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THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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IN THIS SIGNAL:

Page 2

- ◆ [What Qualifies for Continuing Education Hours \(Part 2\)](#)

Page 3

- ◆ [SoutheastCon Tutorial and Sponsorships](#)

Page 4

- ◆ [Motor Life/Process Continuity Seminar](#)

Page 5

- ◆ [ABCs of Generator Excitation Systems and Relaying](#)

Page 6-9

- ◆ [Advertising Section](#)

Page 10

- ◆ [Calendar](#)

SoutheastCon is Coming!



April 19-22, 2018

**Tutorials for
CEH credit!**

See Page 3 for details

Upcoming Meetings

EXCOM Meeting

Wednesday, March 6, 2018 5:30PM at TECO Plaza
Register online at <http://time2meet.com/fwcs-excom/index.html>

Open to all FWCS Members

Increasing Motor Life & Process Continuity Seminar

Friday March 23, 2018 8:30AM
Register online at <http://time2meet.com/fwcs-pes1/index.html>

Details—Page 3

Expo Success

On Friday and Saturday February 16 and 17, thousands of youngsters, including without a doubt many future engineers, descended on the USF Tampa campus for the annual Engineering Expo. Displays and demonstrations from numerous campus engineering organizations and local engineering employers captivated the attendees, hopefully encouraging some of them to put down their PlayStation and pick up their math book to start pursuing an engineering career.



The IEEE student branch not only had a presence at Expo, but

several of its members were instrumental in organizing the event. In addition to raising the visibility of engineering in the community, the Expo also serves as a mechanism to recruit undecided students into engineering majors. Expo is held the Friday and Saturday before National Engineers' Week (E-Week) as a prelude to that landmark celebration.



This year's E-Week banquet was held on February 22 at TPepin's Hospitality Centre. Full coverage of the 2018 E-Week banquet, including the announcement of the 2018 Engineer of the Year, Young Engineer of the Year, and Engineering Student of the Year, the 2018 Lignell award recipients, and highlight from the keynote address will appear in next month's Signal.

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Home Phone: (813) 876-1748 E-mail: amberdon3133@gmail.com**The Signal, Copyright © 2017****Useful links:**<http://www.ieee.org/benefits> Global Benefits Finder<http://www.ieee.org/discounts> Discounts Page**PE Corner**Art Nordlinger, PE, Senior Member
What Qualifies for Continuing Education Hours (Part 2)

Continuing with last month's discussion of different ways to earn Continuing Education Hours (CEHs), here are some others that are, arguably, applicable to a smaller group of engineers. I will continue my editorial commentary on Sections 61G15-22.003 and .004 of the Florida Board of Professional Engineer's rules that address this.

Authoring published technical engineering papers, articles, or books; or accepted licensee examination items for NCEES.

Each published peer-reviewed paper or book in the licensee's area of professional practice is equal to 10 continuing education hours.

Each published paper or article (other than in paragraph (5) above) in the licensee's area of professional practice is equal to 5 continuing education hours.

Authoring accepted licensee examination items for NCEES is equal to 2 continuing education hours.

If you've been thinking about publishing a paper, might be time to dust it off and get it reviewed.

Patents.

Each patent developed using engineering principles is equal to 10 continuing education hours.

Active participation in professional or technical societies. Civic or trade organizations do not qualify under this provision. Credit for this activity requires that the licensee serve as an officer of the organization or actively participate on a committee in the organization. Continuing Education credits are not earned until the end of each year of completed service.

Active participation in professional and technical societies as described in subsection 61G15-22.003(6), F.A.C. Each hour of participation is equal to 1 continuing education hour, with a maximum credit of 4 continuing education hours per renewal period.

Get involved! You could earn up to 4 hours for your participation.

Section 61G15-22.005 discusses non-qualifying activities.

Activities that do not qualify as Continuing Education Hours include but are not limited to the following:

(1) *Self-generated courses, that being courses generated and presented by the licensee to himself or herself for continuing education credit.*

(2) *Personal self-improvement courses.*

(3) *Equipment demonstrations or trade show displays.*

(4) *Enrollment without attendance.*

(5) *Repetitive attendance or teaching of the same course.*

(6) *Tours of buildings, structures, schools, museums and such unless there is a clear objective to maintain and strengthen competency in a technical field.*

(7) *Regular employment.*

(8) *Personal, estate or financial planning.*

(9) *Courses the content of which is below the level of knowledge and skill that reflects the responsibility of engineer in charge.*

Finally, I would note that if you have questions regarding qualifying or non-qualifying activities, there are very knowledgeable folks at the Board's offices ready to help.

Whether you are a PE looking to attain required CEHs, or an engineer looking to learn something new or keep current with the latest trends in the profession, IEEE has seminars that will meet your needs. With renewal only 11 months away seminar demand is high. Sign up now!



SoutheastCon 2018

Half-Day Tutorials—Friday April 20

8:00am—12:00pm: Michael Wright, Power Grid Engineering

Details will be forthcoming...

1:00pm—5:00pm: DER OPERATION, CONTROL and PROTECTION

Wayne Hartmann, Senior VP, Protection and Smart Grid—Beckwith Electric Co.

Distributed Electric Resources (DER) are making larger inroads into our distribution systems. This technical session provides a background into DER operation and associated protection and control considerations for conventional and inverter-based power sources. We will review types of DER/DG and the modes in which they can operate in parallel with the distribution system.

- | | |
|--|--|
| <ol style="list-style-type: none"> 1) Explore Types of DERs 2) Utility and Facility Drivers for DER 3) Rates and DER Operational Sequences 4) Industry Concerns 5) IEEE 1547: Industry DER Guide 6) Sample Utility DER Interconnection Guide | <ol style="list-style-type: none"> 8) Interconnection Transformer Impacts 9) Energy Source Types and Impacts 10) Example Protection Applications 11) Distribution Protection Coordination and Control Issues 12) Smart Grid / Microgrid and DER |
|--|--|

Wayne Hartmann is Senior VP, Protection and Smart Grid for Beckwith Electric. He provides customer and industry linkage to Beckwith Electric's solutions, contributing expertise for application engineering, training and product development.

Before joining Beckwith Electric, Wayne performed in application, sales and marketing management capacities with PowerSecure, General Electric, Siemens Power T&D and Alstom T&D, with his focus on the application of protection and control systems for electrical generation, T&D and DER, and distributed energy resources.

He is an IEEE Senior Member and serves as a Main Committee Member of the IEEE Power System Relaying Committee. He is presently the Chairing the "Investigation of the Criteria for the Transfer of Motor Buses" Working Group. His IEEE tenure includes having Chaired the Rotating Machinery Protection Subcommittee ('07-'10), contributing to numerous standards, guides, transactions, reports and tutorials, and teaching at the T&D Conference and various local PES and IAS Chapters. He has authored and presented numerous technical papers and contributed to McGraw-Hill's "Standard Handbook of Power Plant Engineering, 2nd Ed."



SoutheastCon 2018

Sponsorship Opportunities Still Available!

A number of targeted contributions, including the Opening Reception, Student Lunches, Conference Apparel, Registration Gift Bags, Hospitality Suites, Coffee Breaks, In-Kind Contributions and Student Competitions are still available. For details, please visit the conference website at:

<http://ewh.ieee.org/reg/3/southeastcon2018/index.html>

Beat the rush and register for SoutheastCon now:

<http://ewh.ieee.org/reg/3/southeastcon2018/registration.html>

For additional information, contact Claude Pitts at claudie.pitts@ieee.org or (727) 262-3884.

 IASA IEEE INDUSTRY APPLICATIONS SOCIETY	 IEEE	 IEEE PES Power & Energy Society [®]
Increasing Motor Life and Process Continuity		

Date: Friday, March 23, 2018

Time: Registration & Breakfast: 8:30AM-9:00AM
Seminar: 9:00AM – 2:00PM

Speaker: **Wayne Hartmann** - Senior Vice President, Smart Grid and Protection, Beckwith Electric, Largo, FL

Location: FRCC 3000 Bayport Dr. #600, Tampa, FL 33607
Parking: Use parking lot for Hyatt (North side only).

Cost: \$100 Members, \$200 Non-Members, \$20 Students. Includes Breakfast, Lunch.

CEH Credits: 4 continuing education hours will be awarded. Be sure to enter your name and PE number on the sign-up website as it appears on your license.

RSVP: Online at: <http://www.time2meet/fwcs-pes1/index.html>
Make checks payable to: IEEE FWCS
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Questions: **Serge Beauzile** at 813-207-7982, or serge.beauzile@ieee.org

Motors in power generation and critical process industrial plants are subject to electrical power source disruptions. These motors provide the mechanical energy for fans, pumps, compressors and other driven equipment that support plant operation. Origin of a power interruption may be from the utility supplying the plant or from the in-plant electrical distribution infrastructure.

When challenged with power interruption, the ability to rapidly and safely transfer motors to another power source is paramount to maintain operational continuity. This transfer of motors is known as motor bus transfer (MBT). This seminar will explore challenges of MBT and illustrate methods for optimization.

Wayne Hartmann, IEEE Senior Member, is Senior Vice President of Smart Grid and Protection for Beckwith Electric. Before joining Beckwith Electric, he performed in Application, Sales and Marketing Management capacities at PowerSecure, General Electric, Siemens Power T&D and Alstom T&D. With over 30 years of Industry participation, his focus has been on the application of protection and control systems for electrical generation, transmission, distribution, distributed resources and power utilization. He serves on the IEEE Power System Relaying and Control Committee as a Main Committee Member, is Chair Emeritus of the Rotating Machinery Subcommittee ('07-'10), and presently Chairs the "Investigation of the Criteria for the Transfer of Motor Buses" Working Group.





Date: Friday, April 13, 2018

Time: Registration & Breakfast: 8:30AM-9:00AM

Seminar: 9:00AM – 2:00PM

Speaker: Gene Asberry, Senior Application Specialist, Basler Electric Company

Ben Kazimier, Principal Application Engineer, Basler Electric Company

Location: FRCC 3000 Bayport Dr. #600, Tampa, FL 33607

Parking: Use parking lot for Hyatt (North side only).

Cost: \$100 Members, \$200 Non-Members, \$20 Students. Includes Lunch.

CEH Credits: 4 continuing education hours will be awarded. Be sure to enter your name and PE number on the signup website as it appears on your license. Florida exempt provider #00015.

RSVP: Online at: <http://time2meet.com/fwcs-pes4/index.html>

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3133 W. Paris Street

Tampa, FL 33614-5964

Questions: Steve Antman at steve.antman@cepowersol.com or (863) 701-4170

In the excitation portion of the presentation, you will learn synchronous generator basics along with the features and functionality of a AVR/ Static exciter system. We will examine the limiters, protection associated with the exciter and Power System Stabilizers. We will also talk about PID control and the Auto Tuning features.

Gene Asbury (IEEE member), has been a Senior Application Specialist for Basler Electric Company, in Highland IL, since 2006. He has performed in various capacities since he started with Basler Electric in 1987: Quality Control Supervisor, Technical Sales Specialist, Project Coordinator, Proposal Engineer, and Application Specialist for Excitation Systems. Gene attended Southwestern Illinois College and received degrees in Industrial Technology and Communication Electronics.

R. Benjamin Kazimier is a Principal Application Engineer with Basler Electric Company. He holds a Bachelor's Degree in Electrical Engineering Technology from Purdue University. His work experience includes design, installation, testing, and commissioning of protective relaying equipment and a diverse range of power system apparatus. He is a member of the Georgia Tech Protective Relay Conference planning committee, the IEEE, the IEEE 1547 working group, the IEEE SCC21 working group, regularly attends IEEE-PSRC functions, and is the chairperson of the PSRC K10 working group.

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Advertising Section



SOLUTION PROFILE



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Metal-Clad switchgear with air-magnetic medium voltage circuit breakers was typically used in the past for motor starting applications for station service equipment. Frequent operation of these circuit breakers led to excessive wear of the breaker contacts and operating mechanism, and premature failure of the air-magnetic circuit breakers. Over the years these breakers required extensive reconditioning and overhaul, using OEM and after-market parts and components. Increasing cost of maintenance and obsolescence by OEM's requires a new approach.

CE Power has developed a solution to extend the life of existing metal-clad switchgear. By performing a MV fused vacuum contactor retrofit, the most vulnerable components are replaced while the integrity of the switchgear is maintained. This significantly reduces maintenance costs and increases reliability of the system.

Overview

- Vacuum contactors designed and tested for switchgear applications, up to 2,500,000 operation cycles
- Primary contacts sealed inside a vacuum bottle
- Operating mechanism consists of few moving parts and components
- Primary fuses sized to protect the motor and cable from short circuit condition
- Non-load break isolation switch provides a visible disconnect of the primary circuit
- Proper interlocking and controls design
- New microprocessor motor control relay provides improved protection, remote monitoring and communication



FOR MORE INFORMATION CALL

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Advertising Section



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The new DSP-ADM provides total system protection from ground faults and arc flash. As a base model it is designed to detect the event of a single ground fault, signal an alarm, and provide pulsing capability so that maintenance personnel can locate the faulted circuit without interrupting the process. Maintenance can be immediately alerted to the problem and an operator dispatched to located the fault to isolate it promptly.

The DSP SYSTEM can assist in locating the fault with a pulsing fault location circuit. In the event of a second ground fault, the DSP acts quickly to prevent loss of two feeders by selectively tripping the lower priority feeder only.



- Ground faults cause havoc on plant production processes, shutting down power and equipment and critical loads.
- Ground faults disrupt the flow of products through manufacturing processes and cause data loss in computer centers leading to hours or even days of lost productivity.
- Ground faults pose health and safety risks to personnel, creating hazards such as equipment malfunctions, fire and electric shock.

TECHNICAL SPECIFICATIONS

Power Requirements	100-240V, 50/60 Hz or DC, 25 VA
Dielectric	Relay contacts to chassis 1500 V rms for 1 minute alarm level
	Control terminals to chassis 1500 V rms for 1 minute alarm level
Trip Level Inhibit	IEC-60255-5
Contact Ratings	25% of systems ground current
	DSP-DFM: Trip Contacts- Form "C" SPDT 10 Amp., 240 V AC resistive DSP-DPS: Alarm Contacts- Form "C" SPDT 8 Amp., 240 V AC resistive IEC-60950
	DSP-DFM: Pickup Accuracy: $\pm 10\%$ of system let-through current
Temperature Range	0°C to 50°C

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March 2018 Calendar of Events (For more information see P. 1) in this Signal...

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6 <i>EXCOM Meeting 5:30pm TECO Plaza</i>	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23 <i>Increasing Motor Life 8:30am FRCC Details—P. 3</i>	24
25	26	27	28	29	30	31