'. I've served as the Chapter 24 Special Events Coordinator, Secretary, Vice-Chairperson, and as the current Chairperson. Attending Chapter 24 meetings helps me to stay informed about our industry.

## **Thomas C. Smith - Candidate for Vice Chair**

I am running for Vice-Chairman of Chapter 24. I previously held the positions of Vice-Chairman and Chairman and am completing a year as serving as Vice-Chairman. I have also been the Chapter 24 Frequency Coordinator since 1992. I have been a member of SBE since 1970 and am a Certified Professional Broadcast Engineer. I started as a broadcast Engineer in 1969 and have worked in TV and radio stations in Fond Du Lac, Wausau and Madison, WI. I have also done contract technical services for video and audio facilities. I have been on the engineering staff of WHA-TV for the last 28 years where I am a maintenance technician and also do videotape editing. I have attended numerous schools and conferences and have been involved with the Broadcasters Clinic doing audio and video for over ten years. I am also on the program committee.

I am married and have two daughters, one who is married and is a physical therapist and the other who is a high school junior. My wife is a bank teller for the Bank of Sun Prairie and has spent nearly 31 years putting up with the weekends and nights that this industry requires.

I would like to remain involved in the leadership of Chapter 24 as I believe this is one of the best Chapters in the country and I would like to help it remain so.

## **Jim Magee - Candidate for Secretary**

I have 23 years experience in media or media related industries. I am currently the Madison Program Manager for Avid Broadcast where I coordinate development, customer support, marketing, sales, and documentation. I have served as Chief Engineer at WRNN-TV (Kingston, NY), CLTV (Tribune's regional cable news channel in Chicago), Empire Studios (Burbank, CA)/Shop Television Network as well as Asst. Chief Engineer for KMIR-TV (NBC/Palm Springs, CA). On the production side, I have worked in a wide variety of positions, including directing for KMIR-TV and KSCI-TV (Los Angeles, CA). I have also worked for a systems integrator serving as Site & Project Engineer. I have been member of Chapter 24 since 2001 and have served as Chapter Secretary for the past 2 years.

## **Leslie Franzen - Candidate for Treasurer**

My name is Leslie Franzen and I would like to be treasurer of the Chapter 24 Society of Broadcast Engineers. I have been a member since April of 2000. I got a B.S. in Broadcast Technology Management at the University of Wisconsin-Platteville in May of 1998 and currently work at WMTV as an Operations Technician (Master Control Operator).

I think as treasurer I have the ability to maintain the detailed financial records as been done by the many other treasurers before me. As a Master Control Operator, my job entails me to keep accurate records of what airs on our channel and of transmitter readings needed for our engineers.

In my spare time I enjoy reading, going to the theater, and cooking. I believe I will do a great job as your next treasurer if elected.

## 2004 SBE Chapter 24 Election Ballot

You must be a current member of SBE Chapter 24 to be eligible to vote.

Please include your SBE member number: \_\_\_\_\_  
Voter names will not be identified.

VOTE FOR ONE FOR EACH OFFICE. MARK AN "X" NEXT TO YOUR SELECTION.

### CHAIRPERSON

\_\_\_\_\_ Vicki W. Kipp

\_\_\_\_\_ \_\_\_\_\_  
(write-in candidate)

### VICE CHAIR

\_\_\_\_\_ Thomas C. Smith

\_\_\_\_\_ \_\_\_\_\_  
(write-in candidate)

### SECRETARY

\_\_\_\_\_ Jim Magee

\_\_\_\_\_ \_\_\_\_\_  
(write-in candidate)

### TREASURER

\_\_\_\_\_ Leslie Franzen

\_\_\_\_\_ \_\_\_\_\_  
(write-in candidate)

Elections will take place during the April chapter meeting. If you cannot attend that meeting, you may send your completed ballot to the address below. Please vote only once.

Steve Paugh  
c/o WISC-TV Engineering  
7025 Raymond Rd.  
Madison, WI 53719

All ballots must be received by 5:00 p.m. Monday, April 26, 2004.