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IEEE

THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Volume 62—No. 8 August 2016

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Florida West Coast Section Approved to Host SoutheastCon 2018

IEEE Region 3 has approved the Florida West Coast section to host its annual conference, SoutheastCon, in March 2018. Claude Pitts and Jim Howard will serve as conference co-chairs. Serge Beauzile will serve as vice chair and registration chair, Donna Howard will be the conference secretary, and Ralph Fehr will oversee the student conference, with USF being the host university.

The FWCS last hosted this major conference in 1996, when 625 members attended. In 2016, an attendance of 900 is anticipated. In addition to the technical program, a busy student program is planned which includes hardware (robotics), software, ethics, webpage, student paper, and T-shirt competitions. Students from USF will be instrumental in planning and running the student portion of the conference, but help will be needed.

In fact, numerous volunteer opportunities exist for dependable and enthusiastic members interested in participating in the organization of a major professional conference. Some of the volunteer positions require a considerable amount of time and effort, while other require much less. But dependability is an absolute requirement for all volunteer positions.

If you would like to help, please contact any of the local committee members listed above (E-mail addresses on page 2 of this Signal). Hope to see you as a conference volunteer or attendee!

Upcoming Meetings

EXCOM Meeting

Tuesday, August 2nd, 2016 5:30PM at TECO Plaza

Register online at http://time2meet.com/fwcs-excom/index.html

Open to all FWCS Members

Tampa Int'l Airport Solar Power Facility

Tuesday, August 23rd, 2016

Details on page 4

Zephyrhills Bottled Water Plant

Tuesday, September 13th, 2016

Details on page 5

Covanta Hillsborough County Resource Recovery Tour

Friday, October 21, 2016

Details on page 6

Save The Date—2017 E-Week Banquet

Plans are fully underway for the next Tampa Bay Engineering Week Banquet for 2017. The location again will be the Pepin Hospitality Center, 4121 N 50th Street, Tampa, FL 33610.

Date: Thursday, February 23, 2017

Time: 4:30-6:30 PM Networking & Exhibitions

6:30-9:00 PM Dinner Program & Awards

Watch future Signal newsletters for more details and registration information.

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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 Doesn't Qualify for Continuing Education Credit?

A fair amount has been published by myself and others regarding what qualifies for Continuing Education Hours (CEH). Section 61G15-22.005 of the Florida Administrative Code addresses Non-Qualifying Activities.

61G15-22.005 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.

Even with having this information as part of the continuing education rules, there is apparently still some confusion. I will address some questions that I have received in an attempt to provide some additional clarity.

Q. My company provides its employees with in-house, technical training. Can I count this toward my technical CEHs?

A. In accordance with section 61G15-22.003(2), in order to get credit for technical content it must be "presented/sponsored by a provider or vendor with specific knowledge related to the licensee's area of practice approved under Rule 61G15-22.011". That section (22.011) discusses "Board Approval of Continuing Education Providers". So you may only count that in-house training only if your company is an approved provider.

Q. I attended training that was provided by a nationally-recognized training company and the content was approved for operator certification in the nuclear industry. Can I count this training?

A. This question is applicable to many industries that require certification for certain jobs, not just nuclear. Many "nationally-recognized training companies" are certified in all states to provide continuing education hours. Additionally, Rule 61G15-22.011 specifies that entities that are "registered as a continuing education provider with the Registered Continuing Education Program (RCEP) of the American Council of Engineering Companies (ACEC)" qualify to provide CEHs in Florida. So if the training provider *...continued on Page 3*

PE Corner—continued from page 2

qualifies under either of the above, the hours count toward your Florida CEH requirement. You will need to check with the training provider to insure that they meet this criteria. Additionally, they should provide you with a certificate of completion with their provider number as evidence of your attendance.

Q. I taught a class, sponsored by a registered provider, a few years ago. Is there a way to get credit for teaching it again?

A. Maybe. As the rule states, repetitive teaching of the same class doesn't count. However, teaching a similar class, updated with recent changes or with a reasonable amount of different content can be counted toward your CEH requirement.

Whether you are a PE looking to attain required CEHs, or an engineer looking to learn something new or keep current with the latest trend in the profession, IEEE has seminars that will meet your needs. And for the PEs, don't forget that the next renewal deadline is only 6 months away. Better start earning those CEHs now!



Student Branch and Chapters

The USF IEEE student branch has a particularly busy year in store. In late August, a SoutheastCon 2018 planning committee will be formed, because USF, as the host university for the 2018 Region 3 conference, is responsible for planning, organizing, and implementing the student program portion of SoutheastCon 2018. This includes competitions in software and ethics, contests for webpage and T-shirt design, and the crown jewel of the SoutheastCon student program—the hardware competition. This is where autonomous robots designed and built by student teams from dozens of universities from throughout the southeast U.S. and Jamaica compete by playing a game based on a local theme. The Tampa Bay rendition of this contest is sure to be a crowd pleaser, but a tremendous amount of work is required to implement such an endeavor. In addition to engineering skills, the project management and communication skills of the student volunteers will be put to the test. Opportunities to **support the student program** will be forthcoming—this is a great way for your company to gain exposure at a major well-attended conference. And the student program must be seamlessly integrated into the rest of the conference, so students will also be serving on the local planning committee. Lots of work for sure, but much will be learned and hopefully it will include some fun too.

But let's not jump the gun! First comes SoutheastCon 2017 (March 30—April 2, 2017 in Charlotte, North Carolina). In addition to competing, and hopefully winning, the competitions in the student program there, USF students will be observing the working of the Charlotte conference and meeting with its organizers to help assure a smooth and successful program the following year in Florida.

...continued on Page 6

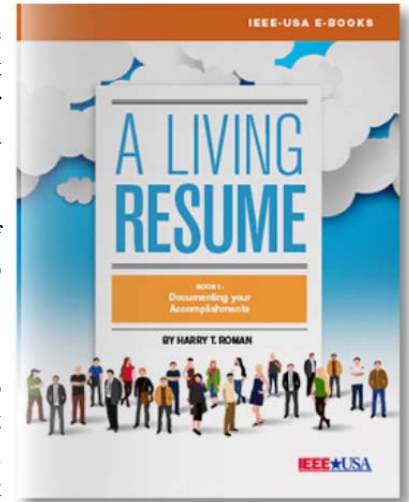
FREE EBOOK

This E-book helps engineers document their accomplishments.

Author Harry T. Roman thought that after 26 years, 250 technical papers and nine patents that he had job security. But one day he learned that his company was downsizing and his group was being let go. He was shocked but also prepared.

Roman's "Living Resume" series is designed to make you think carefully about what you have done in your career and to document it in a logical and powerful manner. Someday you, like Roman, might need a compendium of your career to help you keep your job or secure a new one.

After Roman lost his job, he says he was blessed to have people in his life that cared about his professional development. One of the first things they did was suggest he join IEEE. Roman began to revise his resume and document fact-filled examples to illustrate his value to a new employer.



From now to August 15, you can get your free e-book to download by going to <http://shop.ieeeusa.org/usashop/product/careers/73254>. Log in with your IEEE Web account, add the book to your cart, and use promo code JULYFREE16 at checkout.

Coming up...

In August, IEEE-USA E-BOOKS will offer "Shaping an Engineering Career, Book 3, Volume 1: Advancing to Management," by Siri Varadan.

In his review of career management, Varadan explores how career advancement is a function of opportunity, preparation and readiness.

Seeking Authors

Do you have an idea for an e-book you think will benefit your fellow members? If so, IEEE-USA E-BOOKS would like to hear from you. We are seeking authors to write an individual E-book, or a series, on career guidance and development topics.

Please email your proposal to IEEE-USA Publishing Manager Georgia C. Stelluto at g.stelluto@ieee.org.

IEEE-USA serves the public good and promotes the careers and public policy interests of nearly 200,000 engineering, computing and technology professionals who are U.S. members of IEEE.

		
<h2>Tour of Tampa International Airport Solar Power</h2>		

Date: Tuesday, August 23, 2016

Cost: Free for IEEE Members and Students
\$5 for Non-Members

Time: 4:00pm—5:00pm

Parking: \$1 per 20 minutes in Economy Parking Garage

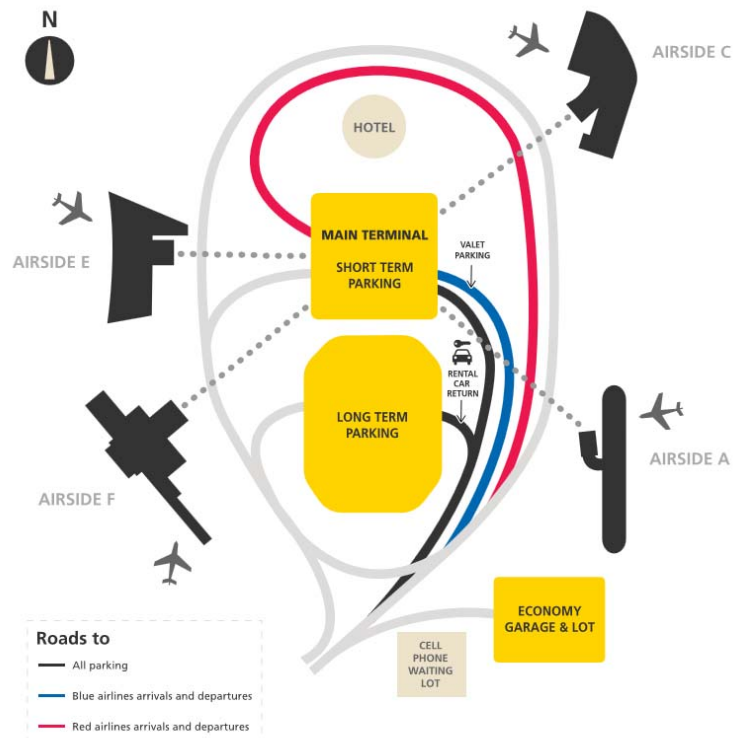
Location: Tampa International Airport
Economy Parking Garage South
(Top Floor of Garage)
Economy Parking Rd.
Tampa, FL 33607

RSVP: Online at
<http://time2meet.com/fwcs-pes2/index.html>
Space limited to first 25 registrants!!!

Questions: Tom Blair at tom_blair@ieee.org

Tour Description

Your IEEE FWCS PES/IAS chapter is happy to announce a tour of the Tampa International Airport and Tampa Electric Solar Array facility at the Economy Garage at TIA. On Feb. 11, 2016, airport officials, community leaders and others dedicated the new photovoltaic (PV) array, atop the South Economy Parking Garage, which has the potential to generate enough clean electricity to power the equivalent of up to 250 homes. It will produce an environmental offset on the order of removing nearly 350 cars from Tampa-area roads over the course of a year. As an added benefit, the array will provide shade for cars parked on the garage's top level.



Come out and see the latest PV installation and learn about the future of solar energy in Tampa Bay. The new facility at TIA can produce up to 2 megawatts (MW) of clean, renewable energy. The tour will be on the top floor of the Economy Parking Garage (aka remote parking garage).

The tour is free for IEEE members, their guests, and students; however, there will be a small fee (**\$1 per 20 minutes or \$3 per hour**) to park in the economy parking garage.

 <p>IEEE INDUSTRY APPLICATIONS SOCIETY</p>		 <p>Power & Energy Society™</p>
<h2>Zephyrhills Water Bottling Plant</h2>		

Date: Tuesday, September 13, 2016

Cost: Free for IEEE Members and Students
\$5 for Non-Members

Time: 4:00pm

Location: 4330 20th St.
Zephyrhills, FL 33542-6703

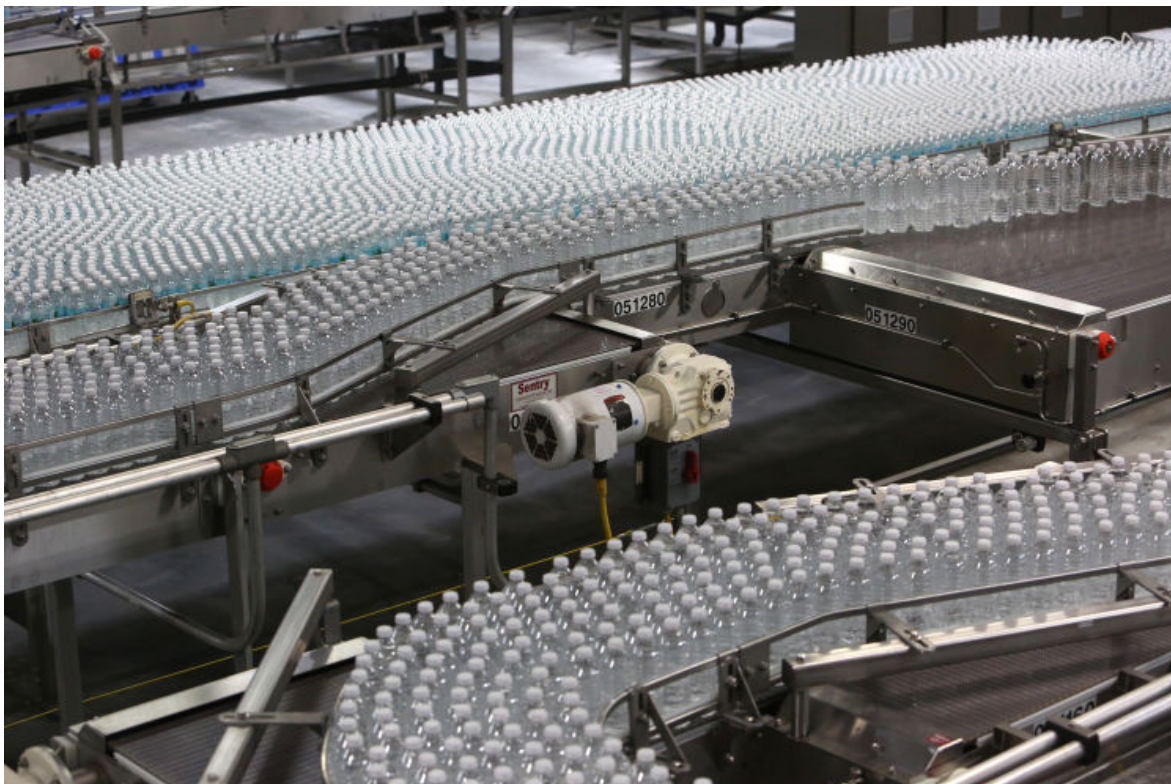
RSVP: Online at
<http://time2meet.com/fwcs-pes4/index.html>
Space limited to first 15 registrants!!!

Questions: Claude Pitts at claudie.pitts@ieee.org or (727) 418-5272



Tour Description

This is a walking tour of the Zephyrhills Water Bottling Plant. Zephyrhills Water, a division of Nestle Waters North America, is located in Zephyrhills Florida in a community originally named Abbott Station. Zephyrhills Water produces several types of bottles, one of which is a specially designed "Eco-Shape" bottle that requires 30 percent less plastic to manufacture, features reduced-size labeling, and is 100 percent recyclable. Please join us as we see the incredible transformation of a piece of plastic into a variety of containers ranging from "child-sized" to 5-gallon containers of spring water.



		
<h2>Covanta Hillsborough County Resource Recovery Tour</h2>		

Date: Friday, October 21, 2016

Time: 11:00am—2:00pm

Lunch provided

Location: 350 N. Faulkenburg Rd
Tampa, FL 33619

Cost: \$10 for IEEE Members and Students
\$20 for Non-Members

RSVP: Online at <http://time2meet.com/fwcs-pes3/index.html>

\$15 for student non-members

Space limited to first 25 registrants!!!

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

Tour Description:

This is a walking tour of the Covanta Energy Hillsborough County Resource Recovery Facility. The Hillsborough County Resource Recovery Facility, operating as Covanta Hillsborough, Inc., began commercial operation in October 1987. After a 2009 expansion that increased its processing capacity, the facility now processes up to 1,800 tons per day of solid waste. The facility, located near Tampa, FL, generates up to 46.5 megawatts of renewable energy and is owned by Hillsborough County, which supplies the waste processed at the facility. Covanta Hillsborough recycles secondary sewer treatment runoff from the adjacent wastewater treatment plant as part of its process water. It also maintains emissions control equipment in compliance with the United States Environmental Protection Agency's Clean Air Act.

Directions: The Hillsborough Facility will be visible on your left. Enter second driveway and proceed up the road on far right around the facility following visitor signs. Parking is available and visible once you circle facility.

USF Student Branch and Chapters—continued from page 3

The PES/IAS joint student chapter at USF also has big plans for the upcoming school year. After reactivating the chapter last year after decades of inactivity, the PES/IAS chapter had a busy spring semester including student body meetings, guest speakers, and technical tours. Those activities will continue throughout the 2016-17 academic year, with an increased focus on joint activities with the FWCS's PES/IAS chapter. We will have student representation at the PES annual meeting in Boston and faculty representation at the IAS annual meeting in Portland, Oregon. As always, opportunities exist to work with the student chapter. Perhaps a technical talk or a tour of your work facility? Please contact the PES/IAS student chapter's chair Jairo Garcia (jairog@mail.usf.edu) or the advisor Ralph Fehr (r.fehr@ieee.org) if you'd like to help.

The Microwave Theory and Techniques Society (MTT-S) student chapter promotes the advancement of microwave theory and applications within the university community. Our chapter has a strong connection with different RF industry companies such as Qorvo, Keysight, TDK, Ansys, and Nscrypt. These companies frequently visit our chapter and present their latest technologies. The most recent one was titled "Laser Machining for RF Circuits", presented by Nscrypt.

Engineers from TDK also visited and presented about RF Acoustic Filters (SAW and BAW). We also host the WAMI Student Seminar Series, which provides graduate students with an opportunity to give either tutorial style or conference-quality presentations and also to receive valuable feedback from other students in a casual environment.

Our members have a strong presence in the major conferences of our society, such as the IEEE Wireless and Microwave Technology Conference (WAMICON), which is held in Florida each year, and the IEEE International Microwave Symposium (IMS), the largest conference in the field. These conferences offer different opportunities to students, including full registration waiver and accommodations to attend to them for some members. Among the activities for the fall semester is to continue offering seminars/tutorials of different topics related to the RF circuit field. The chapter is also actively looking for support to bring a hands on wireless demonstration to high schools, so the younger students can experience the wonders of wireless circuits/antennas, and understand how they work. Contact Eduardo Rojas (eduardor@mail.usf.edu) or Michael Grady (gradym@mail.usf.edu) for more information. Come join us!

FWCS Seeking Volunteers for Section Officers for 2017

The FWCS Nominating Committee is seeking volunteers for the following positions within the Section Executive Committee:

Chair Vice-Chair Secretary Treasurer

If you are willing to volunteer and have the time to dedicate to these very prestigious Officer Positions for the FWCS, please contact Jim Howard (j.howard@ieee.org), Richard Beatie (r.beatie@ieee.org), or Robert Aasheim (robert.aasheim@duke-energy.com)

IEEE Technical Societies

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IEEE is the world's largest technical professional organization. At its heart is the network of technical societies.

Join an IEEE Society today and start connecting to breakthrough technical information in your technology field. Technical society membership includes:

- ✓ Society peer-reviewed publications and conferences
- ✓ Significant discounts on society publications, conference registration, and other products (applies to many but not all Societies)
- ✓ An expansive professional network of worldwide technology experts in your field

Here is a complete list of the IEEE technical societies:

- Aerospace and Electronic Systems Society*
 - Antennas and Propagation Society*
 - Broadcast Technology Society
 - Circuits and Systems Society
 - Communications Society*
 - Components, Packaging, and Manufacturing Technology Society
 - Computational Intelligence Society
 - Computer Society*
 - Consumer Electronics Society
 - Control Systems Society
 - Dielectrics and Electrical Insulation Society
 - Education Society
 - Electron Devices Society*
 - Electromagnetic Compatibility Society
 - Engineering in Medicine and Biology Society*
 - Geoscience and Remote Sensing Society
 - Industrial Electronics Society
 - Industry Applications Society*
 - Information Theory Society
 - Instrumentation and Measurement Society
 - Intelligent Transportation Systems Society
 - Magnetics Society
 - Microwave Theory and Techniques Society*
 - Nuclear and Plasma Sciences Society
 - Oceanic Engineering Society
 - Photonics Society
 - Power Electronics Society
 - Power & Energy Society*
 - Product Safety Engineering Society
 - Professional Communication Society
 - Reliability Society
 - Robotics and Automation Society
 - Signal Processing Society*
 - Society on Social Implications of Technology
 - Solid-State Circuits Society
 - Systems, Man, and Cybernetics Society
 - Technology and Engineering Management Society
 - Ultrasonics, Ferroelectrics, and Frequency Control Society
 - Vehicular Technology Society
- * - *denotes active society in Florida West Coast Section*

Membership in an IEEE technical society is a great way to further your career, expand your professional network, or just learn about a different electrical engineering subdiscipline. Of the 39 technical societies, ten are active in the Florida West Coast Section. Explore what the technical societies have to offer to make the most of your IEEE membership.

Go to https://www.ieee.org/societies_communities/societies/membership_societies_index.html for technical society membership information.

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Power Engineering Training and Consulting

Power System Analysis: 8 Sessions @ 3 hours per session for 2.4 CEU's [or 24 PDH's]

This course, designed for engineers and technicians, focuses on the use of symmetrical components to analyze unbalanced power systems. It covers the essential topics necessary for power system analysis including:

- Phasors and Complex Number Mathematics
- Three-Phase Power Calculations
- Per-Unit System
- Delta-Wye Transformer Analysis
- Symmetrical Component Theory
- Sequence Network Development
- Short-Circuit Fault Calculations
- Open-Circuit Fault Calculations

Fault Current Calculations:

4 Sessions @ 3 hours per session for 1.2 CEU's [or 12 PDH's]

This course is intended for engineers and technicians familiar with basic three-phase system analysis methods seeking a more thorough understanding of symmetrical components and sequence networks. A thorough development of symmetrical components, necessary for a thorough understanding of fault calculations, is presented. Then, a failsafe method of creating sequence networks is covered, followed by short- and open-circuit fault calculation methods.

Transformer Application: 4 Sessions @ 3 hours per session for 1.2 CEU's [or 12 PDH's]

This course begins with a review of basic transformer theory, then progresses to the analysis of a single-phase transformer using a detailed circuit model. Next, the basic three-phase transformer connections (delta and wye) are studied, followed by an overview of special transformer connections including high-phase order applications, grounding transformers, phase shifting transformers, and autotransformers.

AC Motor Application: 4 Sessions @ 3 hours per session for 1.2 CEU's [or 12 PDH's]

This course covers the essentials of induction motor application, including a review of basic motor theory, motor nameplate interpretation, speed-torque curves, and starting time calculations. NEMA frame sizes and NEMA starters will be addressed, along with motor and motor circuit protection practices as stipulated by the National Electrical Code. Motor control and special starting methods will also be covered. In addition, use of variable frequency drives (VFDs) will be discussed, along with concerns involving VFDs that need to be understood when working with power electronic technology.

Other Electrical Power Topics

Power System Planning Strategies and Techniques

Asset Management and Maintenance Strategies

Power System Modernization Methods

Power Engineering for Non-Power Engineers — *this course is ideal for engineers new to the power field who did not have a strong power background at the university. It is also helpful for technicians new to the power engineering field.*

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FE and PE Review courses for electrical power engineering

Contact Richard Heinze for additional information:

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Florida West Coast Section, Tampa

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August 2016 Calendar of Events (For more information see P. 1) in this Signal...

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 <i>EXCOM Meeting 5:30 TECO Plaza</i>	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23 <i>Tampa Airport Solar Details Page 4</i>	24	25	26	27
28	29	30	31			