



the SIGNAL

BIMONTHLY PUBLICATION OF THE SOCIETY OF BROADCAST ENGINEERS

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2012**

Volume 25, Number 1

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Have you visited us on the web yet?

www.sbe.org

Society presents Ennes Workshop at 2012 NAB Show in Las Vegas

by **Fred Baumgartner, CPBE, CBNT**

Every year the SBE coordinates the joint program for Ennes, SBE, NAB and PBS with only one mandate, and that is to bring broadcast engineers what they most need to know this year. In all truthfulness, this year is one of the most interesting programs because these are interesting times, and interesting times are times of opportunity. On the other hand, there is not much refresher information in the 2012 program.

For the last 17 years, the Society of Broadcast Engineers has planned the daylong educational session for the NAB Show, along with the Public Broadcasting System educational program,



Stewart Reynolds, Ron Eligator, Arthur Metzler and Neil Tucker, present at the Ennes Workshop Saturday, April 11, 2011, in Las Vegas. The group discussed Infrastructure 101 during the Broadcast Engineering Conference at the NAB Show.

See **ENNES** on page **12**

New SBE University, ENG Truck Operations course

The Society of Broadcast Engineers is pleased to announce the newest course on SBE University – ENG Truck Operations. This course, written by SBE member, Mike Seaver, CBT, and edited by Ed Williams, CSTE, is designed for non-technical personnel who work under the supervision of broadcast engineers. The course covers the

basics necessary to produce a safe, quality field-produced shot from both a microwave based vehicle as well as one utilizing a satellite uplink.

Course students will gain an understanding of the various systems involved in mobile electronic newsgathering. ENG Truck Operations addresses the basics of each system, how to apply them,

See **COURSE** on page **9**

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David Kolesar, Senior Broadcast Engineer
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DIRECTORS

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Charles "Ched" Keiler, CPBE, 8VSB, CBNT
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NATIONAL STAFF

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**Megan E. Clappe, Certification Director
mclappe@sbe.org**

**Debbie Hennessey, Executive Assistant
dhennessey@sbe.org**

**Scott Jones, Database Manager
kjones@sbe.org**

**Kimberly Kissel, Education Director
kkissel@sbe.org**

**Hannah Trowbridge, Communications Manager
htrowbridge@sbe.org**

**Carol S. Waite, Certification Assistant
cwaite@sbe.org**

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Help future broadcast engineers connect with SBE

The SBE Membership Drive begins March 1. To keep in mind the SBE 2012 theme, Connecting Our Future, the society encourages members to connect with fellow broadcast engineers and invite non-members to join the society and support the profession.

The SBE is the only organization devoted to the advancement of all levels and types of broadcast engineering. The benefits of being a part of the SBE are well known by members. However, colleagues of members are often not familiar with the SBE and the benefits of membership. Individuals can join the SBE at anytime during the year but March 1 thru May 31 the SBE requests that members be extra vigilant in recruiting.

Society members who recruit a new member during the membership drive and are listed as the sponsor on the application are entered into a drawing for prizes donated by Sustaining Members.

The grand prize winner will be granted a trip to the SBE National Meeting held in conjunction with the Rocky Mountain Audio

Video Expo and SBE Chapter 48 Broadcast Engineers Boot Camp in Denver, Colorado, October 23-24. The prize package includes round trip airfare for one from within the continental US to the meeting; all SBE National Meeting and events; and two nights at the Crowne Plaza Denver International Airport. Additional prizes include:

- American Express \$50 gift card, courtesy of Henry Engineering
- Ebtch Swizzarmy cable tester, courtesy of Broadcast Supply Worldwide (BSW)
- Ten Report-it licenses, courtesy of Tieline
- Leatherman New Wave Multi-Tool with Nylon Sheath, courtesy of Broadcast Microwave Services (BMS).

Members are entered into the drawing each time they sponsor a new member and receive five entries for sponsoring a Sustaining Member. Sponsors will receive \$5 off 2013 membership dues, for each new member they recruit, up to \$25.

Members are the future of the society. Sponsor a new member and connect our future!

SBE membership renewal forms due April 1

Members of the SBE must renew their membership to ensure affiliation in the only professional organization dedicated solely to the advancement of the broadcast engineer and the field of broadcast engineering. Most members of the SBE will receive an annual membership renewal form in the mail during the first week of February. Members in the Member, Senior, Student, Associate and

Fellow membership categories will receive the renewal form. Renewals are due April 1, 2012.

Renew online at <http://www.sbe.org>, or complete the paper form and mail or fax the form with payment information to the SBE National Office. The online system is a quick and secure renewal

See **RENEW** on page 11



What's your
Certification Quotient?
Answer on Page 11

Known and partially correctable data errors are best addressed by:

- Utilization of 32 bit checksum result to identify bad bits
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- The Reed/Solomon method
- Application of the Hillstrom Transform to re-encode data from noisy links

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Members successfully raise the bar in 2011



rhogan@kizz.org

A reflection of society accomplishments in the past year

by **Ralph Hogan, CPBE, DRB, CBNT**
SBE President

The theme for the SBE last year was "Raising the Bar" which is the outcome of one of our past strategic planning goals. We used the theme for the whole of 2011. The SBE events and promotions were built around the theme. As you may have seen in the "Society of Broadcast Engineers Monthly Newsletter on Career Advancement", the theme highlights how the SBE can help advance your career through certification and training.

Certification

The certification program had a successful year. There were 356 new certifications with Certified Television Operator leading the way with 116 successful applicants and Certified Broadcast Technologist followed with 73. Recertifications totaled 317 with 85 Certified Broadcast Networking Technologist renewals and 68 Certified Broadcast Technologists. The SBE awarded 45 Life Certifications including 23 Certified Professional Broadcast Engineer and nine Certified Broadcast Networking Technologist certifications. The SBE awarded a total of 718 certifications.

Education

The SBE education program had a positive impact on our members. The total number of registrations for the education program in 2011 was 904.

The SBE Leadership Development Course tied with the 2010 course for highest attended Leadership Development Course since we began the program with 25 attendees. The SBE's commitment to training engineers on the aspects of leadership continues. Moreover, in this field, it is important to be able to work with a team, be able to delegate, provide leadership, and justify large expenditures and strategize with upper management. This course helps with these challenges. In addition, the course is geared toward engineers. A differentiator of this course compared to similar courses is that engineers have more of an opportunity to discuss issues unique to them in the company of other broadcast engineers.

Locations for Ennes Workshops presented by SBE in 2011 included Sacramento, Calif., South Florida, Las Vegas, Hartford, Conn., Pittsburgh, Pa., and New York City. Offering a daylong, affordable workshop regionally continues to be a cornerstone of the SBE education program.

The SBE introduced the SBE Technical Presenters Group in 2011, which consists of qualified industry professionals who present relevant broadcast engineering topics. This program allows local chapters, state broadcast associations, and other groups to offer presentations by industry experts.

Three new SBE University courses were released in 2011, including Broadcast Audio Processing; TV Video and Audio – a Ready Reference for Engineers; and The New Lifecycle of Media - IP and File Based Architecture and Workflows. We will continue to build upon this online library of resources, which is available anytime at the convenience of the busy broadcast engineer.

Webinars by SBE continues to be a convenient resource for the busy engineer. Topics in 2011 included Disaster Recovery, Routing and Switching, and Networking Technology.

See **PRESIDENT** on page **9**

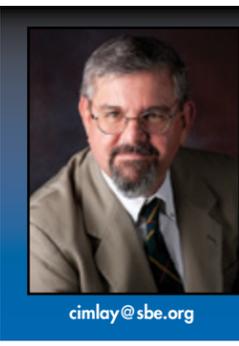
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Birds and broadcast towers; just the facts



cimlay@sbe.org

by **Chris Imlay, CBT**
SBE General Counsel

The last time I wrote about avian mortality due to communications towers, I got a lot of heat from readers about editorializing (on the tower owner side of the fence). The critics were right. This is a serious subject, about which FCC has finally acted after a long delay. Broadcast engineers need to know the details of new restrictions on antenna towers. Here are the facts.

On November 3, 2006, the FCC adopted a "Notice of Proposed Rule Making" seeking comments on whether the FCC should take measures to reduce the number of migratory bird collisions with communications towers. This matter was assigned FCC Docket No. WT 08-61. Two years later, partially as a result of the FCC's inaction in that docket, the United States Court of Appeals for the D.C. Circuit ruled in *American Bird Conservancy v. FCC* that the FCC's current procedures did not allow for adequate public comment on proposed new tower structures that require review under the National Environmental Policy Act (NEPA). On December 9, 2011 the FCC issued a 58-page "Order on Remand" which adopted new procedures to ensure that the environmental effects of proposed new tower structures, and certain changes to existing tower structures, are carefully evaluated with regard to migratory bird collisions and other environmental issues of a local and national concern.

As the result, there is now an environmental notification process that an applicant for the registration of an antenna structure must undertake before filing a completed Antenna Structure Registration (ASR) application on FCC Form 854. Below is a summary of the new requirements:

Applicants will commence the process by submitting information on FCC Form 854, including the location, height, type, and lighting of the proposed structure. This is a pre-application submission that does not constitute a completed application. The applicant may commence the environmental notification process on Form 854 either before or after it receives an FAA No Hazard Determination. If the applicant commences the process before the No Hazard Determination is received, the applicant must provide the anticipated lighting and must later

amend its submission if the FAA-approved lighting is different. The environmental notification process may be conducted simultaneously with other processes, including environmental reviews that may require consultation with other federal agencies and local zoning procedures.

The FCC will assign the proposed construction a unique file number when the partially completed Form 854 is submitted. Following the initial Form 854 submission, the applicant must provide local notice either by publication in a local newspaper of general circulation or by other appropriate means, such as by following local zoning public notice requirements. The text of the local notice must include:

- The descriptive information submitted in Form 854 as part of the environmental notification process

- Instructions for filing any request for further environmental review no later than 30 days after information on the proposed tower is posted on the FCC's website, including the relevant electronic and regular mail addresses and the unique Form 854 file number issued by the FCC

- Instructions for serving a copy of any request upon the applicant.

Applicants may provide local notice under both this process and the Commission's procedures implementing section 106 of the National Historic Preservation Act (NHPA) through a single publication, provided that:

- The single notice satisfies the timing requirements of both provisions, and it clearly describes and distinguishes both the requirement to file environmental requests with the Commission and the separate process for submitting comments regarding potentially affected historic properties to the applicant; and

- The applicant forwards any comment that substantially relates to potentially affected historic properties to the State Historic Preservation Officer or Tribal Historic Preservation Officer, in accordance with the terms of the Nationwide Programmatic Agreement.

The applicant must state in its initial FCC Form 854 submission the date on which it requests that the FCC provide national notice of the proposed construction. This date must be on or after the date the applicant provides local notice. On or after the national notice date the applicant has requested, the Commission will post the information contained in the applicant's initial Form 854 submission, or a link to such information, in searchable form on its website.

This information will remain posted for 30 days. If local notice is not provided before the requested national notice date, the applicant must amend its Form 854 submission to provide a new national notice date.

Broadcast Facilities

Applicants that submit both an ASR application and a service-specific application for a particular tower must complete the environmental notification process on Form 854 and submit any required Environmental Assessment (EA) through that process. Depending on the service, the applicant may also be required to file a copy of the EA with its service-specific application. An applicant to build a facility in any broadcast service that also requires the completion of FCC Form 854 will now be required to complete the Form 854 environmental notification process and, when necessary, attach an EA to both its Form 854 environmental notification submission and its application for a broadcast construction permit, FCC Form 301, 318, 340, 346, or 349.

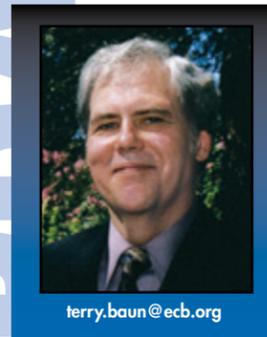
The same EA must be submitted with both the broadcast construction permit application and the Form 854 environmental notification submission. Applicants whose proposals do not require registration but do require an EA under Section 1.1307 (such as construction in a flood plain that does not require ASR) should file the EA only with the construction permit application form. The Media Bureau may continue to accept applications requiring ASR that are submitted prior to obtaining an ASR registration number, with the caveat that such applications will not be granted until the environmental notification process has been completed and the ASR registration number supplied.

Applicants whose applications can be filed outside specified filing windows, such as applications for minor changes to existing authorizations, and whose tower projects require registration, may elect to file their construction permit applications either before or after completing the Form 854 environmental notification process. Applicants that file the construction permit application after completing the environmental notification process and obtaining a grant of Antenna Structure Registration shall either answer "Yes," or "No" with an attached EA, in response to the environmental certification question on the construction permit application.

Applicants that file their construction permit applications before completion of the environmental notification process are advised

See **BIRDS** on page **8**

National SBE Certification Committee continues CBNE exam construction



by **Terry Baun, CPBE, AMD, CBNT,**
SBE Certification Committee Member

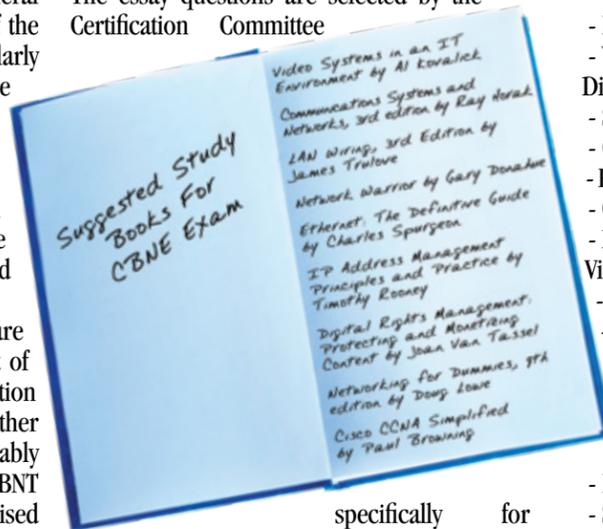
You might think that creating a new level of SBE Certification based on practices already extant in the industry might be a relatively simple task, but let me assure you that is not the case.

Although drawing on the general configuration of the CBNT, the creation of the “advanced level” CBNE has been particularly challenging due to the swift rate of change in the IT industry and in the field of video and audio playout and storage. With every minute, the distinction between media engineering and IT grows smaller, yet each still retains areas of knowledge that must be integrated with the other as we move forward with this technology.

Steady progress is being made. As you are reading this SBE hopes to have a final set of beta tests completed and fine-tune the question database and eliminate questions that are either too difficult or not difficult enough. Inevitably there will be some crossover between CBNT subject matter (particularly in the revised question set currently in use) and the new CBNE questions. But what we hope to accomplish is to create a meaningful examination reflecting the knowledge and skills that are and will be required when working in today’s converged world of broadcasting, media, and IT deployment. Remember, too that the multiple choice portion of the examination is “open book,” with the use of standard reference texts, tables, and calculators allowed. Previously prepared notes, old exams, or other such study

materials are not permitted.

Because the CBNE is an advanced level certification, as opposed to the CBNT technologist level, we are incorporating an essay question in the mix to allow candidates for CBNE a more free-form opportunity to demonstrate their knowledge of the subject matter. As with all advanced level Certification exams, three essays will be provided and the candidate will be able to choose the one they wish to answer. The essay questions are selected by the Certification Committee



specifically for each applicant, based upon that applicant’s knowledge and experience as reflected in their certification application. Remember that all essay questions are strictly closed book, and no books, notes, or study materials of any kind are allowed to be used during that portion of the examination.

A CertPreview for this examination will be available prior to administration of the first CBNE exam, which we hope can take place by the third quarter of 2012.

Society adds Best Social Media Site to annual SBE National Awards

A new award has been added to the list of honors presented by the society. The award for Best Social Media Site will recognize the chapter that best uses social media to update broadcast engineers on SBE chapter information and information pertinent to the engineering world.

In recent years, the up-to-the-minute, social media sites, such as, Facebook, Twitter and LinkedIn have become useful communication tools for chapters and members.

This award allows members to recognize

those who make a difference by keeping members connected to the SBE and the field of broadcast engineering. Nominations for this and other awards must be received by June 15.

For more information on all the awards and nomination forms, visit the Awards page, under Membership, on the SBE website. For questions, contact the SBE Awards Chairman Ralph Beaver, at SBEAwards@broadcastoperations.net or the SBE Certification Director Megan Clappe, at mclappe@sbe.org.

To give you some idea of the scope and content of the examination, listed below are the general areas of emphasis on the CBNE examination.

- Audio/Video over IP for Broadcast
 - Routing approaches
 - IP address management
 - UDP and TCP
 - Unicast/Multicast
 - Utilizing VPNs
 - QOS and Packet Loss and Jitter
 - IPv6
 - Wireless transmission performance issues
- Digital Content Management
 - SMPTE/EBU Metadata framework
 - Generating Metadata wrappers
 - Process of MAM (Media asset management)
 - Content management
 - Digital Rights management
- Video Systems in an IT World
 - Networked Media
 - Basics of File-Based Workflows
 - Storage and playout systems as optimized for video
 - Large scale backup strategies
 - Database connectivity (ODBC)
 - High-Availability Design and Architecture
 - SDI
- Data Transmission Systems and Practices
 - OSI layers
 - IP Address Assignment
 - DS and OC System data rates and service options
- General PC Hardware, interconnection, and backup
 - Hard Drive Types and Applications
 - MAC Addresses and NICs
 - Categories of interconnection wiring
 - UTP and STP, Fiber Optic systems
 - System Fault Tolerance, RAID, SAN, NAS
 - UPS Systems.

SBE Certification Exam Schedule

Dates	Location	Application Deadline
April 17	NAB Show	March 23
June 1-11	Local Chapters	April 13
Aug. 3-13	Local Chapters	June 1
Nov. 2-12	Local Chapters	Sept. 14

CONGRATULATIONS

New SBE Certification Achievements

LIFE CERTIFICATION

Certified Professional Broadcast Engineers® and Certified Senior Broadcast Engineers® who have maintained SBE certification continuously for 20 years and are current members of SBE may be granted Life Certification if so requested. All certified who have retired from regular full-time employment may be granted Life Certification if they so request. If the request is approved, the person will continue in his/her current level of certification for life.

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®)

Robert Richardson, Campobello, S.C. – Chapter 86
David Rose, Montague, Calif. – Chapter 141

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)

Ricardo Vilardell, El Paso, Texas – Chapter 38

NEWLY CERTIFIED CPBE®

Applicant must have had 20 years of professional broadcast engineering or related technologies experience in radio and/or television. The candidate must be currently certified on the Certified Senior Broadcast Engineer® level.

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®)

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Frank McLemore, Smiths Station, Ala. – Chapter 118

NOVEMBER EXAMS

“Thank You” chapter certification chairs for your assistance.

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Darrell McCalla, Mountain Brook, Ala. – Chapter 68

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Darrell McCalla, Mountain Brook, Ala. – Chapter 68

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John Justin Tucker, Charleston, S.C. – Chapter 107

8-VSB SPECIALIST™ (8-VSB™)

Mansur Abdulhussain, Houston, Texas – Chapter 105

DIGITAL RADIO BROADCAST SPECIALIST™ (DRB™)

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Christopher Cullen, Las Vegas, Nev. – Chapter 128
Thomas Hackett, Burke, Va. – Chapter 37
Nikhilesh Kumar, Lorton, Va. – Chapter 37
Darrell McCalla, Mountain Brook, Ala. – Chapter 68
Jehan Maheswaran, Watertown, Mass. – Chapter 11
Mark Pace, Carrollton, Ill. – Chapter 55
Nicholas Simcic, Pittsburgh, Pa. – Chapter 20
Michael Snyder, Albuquerque, N.M. – Chapter 34
Derek Strelow, Toledo, Ohio – Chapter 104
Robert Stroupe, Missouri City, Texas – Chapter 105
Kirstie Williams, Boise, Idaho – Chapter 115
Peter Zackowski, IV, Orange, Conn. – Chapter 14

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David Festa, Bristol, Conn. – Chapter 14

CERTIFIED RADIO OPERATOR® (CRO®)

Jimin Kwon, Las Vegas, Nev. – Chapter 128

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Gail Fetzer, Santa Monica, Calif. – Chapter 47
Ralph Jones, Yucaipa, Calif. – Chapter 131
Jimin Kwon, Las Vegas, Nev. – Chapter 128
Seth Morth, Marietta, Pa. – Chapter 41
Raiford Wallace, Charlotte, N. C. – Chapter 45
Andrew Williams, Lansing, Mich. – Chapter 91

SPECIAL PROCTORED EXAMS

CERTIFIED VIDEO ENGINEER® (CEV®)

Ascencion Marquez, Bethesda, Md. – Chapter 37

SBE CERTIFIED SCHOOL COURSE COMPLETION

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LOYALIST COLLEGE
Ronald Brown, Cambridge, Ontario Canada
Brett Hancock, Holland Landing, Ontario Canada

DEFENSE INFORMATION SCHOOL

Daniel Orbe, Fort Bragg, N.C.

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PARMA CITY SCHOOLS

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Zachary Harley, Parma, Ohio
William Kelley, Parma, Ohio
James Lessick, Parma, Ohio
Miguel Manalo, Parma Heights, Ohio
Angelica Pastrana, Parma, Ohio
Daniel Vranic, Parma, Ohio
Matthew Westfall, Parma Heights, Ohio
David Winfield, Parma, Ohio

CERTIFIED TELEVISION OPERATOR® (CTO®)

CERTIFIED TELEVISION OPERATOR® (CTO®)
Jerry Burks, Raleigh, N.C.
Sarah Hill, Folsom, Calif.
Dean Olsen, Redwood City, Calif.
Dennis Renn, Boulder, Colo.
William Teller, Cartersville, Ill.
Daryl Van Leuven, Los Angeles, Calif.
Ricky Whitener, Knoxville, Tenn.
Nathan Winston, Albuquerque, N. M.

DIRECTV

Daniel Burgos, Los Angeles, Calif.
Frederic Carneiro, Los Angeles, Calif.
David Chung, Los Angeles, Calif.
Carl Fritz, Los Angeles, Calif.
Steve Garelick, Los Angeles, Calif.
Roberto Guardiola, Los Angeles, Calif.
Andrew Hua, Los Angeles, Calif.
Adam Libby, Los Angeles, Calif.
Mauricio Madjouranis, Los Angeles, Calif.
Ariel Suarez, Los Angeles, Calif.
William Waters, Los Angeles, Calif.

RECERTIFICATION

The following applicants completed the recertification process either by re-examination, point verification through the local chapters and national Certification Committee approval and/or met the service requirement.

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®)

Drew Stewart, Morton, Pa. – Chapter 18
Barry Thomas, Dunwoody, Ga. – Chapter 5

CERTIFIED PROFESSIONAL BROADCAST ENGINEER™ (CPBE®) 8-VSB SPECIALIST™ (8-VSB™)

Marc Fehlig, Snellville, Ga. – Chapter 5

CERTIFIED SENIOR TELEVISION ENGINEER™ (CSTE®)

Joseph Conlon, Inver Grove Heights, Minn. – Chapter 17
Edward Weibe, Pasadena, Md. – Chapter 46
James Wilson, Sellersburg, Ind. – Chapter 35

CERTIFIED SENIOR TELEVISION ENGINEER™ (CSTE®) 8-VSB SPECIALIST™

Dennis Vigil, Albuquerque, N. M. – Chapter 34

CERTIFIED BROADCAST RADIO ENGINEER™ (CBRE®)

Richard Archut, Monroeville, N.J. – Chapter 18
Vincent Fuhs, Sioux Falls, S.D.

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)

David Baker, Carol Stream, Ill. – Chapter 26
Thomas McNicholl, Whitesboro, N.Y. – Chapter 22
David Miscia, Framingham, Mass. – Chapter 11
Charles Zarrillo, Jr., Voorheesville, N.Y. – Chapter 58

CERTIFIED AUDIO ENGINEER® (CEA®)

Errol Mckinson, Laurel, Md. – Chapter 132

CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Marc Fehlig, Snellville, Ga. – Chapter 5
Marc Fenton, Moreno Valley, Calif. – Chapter 131
Peter Femal, Chicago, Ill. – Chapter 26
John Francioni, Chapel Hill, N.C. – Chapter 93
Vincent Fuhs, Sioux Falls, S.D.
Michael Gurthie, Mint Hill, N.C. – Chapter 107
Andrew Gunn, Washington, D.C. – Chapter 37
Steven Hess, Valrico, Fla. – Chapter 39
Laura Mir, Silver Spring, Md. – Chapter 37
Gerard Paolessa, San Antonio, Texas – Chapter 69
Drew Stewart, Morton, Pa. – Chapter 18
Barry Thomas, Dunwoody, Ga. – Chapter 5
Dennis Vigil, Albuquerque, N. M. – Chapter 34

CERTIFIED BROADCAST TECHNOLOGIST® (CBT®)

Thomas Alessi, Darien, Conn. – Chapter 14
Amanda Alexander, Aurora, Colo. – Chapter 48
James Caldwell, Grove City, Ohio – Chapter 52
Wayne Cook, Duncanville, Texas – Chapter 67
Terry Douds, Lancaster, Ohio – Chapter 52
Frank Felker, Glassboro, N.J. – Chapter 18
Kevin Foley, Harriman, Tenn. – Chapter 113
Vincent Fuhs, Sioux Falls, S.D.

Anthony Leyba, Monterey Park, Calif. – Chapter 131

Robert Lyon, Draper, Utah – Chapter 62
Richard Malinowski, Mt. Prospect, Ill. – Chapter 26
Randall Moore, Tallahassee, Fla. – Chapter 7
Mark Riegel, Reading, Pa. – Chapter 120
Scott Rivers, Boone, Iowa – Chapter 109
Sean Suttell, APO, AE – Chapter 16

CERTIFIED TELEVISION OPERATOR® (CTO®)

Ronnie Barnes, APO, AE – Chapter 132
Jeffrey Evans, Jacksonville, Fla.
Rudy Gonzalez, Missouri City, Texas
Glen Samletzka, Arlington, Minn.
Wanda Wood, Castalian Springs, Texas – Chapter 103

CERTIFIED RADIO OPERATOR® (CRO®)

Christopher Bailey, Moscow, Idaho – Chapter 117
Ronnie Barnes, APO, AE – Chapter 132

National SBE Board of Directors seeks candidates

by **Raymond Benedict, CPBE**
SBE Nominations Committee Chairman

Raymond Benedict is a member of the national SBE Board of Directors and a past national president of the SBE. Benedict is director of spectrum engineering at CBS in Washington, D.C.

The Society of Broadcast Engineers is about to begin its 48th year of operation, made possible because of volunteer efforts of members like you at the local and national level. The national board of directors consists of 17 members who volunteer their time to lead the society. The SBE Nominations Committee is currently seeking candidates for the 2012 election.

Capable members from all corners of the field of broadcast engineering are needed to serve. To be eligible for national office, candidates must be Member, Senior Fellow, or Life members of the SBE, or be the designated representative of an SBE Sustaining Member, in good standing. All candidates must also hold and maintain an SBE engineering-level certification through all terms of office. All of the directors serve in an at-large capacity and represent the membership as a whole.

Directors serve two year terms and are expected to attend two full meetings of the board each year. These meetings are held in the spring during the NAB Show, and in the fall during the

SBE National Meeting. Terms of officers are one year in length. Officers are expected to attend the two full meetings of the board plus two meetings of the executive committee, which are held in January and June. All those who serve must be willing to cover their own travel expenses to attend meetings. In the past, some employers and chapters have helped cover travel expenses for individual members of the board.

Members of the board may be appointed by the president to serve as a chairman or as a member of a national committee and should be willing to serve in such a capacity if elected to the board.

The Nominations Committees will submit its list of candidates to the SBE national office by April 30. Interested candidate must contact me before that date.

Online voting will begin July 26. Ballots will be mailed on July 26 to members who choose to vote by mail. All ballots must be cast online, or received in the mail at the SBE national office, no later than 4:30 p.m., ET, August 28.

The results will be known that evening after tabulation by the official board of tellers. Those elected will be inducted into office on October 24 during the 2012 SBE National Meeting held in Denver, Colo., in conjunction with the Rocky Mountain Audio Video Expo and SBE Chapter 48 Broadcast Engineers Boot Camp.

If you have ever considered contributing your time and talents to the society by serving on the national board of directors, consider running this year. If elected, not only will the SBE benefit, but you will too, as you develop friendships and strengthen your professional network with other members from across the country and beyond.

Members interested in serving the SBE on the national board are encouraged to contact me, Raymond Benedict, CPBE. I serve as the 2012 chairman of the SBE Nominations Committee. I will be happy to explain the duties and responsibilities to you in detail and answer any questions you may have. For more information, email rcbenedict@cbs.com or call (202) 457-4518 before April 30.

Society Fellow nominations due March 25

Nominations for the Fellow membership grade, the highest membership level within the Society of Broadcast Engineers, are due by March 25. The Fellow designation is awarded only to those nominated by members and elected by the national board of directors. The board considers nominations for Fellow annually at the spring meeting of the board held during the NAB Show.

Fellow members of the SBE have rendered conspicuous service or have made valuable

contributions to the advancement of broadcast engineering or its allied professions. Candidates for SBE Fellow are proposed in writing by a voting member. The nomination must include a cover letter and professional biography of the nominee and be endorsed by at least five other voting members. Nominations are submitted to the chairman of the SBE Fellowship Committee, Troy Pennington, CSRE, CBNT.

If approved by the board, the nominee is

must be received by the Commission within 30 days after information regarding a proposed construction is posted on the Commission's website. WTB will make provision for filing of requests either electronically or by mail. Requests must be served on the prospective applicant.

After completion of the 30-day notice period and after reviewing any requests, the Commission staff will notify the applicant whether an Environmental Assessment ("EA") is required under Section 1.1307(c) or (d) of its rules. If no EA is required based on the Form 854 filing and any requests, and if the applicant has determined that no EA is otherwise required under Section 1.1307(a) or (b), it may then update Form 854 to certify that the tower will have no significant

notified and a presentation is made at the fall SBE National Meeting. The nomination process is conducted in confidence. Nominees should not be made aware that they have been nominated.

Submit your nominations to: Troy Pennington, CSRE CBNT, Fellowship Committee Chair, 6156 Hampton Hall Way, Hermitage, TN 37076 or to troy.pennington@cumulus.com.

environmental impact. If an applicant is required to file an Environmental Assessment in connection with a structure that is required to be registered, such EA must be submitted as part of the environmental notification process.

The EA will be placed on notice on the Commission's website, thus commencing a 30-day period for public comment.

After considering the EA and any requests, the Bureau will issue a Finding of No Significant Impact (FONSI), require amendments to the EA, or determine that an Environmental Impact Statement is needed. Upon issuance of a FONSI, the applicant may complete the Form 854 filing to certify that the tower will have no significant environmental impact.

PRESIDENT from page 4

Legislative Issues

The SBE Government Relations Committee (GRC) monitor FCC actions for potential problems that the working broadcast engineer might face. Positions and opinions of the Society of Broadcast Engineers during 2011 are posted on the Legislative/Advocacy page on the SBE website. These include the FCC Technical Resource Act, Broadcast Auxiliary Services, Additional Spectrum for Medical Devices, National Broadband Plan, and EAS.

The SBE National Frequency Coordination Committee has also been active over the past year with the FCC National Broadband Plan.

The SBE made several filings regarding the FCC allowing Part 101 users into the 7 & 13 GHz band. Petitions for reconsideration were filed. Most recently the SBE joined with NAB on comments regarding those petitions. The SBE

COURSE from page 1

and the methods and materials for safe, efficient application.

Specific subjects addressed in the course include the ENG vehicle; maintaining a safe environment; basic microwave principles and

presented the issues involved in attempting to coordinate fixed link operations with mobile/portable fixed. The SBE played a vital role in explaining the problems and even though not perfect, the outcome thus far is not as bad as it could have been for broadcasters and the efforts of frequency coordination.

SBE Vice President Joe Snelson, CPBE, 8-VSB, attended three of the TV White Space database administrator's workshops on behalf of the SBE. Snelson presented the challenges of attempting to register temporary wireless microphone operations to avoid interference from TV White Space devices.

The SBE filed a Petition for rulemaking regarding the use of digital modulation in the 450 MHz BAS band, which is currently not allowed. The SBE also proposed a more simplistic alternative than a lengthy table of frequency centers based on channel segments. This will provide for more spectrum efficient

operation; cables and connectors; microphones and basic microphone techniques; driving safety; antenna safety; electrical safety; and use of cameras. Various IFB techniques are reviewed, including to off-air monitoring of sound; commands from the control room or producer to ENG operator; commands from control room

operation.

The SBE filed regarding the use of medical monitoring devices in the 450 MHz band. While the SBE did not win, it certainly raised concern regarding potential problems that could surface. Hopefully, no problems will ever occur, but at least the SBE made its voice known.

The SBE continues to monitor the encroachment of non-government 2 GHz uplinks in the BAS band. This attempt has been seen in Las Vegas, Atlanta and Florida

The New Year

Looking forward, 2012 will bring the SBE new opportunities with a strategic planning session in the summer, possibly starting a mentoring program for new broadcast engineers, enhancing our education program, rolling out the CBNE certification, updating CertPreview to include the new certification and continually monitoring the FCC actions that affect membership.

to talent; and commands from ENG operator to talent. Information on how to prevent a fire from lighting, ocular damage, electrical shock and burns is also included.

The cost for the course is \$85 for members and non-members.

BIRDS from page 5

to check "No" in response to the environmental certification question on the construction permit application, indicating that the project has not been determined to be excluded from environmental processing.

Such an applicant should also attach to the application an exhibit (called for by the environmental certification item in each broadcast construction permit form) explaining whether or not the applicant has commenced the evaluation of the environmental effects of any proposed construction and where the applicant is in that process.

Requests for further environmental review

now available

NEW COURSE

ENG Truck Operations

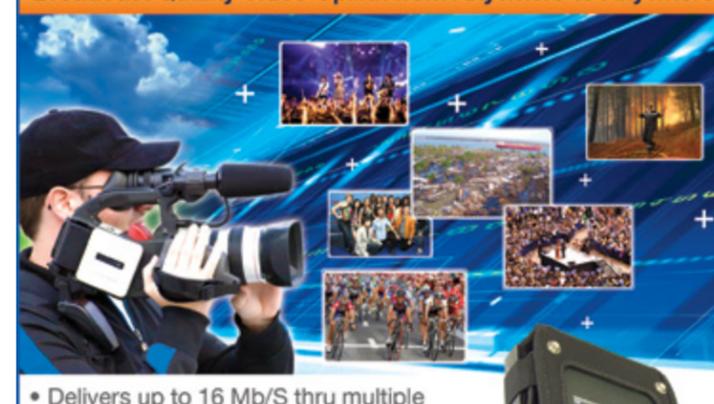
To register visit **SBE University** under Education at www.sbe.org



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Vandever teaches broadcast engineers leadership skills

Offering leadership training to broadcast engineers is a time-honored commitment of the SBE, and this year is no different. The 2012 SBE Leadership Development Course is a highly interactive and intense course, which challenges attendees to refine leadership skills and improve interactions with others.

The course takes place in Atlanta, Georgia, July 31 through August 2. The three-day event includes a leadership style assessment, which teaches attendees to identify their leadership behaviors and explains how to utilize individual leadership styles when leading others.

The class discusses many workplace scenarios attendees may encounter in a leadership role. Course participant, Richard Sinclair said, "There was lots of information and the good thing was it was supported by real life situations."

Participant Robbie Winter said, "I learned more about myself in three days than I have in the last 30 years!"

Instructing the course once again is Rodney Vandever, professor of Organizational Leadership and Supervision at Purdue University. Vandever brings more than 30 years of experience in human resources management, training, development and manufacturing.

Since 1994 Vandever's teaching experience includes classes in Human Behavior in



SBE Certification Chairman Jim Bernier, CPBE, CBNT, presents Michael Tosch, CSRE, CBNT, with a certificate of completion following the 2011 Leadership Development Course. Twenty-five participants were awarded certificates during the last course.

Organizations, Leadership Philosophy and Leadership Strategies for Quality and Productivity. His instruction expertise also includes experience as the owner of VanTECH Training, a professional training and consulting company.

Professional development opportunities are valuable tools, but often employers do not grant approval to spend money and time away from work to develop skills. For tips to explain how this, or any educational program by the SBE, is beneficial to you and your employer, visit the SBE website at <http://www.sbe.org/sections/JustifyingProfessionalDevelopment.php>. To invest in your future and register visit the SBE Leadership Development Course page on the SBE website, under Education. The course fee is \$590 for members of the SBE and \$640 for non-members.

SBE, BSW sponsor free Webinar

What do a plastic water bottle, colorful tape, and Formula 409® have to do with spring maintenance? Register for the Webinar by SBE on springtime maintenance for the answers. Thanks to Broadcast Supply World (BSW), the SBE is presenting the webinar "Springtime Maintenance to Keep You on the Air" at no cost to SBE members on March 15.

As both radio and television broadcast engineers are expected to do more with less, being pro-active with respect to maintaining transmitters and studio sites will guard against adversity. This is especially true when preparing a site for the summer, after winter has taken its toll.



John Bisset, author of the popular Radio World feature, "Workbench", will describe a concise and thorough procedure to get sites ready for the spring and summer months. An interactive webinar, attendees are encouraged to bring their questions and comments to add to the discussion.

For more information and to register, visit the Webinars By SBE page, under Education on the SBE website. Non-members are welcome to register for \$39.

MARK YOUR CALENDAR

WEBINARS BY SBE

Nuts and Bolts of the FCC FM Allocation Procedures

When: February 16, 2-3:30 p.m. ET
Instructor: Doug Vernier, CPBE
Cost: SBE members - \$49
non-members - \$69

Springtime Maintenance to Keep You on the Air

When: March 15, 2-3:30 p.m. ET
Instructor: John Bisset
Sponsor: BSW
Cost: SBE members - free
non-members - \$39

AM Directional Antenna Modeling

When: May 10, 2-4:30 p.m. ET
Instructor: Cris Alexander, CPBE, AMD, DRB
Cost: SBE members - \$79
non-members - \$99

WORKSHOPS

IP Networking for Broadcast Engineers

When: March 30, 9 a.m.-5 p.m. ET
Instructor: Wayne Pecena, SBE
Technical Presenters Group
Location: Clear Channel Communications
Miramar, Fla.
Hosted by: Chapter 53, South Fla.
Cost: SBE members - \$50
non-members - \$75

El Paso Ennes Workshop

When: May 18, 9 a.m.-5 p.m. ET
Hosted by: SBE Chapter 38 - El Paso
Cost: SBE members - \$30
non-members - \$40

For more information or to register for the SBE education programs, visit the SBE Education page online at <http://www.sbe.org> or call (317) 846-9000.



Question on page 3

Answer: C

A checksum test might detect that an error exists, but it cannot identify the defective bit. Replacement of a bad bit by a null packet results in loss of the entire packet. The Hillstrom Transform is a distractor. The term refers to a mathematical operation used in filter design.

The full error correction supplied by the Reed/Solomon method corrects what it can fix because it can identify the bad bits individually, and then conceal what is not correctable by substitution of a bit closely spaced in time to the defective bit. Failing that, it will mute the signal for a brief interval, thereby resulting in the least perceptible impairment.

Reference - Kovalick, Al: Video Systems in an IT Environment Pg. 208

RENEW from page 3

method. An automated message is sent to the member to confirm renewal and payment.

There is no increase in membership dues for the 2012-13 year. Dues are \$68 for the April 1, 2012 through March 31, 2013 membership year. Student member dues remain at \$20. Membership dues may be paid using a personal or company check, money order, debit or credit card including MasterCard, Visa or American Express.

Youth and Sustaining Members renew in the anniversary month of their membership. The cost of dues for those classifications remains the same as the previous year.

2012 is the first year that national board of directors election will be held online. Members must check the box on the renewal form to request a paper ballot instead of voting online.

Members with questions about renewal, or those who do not receive a renewal reminder by February 15, should contact Scott Jones at the SBE National Office at (317) 846-9000 or kjones@sbe.org.

DOWNLOAD CERTIFICATION STUDY MATERIAL
RENEW YOUR SOCIETY MEMBERSHIP
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all on the
SBE WEBSITE

<http://www.sbe.org>

Member involvement makes difference

by **John L. Poray, CAE**
SBE Executive Director

A number of members are active and providing leadership on broadcast industry boards and committees. Their involvement reflects well on the society and all of its members. I'd like to recognize a few, though there are many more that could be included here.



jporay@sbe.org

SBE President Ralph Hogan, CPBE, DRB, CBNT, currently serves as the society's representative to the Advanced Television Systems Committee (ATSC). Hogan is also chairman of the membership development and education areas of the Broadcast Technology Society of the IEEE and serves as a member-at-large on its administrative committee.

SBE Vice President Joe Snelson, CPBE, 8-VSB, is a member of the NAB Television Technology Committee and represents the SBE on Working Group 3 of the National Spectrum Managers Association (NSMA).

Barry Thomas, CPBE, CBNT, past president of the SBE, has just been named chairman of the newly established NAB Radio Technology Committee. Thomas recently ended his

term as chairman of the Radio Broadcast Data System (RDBS) subcommittee of the National Radio Systems Committee (NRSC).

Steve Fluker, chairman of SBE Chapter 41 in Orlando, Fla., is the current chairman of the NAB Broadcast Engineering Conference, held as a part of the 2012 NAB Show in April.

Many members of the SBE serve with their state emergency communications committees, state broadcast associations or even serve on local government communications commissions or boards. Each of these members are to be thanked for

their involvement in industry organizations, which work to achieve better broadcasting in terms of technology, programming, public service and financial viability. These members are truly making a difference in the industry.

SBE at the NAB Show

The annual NAB Show is just a couple of months away. Members of the SBE may be eligible for a reduced registration fee. Members of the SBE whose stations or employers are not a member of the NAB can register using the NAB partner rate to receive \$100 off the NAB non-member rate.

I encourage as many members as possible to attend the NAB Show and register for the conferences to take advantage of the many technical sessions that the NAB Broadcast Engineering Conference (BEC) has to offer. The SBE is pleased to be NAB's co-producer of the BEC for the 17th consecutive year. To register, visit the NAB website conventions page at <http://www.nab.org>.

Renewal and voting

Membership renewal time is here again and I encourage all of you to renew your membership before the April 1 deadline. In spite of the economy the last few years our membership has remained strong, with more than 5,300 members at the end of 2011. A renewal letter was mailed the first week of February to members. Renew quickly and conveniently online at <http://www.sbe.org>. Click the Renew Membership link in the upper right hand corner of the home page. Members can also renew by mail or fax.

As previously reported over the last few months, the annual board of directors election will be conducted electronically in 2012 for the first time. However, those who prefer to receive an election ballot by mail and vote by mail must check the box on the membership renewal form to opt-out of electronic voting. Conducting the election process electronically will be more convenient and accurate for members to use and reduce the society's cost. The SBE hopes that, because of the convenience, more members will participate in the election process.

SBE AT NAB

SBE Booth Hours

Sunday: 2-4 p.m.
Monday: 9 a.m.-6 p.m.
Tuesday: 9 a.m.-5 p.m.
Wednesday: 9 a.m.-6 p.m.
Thursday: 9 a.m.-2 p.m.

SBE Booth Location

LVCC South Hall Lobby Booth 29 near the entrance to the second floor exhibit hall. See the SBE web site, www.sbe.org for a floor plan indicating the booth location.

Schedule of Events (as of Jan. 5)

The SBE meetings during the 2012 NAB Show are held at the Las Vegas Hotel, formerly Las Vegas Hilton, unless otherwise indicated.

Saturday, April 14

Ennes Workshop
8 a.m.-5 p.m.
Conference registration required
LVCC South Hall, 2nd floor

SBE Certification Committee Meeting
6:30-11 p.m.
Conference Room 12

Sunday, April 15

SBE Board of Directors Meeting
8:30 am-12 p.m.
Conference Rooms 11, 12

SBE Education Committee Meeting
3 p.m.-4:30 p.m.
Conference Room 6

Tuesday, April 17

SBE Certification Exams
9 a.m.-12 p.m.
Conference Rooms 9 & 10

SBE Frequency Coordinators Meeting
10 a.m.-12 p.m.
Conference Rooms 13, 14

SBE Spring Membership Meeting
5p.m.-6 p.m.
LVCC Room S225

SBE events and exhibits at the 2012 NAB Show

The Society of Broadcast Engineers is a participant in the 2012 NAB Show in Las Vegas. The SBE exhibit space and sponsored conferences are located in the Las Vegas Convention Center South Hall.

The SBE exhibit space is located on the second floor concourse and is open to visitors Sunday, April 15 through Thursday, April 19. The NAB Broadcast Engineering Conference, which the SBE co-produces with the NAB, is located nearby, in the South Hall, second floor meeting rooms.

The SBE booth will have a selection of technical publications from a number of popular publishers, including the SBE Radio and Television Operator Handbooks. An assortment of SBE logo items, including hats and shirts, will also be available at the booth.

New membership applications and membership renewal forms are accepted at the booth. Members of the national SBE Board of Directors and national staff will be available to answer your questions about membership, certification, educational programs, regulatory issues, local chapters and more.

ENNES from page 1

which begins two days prior to the NAB Show and concludes with this joint session. This is often the largest gathering of broadcast engineers, all year, anywhere.

Traditionally, the program starts the first Saturday of NAB Show with a tutorial. The 2012 topic is IT, but it is not the usual "everything you need to know about networking in two hours." Wayne Pecena is the director of engineering at Texas A&M University Broadcast Services, and uniquely qualified to address the skill sets, certifications, learning opportunities and how to identify and build these skills in participants, their staff and potential staff. Pecena covers what a broadcast engineer needs to be relevant and how to stay relevant.

Broadcast engineers are an amazing mix of skill and knowledge sets. Broadcasting builds its own set of technology on top of the largely generic IT technology. Many skills are becoming less important as others become more important. What goals get engineers the certifications and skills most needed, in an efficient manner? What is inefficient and misdirected? Are there ways to best leverage what one knows? Engineers should take time to get a good perspective on IT and its role in our careers. Pecena takes a deep-dive into a

Spring SBE Membership Meeting

The spring SBE Membership Meeting takes place Tuesday, April 17 from 5 to 6 p.m. in South Hall Room S225 of the Las Vegas Convention Center. The society will recognize several local chapter certification chairmen during the meeting and give away prizes. The SBE is pleased to have Vislink News and Entertainment as the sponsor for the 2012 membership meeting.

Registration Discounts for SBE Members

Members of SBE can register for the NAB Show and receive a special partner rate, a savings of \$100 off the NAB non-member rate. To receive the discount members of the SBE must include the SBE Partner Code in the drop down box at the beginning of the NAB online registration form. The code will be sent to members in an upcoming issue of SBENews - the society's electronic newsletter.

The board of directors and national staff hope to see fellow SBE members April 14-19, in Las Vegas for the 2012 NAB Show and Broadcast Engineering Conference.

complex subject.

Jerry Whitaker, well-known author and vice president of Standards Development for the Advanced Television Systems Committee, presents "The Tube Sound - Fact or Fiction?"

Clouds appear everywhere, and clearly the pendulum of processing - maybe everything - is swinging toward Cloud-based. Al Kovalic, Stan Moote, and Richard Folio jointly present a tutorial on what Clouds mean for broadcasters, a presentation that will need continuous updating until the time of the show. Katsushi Yamashita of IBM Japan presents a case study of Fuji TV's use of the Cloud, and Greg Lennon will do the same for Chyron.

After a lunch break, Peter Symes will briefly cover the array of Society of Motion Picture and Television Engineers standards work, recently adopted and in progress. With IPTV and various IT centric processes coming on quickly, the SMPTE standards will play a big role in adoption and interoperability. Later in the afternoon, IPTV, Broadcast Workflow/Content Flow and ATSC's Future of TV is discussed.

The SBE has planned a full day of informative sessions. Members are encouraged to arrive early to the NAB Show to participate in the Ennes Workshop on Saturday, April 14 from 8 a.m. to 5 p.m.

In the Circle ... a snapshot of an SBE Member



Benjamin Brinitzer, CPBE, AMD Regional Vice President Engineering/IT at Clear Channel Media and Entertainment in Charlotte NC; Member Since: 1984; Chapter: 45 and founding member of Chapter 93

A.K.A.: Randy Kabrich nicknamed me "Bengineer" and it has stuck ever since my early days at WDCG-105.

Best known for: Cutting edge implementations, presentations and AM/FM RF engineering.

Getting Started: I love music, gadgets, RF and technology. It was a natural fit for a career in broadcast engineering.

Sphere of influence: I spent four years working with James W. Davis, PHD, EE, in Raleigh/Durham, NC. Jim is a very talented engineer who instilled core engineering values in a young guy just out of high school.

When I'm not working I ... enjoy Ham radio (KE4EHS), playing golf, camping and spending time with my family.

Job satisfaction: What else? Building things! I really enjoy tuning FM antennae and filters and RF work. I also enjoy solving problems and challenges.

You may not know ... I started as a chief engineer at WCHL in Chapel Hill, NC when I was 16 years old after working two years part time with the CE.

Favorite gadget: My favorite gadget is my network analyser, followed by my iPhone, both critical tools.

Chapter Spotlight

Chapter 146, Virgin Islands is newest SBE chapter

by Robert Dickinson, CBTE

I came to work for The Virgin Islands Public Television System as their chief engineer in June of 2009. I quickly realized that the broadcast community was very isolated and that got me thinking that if I could start a chapter of the SBE here it could be a very positive thing. My thought was if I could bring a chapter to the Virgin Islands, the broadcast community would have access to continuing education and certification opportunities that otherwise would not be available.

I could see within my own department the need for training and how expensive it was to make training available on the island or to send staff to training seminars. The SBE has great webinars, the online SBEUniversity is top notch and there are opportunities to be certified in multiple areas of broadcast engineering.

I went to my boss, Osbert Potter, the executive director of the Public Television System, and explained to him that I wanted to start a local chapter of the SBE in the Virgin Islands. Potter was very supportive of starting a local SBE chapter; he recognized that having a local chapter here would be a benefit to the Virgin Islands community.

I started researching while attending the NAB Show on how to start a chapter. I met with Ralph Hogan who was my boss when I worked at Washington State University. Hogan was truly a great help and supporter of getting the chapter started. After the NAB Show I got in touch with John Poray, who sent me all the requirements for starting a local chapter.

Potter agreed to pay the first year membership for any WTJX employee who was interested in joining the SBE. Soon, we had twelve members and we were holding monthly meetings and electing officers. I think without the support from Potter and all the help I received from Hogan, Poray and Mark Heller we would not



Leo Moran works at a radio station in the U.S. Virgin Islands. Broadcast engineers in the Virgin Islands started the newest chapter of the SBE to bring education and certification opportunities to the islands.

be where we are today.

As Chapter 146 moves ahead, the focus will be on development of local programs for our membership and finalizing registration for the chapter as a non-profit corporation. As a chapter, we will work to recruit new members, find local support for the chapter, and start a monthly newsletter.

Support these companies who support the industry and the Society of Broadcast Engineers

ADC Telecommunications Inc. • 1998
Anne-Marie Gunderson (952) 917-3072
Fiber and Copper Interconnect

American Tower Corporation • 2000
Peter A. Starke (781) 461-6780
Broadcast Tower Development/
Construction/Management

Anton/Bauer Inc. • 2004
Kyle Dann (203) 929-1100
Manufacturer Portable Power Systems

Audemat-Worldcast Systems Inc. • 2000
Christophe Poulain (305) 249-3110
Control Manufacturer

AVCOM of Virginia, Inc. • 2010
Warren "Buck" McElfresh
(804) 794-2500 ext. 312
Spectrum Analyzers

Avid Technology • 2011
Bill Barton (978) 640-4020
Broadcast Products and Services

Belden Electronic Division • 1991
Steve Lampen (800) 235-3361
Cable and Connectivity

Bexel • 2009
Garrick Lewis (818) 565-4314; Calrec
Broadcast and Audio Consoles

Bracke Manufacturing, LLC • 2012
Lawrence Pasternack (949) 756-1600
RF & Microwave Components

Broadcast Electronics, Inc. • 1978
Ray Miklius - Studio Products
Tim Bealor - RF (217) 224-9600
Radio Equipment Manufacturer

Broadcast Engineering Magazine • 1984
Bradley L. Dick (913) 341-1300
Journal of the Broadcast Industry

Broadcast Microwave Services, Inc. • 1997
Jim Kubit (805) 581-4566
Manufacturer, Transmitters, Receivers,
Antenna Systems

Broadcast Supply Worldwide • 1986
Shannon Nichols (800) 426-8434
Audio Broadcast Equipment Supplier

Broadcasters General Store • 2004
Buck Waters (352) 622-7700
Broadcast Audio Video Distributor

Canon USA, Inc. • 1985
Larry Thorpe (201) 807-3300, (800) 321-4388
Broadcast Lenses & Transmission Equipment

Cavell, Mertz & Associates, Inc. • 2011
Gary Cavell (703) 392-9090
Consulting Services

Communications Laboratories • 2008
Jared Maynard (321) 409-9898
Emergency Management Network

Comrex Corporation • 1997
Chris Crump (978) 784-1776
Audio codecs & Telephone Interface Products

Comsearch • 2004
Tim Hardy (703) 726-5651
Frequency Coordination Services

Content & Communications World (CCW) • 2006
Michael Driscoll (203) 371-6322
HD World, 3D World and SATCON

Continental Electronics Corporation • 1976
Michael Troje (800) 733-5011
AM & FM IBOC Transmitters

Dialight Corporation • 2006
US Headquarters (732) 919-3119
FAA Obstruction Lighting, L.E.D. Based

Dielectric Communications • 1995
Joe Zuba (609) 256-8190
or Matt Leland (207) 655-8139
TV & FM Broadcast Products

Digital Alert Systems, LLC • 2005
Bill Robertson (585) 765-1155
Emergency Alert Systems

DSI RF Systems, Inc. • 2010
Judy Mueller (732) 563-1144
RF Service/Installation/Products

du Treil, Lundin & Rackley, Inc. • 1985
Jeff Reynolds (941) 329-6000
Consulting Engineers

DVEO - Division of Computer Modules, Inc. • 2012
Laszlo Zoltan (858) 613-1818
Everything About Transport Streams

e2v • 1997
Mark Strohecker (914) 593-6831
Electronic Components, SATCom Amplifiers

Econco • 1980
Debbie Storz (800) 532-6626 or (530) 662-7553
New & Rebuilt Transmitting Tubes

Electronika America Inc. • 2010
Maria Quintero (305) 592-4506
High Efficiency FM/TV Transmitter & Exciters

ENCO Systems Inc. • 2003
Don Backus (800) 362-6797
Digital Audio Automation & Delivery

ERI - Electronics Research • 1990
David White (812) 925-6000
Broadcast Antennas, Transmission Line, Filters/
Combiners, Towers and Services

Floral Systems • 2008
Jim Berry(352) 372-8326
Television Broadcast Automation

Frontline Communications Corp. • 2000
Stephen Williamson (727) 573-0400, ext. 160
Manufacturer Broadcast Vehicles

Fujinon, Inc. • 1986
Thom Calabro (973) 633-5600
Broadcast & Communications Products

Gepeco International • 1995
Dave Chapa (847) 795-9555
Audio, Video Cable Products

Grass Valley • 2000
Andy Jackson (404) 929-5000
TV/Film Production & Broadcast Professionals

Harris Corporation, Broadcast Communications Division • 1977
Dave Hopson (TV) (513) 445-5243
Mark Goins (Radio) (513) 899-9124
Broadcast Equipment Manufacturer

Heartland Video Systems, Inc. • 2011
Dennis Klas (920) 893-4204
Systems Integrator

Henry Engineering • 2011
Hank Landsberg (626) 355-3656
"We Build Solutions"

High Resolution Systems • 2012
Drew Taylor (888) 742-7690 ext. 108
Systems and Show Control

Image Video • 1997
Zach Wilkie (416) 750-8872 ext. 228
Under Monitor Tally Display Systems, Monitor
Design and Manufacture Broadcast Equipment

JAMPRO Antennas, Inc. • 2011
Alex Perchevitch (916) 383-1177
DTV/DVBT & HD Radio-IBOC Solutions

Kathrein Inc., Scala Division • 1985
Michael W. Bach (541) 779-6500
Antennas for Broadcasting & Communications

Ka You Systems • 2011
George Gimourginas (301) 585-4302
Audio, Video, IP - Satellite

Kintronic Labs, Inc. • 2010
Eric Miramontes (423) 878-3141
AM HD Antenna Systems

KPFF Consulting Engineers • 2004
Madison Batt (206) 926-0508
Tower Engineering, Inspections Design

L-3 Communications Electron Devices • 2003
Steve Bliak (570) 326-3561, ext. 229
Tubes, Power

Latakoo, Inc. • 2011
Rod Taylor (512) 825-8709
Internet Video Distribution

LBA Technology, Inc. • 2002
Jerry Brown (252) 757-0279
AM/MW Antenna Equipment & Systems

Lincoln Financial Media • 2007
Barry Thomas (404) 261-2970
Media Group Owner

LYNX Technik • 2007
Steve Russel (661) 251-8600
Broadcast Terminal Equipment Manufacturer

Markertek Video Supply • 2002
Andrew Barth (845) 246-3036
Audio, Video, AV Broadcast Supply

Maxell Corporation of America • 1991
Patricia Byrne (201) 794-5900
Data/Broadcast Video Media

Micronet Communications, Inc. • 2005
Jeremy Lewis (972) 422-7200
Coordination Services / Frequency Planning

Micronetixx Communications, LLC. • 2011
Bill Ammons (480) 496-0165
Polarized DTV Broadcast Antennas

Microwave Video Systems • 2011
Warren J. Parece (781) 665-6600
Microwave Equipment Rental, Sales & Service

Middle Atlantic Products • 2005
David Amoscato (973) 839-1011
Equipment, Mounting, Solutions

MoreCom, Inc. • 2009
Kyle Moorehead (763) 533-5535
Networking & AV Construction

Moseley Associates, Inc. • 1977
Dave Chancey (805) 968-9621
Digital STLs AM/FM/TV

National Association of Broadcasters • 1981
(202) 429-5340
Industry Trade Association

National Football League • 1999
Ralph Beaver
Game Day Coordination Operations

Nautel, Inc. • 2002
Jeff Welton (877) 662-8835
Radio Broadcast Transmitter Manufacturer

Nemal Electronics Int'l, Inc. • 2012
Benjamin L. Nemser (305) 899-0900
Cabels, Connectors, Assemblies and Fiber Optic

NSOEM • 2010
Robert Sorbet (281) 500-8940
Electrical Equipment Sales

NuComm/RF Central • 2009
Don Hoeler (908) 852-3700 ext. 3110
Digital and Analog Video Microwave Systems

Orban • 2011
David Rusch (480) 403-8300
Audio Processing AMFMTV

OTL • 2010
Sylvain Theriault (450) 444-7009
Tower Lights (Lighting)

Panasonic Solutions Company • 1985
Joe Facchini (201) 392-6183
Professional Broadcast Equipment

Pasternack Enterprises • 2001
Christine Hammond (949) 261-1920
Coax & Fiber Products

Prime Image, Inc. • 1997
Rodney Hampton (408) 867-6519
Digital Audio/Video Equipment

ProAudio.com - A Crouse-Kimzey Co. • 2008
Mark Bradford (800) 433-2105 ext. 560
Proaudio Broadcast Equipment Distributor

Propagation Systems Inc. - PSI • 2010
Doug Ross (814) 472-5540
Quality Broadcast Antenna Systems

Pulsecom • 2003
Winnie Evans (703) 471-2926
AM, FM and HD STLs, Copper & Optical

Qualis Audio Inc. • 2012
Douglas Ordon (310) 621-4448
Audio and Loudness Monitoring

Quintech Electronics and Communications Inc. • 2002
Paul Campagna (724) 349-1412
State-of-the-art RF Hardware Solutions

QVC • 2012
Kevin Wainwright (484) 701-3431
Multimedia Retailer

Radian - A Division of Prestige Telecom Inc. • 1986
John McKay (866) 4-RADIAN
Towers, Antennas, TV Installation

RCS • 2003
Diana Stokey (308) 284-3007
Audio and Video Content Management

RDL • 2004
Chuck Smith (928) 778-9678, ext. 142
Audio, Video, Control & Test Equipment
Manufacturer

RF Specialties Group • 2008
www.rfspecialties.com
Everything from the microphone to the antenna

Richland Towers • 2001
David Denton (813) 286-4140, ext. 4235
Tower Owner/Management

Rio Steel & Tower • 2010
Keith Cendrick (817) 225-0890
Turn-key Tower/Antenna Services

Rohde & Schwarz • 2003
Eddy Vanderkerken (469) 713-5322
Broadcast Transmitters, Test & Measurement

ROSCOR Corporation • 1998
Tom Voigts (847) 299-8080
DTV System Integrator

Ross Video Ltd. • 2000
Kyle Luther (613) 652-4886
Manufacturer, Television Broadcast Equipment

Sage Alerting Systems, Inc. • 2010
Gerald LeBow (914) 872-4069 ext. 210
Emergency Alert Systems Products

Salzbrenner StageTec Media Group • 2009
(888) 782-4391
Professional Audio Solutions

SCMS, Inc. • 2000
Bob Cauthen (800) 438-6040
Broadcast Equipment- New/Used

Screen Service America • 2010
Graziano Casale (212) 695-8341
Broadcast Transmitter & ATSC Mobile

Seacomm Erectors, Inc. • 1997
John Breckenridge (360) 793-6564
Tower/Antenna Erections

Shively Labs • 1996
David Allen 888-SHIVELY
FM Antennas & Combiners

Sierra Automated Systems and Engineering, Inc. • 2012
Cam Eicher (818) 840-6749
Routers, Mixers, Consoles, Intercoms

Sigmat • 2008
Ed Portko (610) 783-6666
Broadcast Equipment Support Sales

Signiant • 2012
Doug Prouty (781) 221-4000
Signiant content delivery software

Snell Inc. • 1995
John Shike (818) 556-2616
Video Equipment Manufacturer

Solid State Logic • 2012
Steve Zaretsky (212) 315-1111 ext. 15
Digital Audio Consoles/Router

SpectraRep • 1998
Mark O'Brien (703) 802-2975
Coverage Maps and Services

Staco Energy Products Co. • 2010
Paul Heiligenberg (937) 253-1191 ext 128
Manufacturer Voltage Regulators, UPS

Stainless LLC/Doty-Moore • 2004
Ed Deetscreek (215) 631-1323
Towers - Engineering - Services - mods

Superior Electric • 1995
Michael J. Miga (860) 507-2025
Power Protection Equipment

Sutro Tower, Inc. • 1989
Eric Dausman (415) 681-8850
Broadcast Tower Leasing

TC Electronic • 2008
Ed Simeone (818) 665-4902
DTV Audio Level Processing

Technostrobe • 2009
Francis Lacombe (877) 578-7623
FAA lights - High Intensity

Tektronix, Inc. • 1977
James Lang (800) 833-9200
Video Test Equipment Manufacturer

Telos Systems/Omnia/Axia • 2003
Denny Sanders (216) 241-7225
Telos Systems - Talk-Show Systems

Teradek • 2012
Jon Landman (949) 743-5783
Camera-top ENG Solutions

Terrestrial RF Licensing Company • 2003
Steven Slocum (888) 373-4832
FCC Broadcast Auxiliary Licensing Services

TFT • 2012
Darryl E. Parker (408) 943-9323
STL, EAS/CAP, RF Monitors

The Durst Organization - 4 Times Square • 2004
John M. Lyons, CPBE (212) 997-5508
TV/FM/Microwave Tower Site

The Switch Company • 2012
Peter Hanz (323) 645-8011
Fiber Transmission Provider

The Whitlock Group • 2000
Kevin Thompson (800) 726-9843
Broadcast and Presentation Solutions

Tieline Technology • 2003
Mary Ann Seidler (317) 845-8000
POTS, ISDN, Codex & AV Products

Trilithic • 2012
Tom Cridlin (317) 895-3600
Emergency Alert Equipment (EAS)

TV Magic • 2008
Bob Anderson (858) 650-3155
Broadcast Systems Integrator

Unimar, Inc. • 2001
Thad Fink (813) 643-6791 or (813) 943-4322
Tower Obstruction Lighting Designer,
Manufacturer, Distributor

Vantage Technology Consulting Group • 2011
Andrea Cummis (212) 520-8422
Broadcast Consulting Services

Vislink News and Entertainment • 1991
Mark Tommey (978) 671-5700
Video Microwave Systems

Voice of America • 2012
Richard P. Barnes, PhD, CBRE (202) 203-4848

Ward-Beck Systems Ltd. • 2004
Michael Jordan (416) 335-5999
Metering, Monitoring, Distribution, Conversion

Wheatstone • 2010
Jay Tyler (252) 638-7000
IP Consoles, Routers & Processors

Wireless Infrastructure Services • 2006
Travis Donahue (951) 371-4900
Broadcast Microwave, Tower and ENG
Installation, Integration Maintenance Services

Welcome New SBE Members

Members

Dejan Milovanovic - Chicago, IL
Jason A. Brown - Largo, FL
Montre D. Staton - Bladensburg, MD
Michael R. Rubeck - Martinsburg, WV
Carroll J. Lee - Springfield, VA
Ty J. Humphries - Washington, DC
Woody G. Hukill - San Antonio, TX
Michael J. Helke - College Park, MD
Corey J. Gregory - Fairfax, VA
Liu Feng - Beijing, China
Jaime H. Davila - Woodbridge, VA
Marc Bick - Cranberry Township, PA
George D. Markle - Toledo, OH
Timothy N. Kelly - Montrose, CO
Glenn Dudley - Milton, VT
Jonathan Burdsal - Prior Lake, MN
Michael G. Tody - Manlius, NY
Larry A. Wilson - Stevenson Ranch, CA
Austin Vrbas - Centennial, CO
Marc R. DeWitt - San Antonio, TX
Verna Covington - Tucson, AZ
Martin R. Birkett - Arlington, TX
Yasir K. Waqar - Decatur, GA
Anthony A. Peiffer - Pleasant Gap, PA
Francis A. Obikoya - Grand Prairie, TX
William A. Cabral - Jacksonville, FL
Dan Worley - Elk Grove, CA
James E. Youmans - Okatie, SC
Robert Wilson - Cincinnati, OH
Simbarashe Tagwirei - Harare, Zimbabwe
Mark Salansky - Nicholson, PA
Jacob M. Phillips - Citrus Heights, CA
Chris J. O'Connor - San Antonio, TX
Jesse Janosky - Arlington, VA
Stephen Grix - Redford, MI
Lindsay L. Bold - Liberty, NC
Thomas W. Belcher, II - Mt. Hope, WV
Michael Afflerbach - New Bern, NC
Daryl D. Jones - San Carlos, CA
Patrick Sullivan - Glendale, CA
Bryan K. Nye - St. Charles, MO

Reinstated Members

Michael Boucke - Carlsbad, CA
Jason F. Zabler - West Long Beach, NJ
Mark H. Lauffer - Frisco, TX
Michael E. Todd - San Leon, TX
Terry W. Beacham - Belchertown, MA
Gary Makowsky - Cypress, TX
John C. Tucker - Sachse, TX
Rick G. Morris - Wilmette, IL
Robert A. Serret - Dorchester, MA
Terry J. Harvey - Carbondale, IL
Anthony J. Caiola, III - Caldwell, ID
Steven R. Martin - Twin Falls, ID
Larry J. Gregg - Canyon, TX
Evan Statton - Westfield, NJ
John H. Lloyd, Jr. - Sandy, UT
Brett R. Erieg - Key West, FL
James E. Borden - North Richland Hills, TX
William Casto - Lincoln, NC

Reinstated Senior Member

John J. Davis - Sierra Madre, CA

Student Members

Ryan S. Luli - Ravenna, OH
Matthew J. Caron - Framingham, MA
Jeff Bennett - Lake Forest, CA

Youth Member

Sandra Shepard - Lake Hiawatha, NJ

WANTED WRITERS AND INSTRUCTORS

The Society of Broadcast Engineers has opportunities for topical experts to write online courses.

Honorariums are available.

For details visit the Education page on the SBE website.



Members on the Move

Robert Reymont, CPBE is the SBE Chapter 9, Phoenix Engineer of the Year.

Gary Kline CBT, CBNT is the new senior vice president of Corporate Engineering & IT at Cumulus Broadcasting & Cumulus Media Works.

Mark Heller, CPBE, CTO is the new president and chief engineer of WGBW and WIWB Radio.



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