IEEE PES Schenectady Chapter 2015 Annual Report

Introduction

This report is intended to document the achievements of the Schenectady PES chapter over 2015. These achievements were the result of many people (principally the chapter leadership but also members of the section leadership team) supporting various aspects of the tasks and also spurring on additional work as new ideas surfaced through the year. This vitality and enthusiasm is exciting and makes the running of the chapter easier.

The Chapter has been very active with a fully engaged leadership team. Volunteer experiences, as well as formal training, has strengthened this team to deal with next year's initiatives. Together this year we have completed a successful colloquium, an inspiring Steinmetz Memorial Lecture, several community outreach projects that raise awareness of electrical engineering and inspire the next generation to consider it as their profession, and we earned an Outstanding Chapter Award from IEEE.

Chapter Leadership

Your PES chapter leadership team for 2015 (pictured below) has been well staffed with volunteers. Sowmya Nellutla and Amal Mallavarapu were the Vice-Chairs. Navaneeth Varadarajan and Prabhakar Neti served as leadership team members. Vince Forte was Chair. Everyone increased their knowledge of the running of the chapter through experience and sharing of tasks. We have enjoyed our time leading the chapter together.

Your Chapter leadership team pictured left to right are:
Prabhakar Neti, Navaneeth Varadarajan Sowmya Nellutla (PES Vice Chair), Vincent Forte (PES Chair), Amal Mallavarap (PES Vice Chair)

As we move into different roles for 2016 there will be opportunities for PES members to step into this leadership team. **We encourage you to consider volunteering.** You will find this is both exciting and fulfilling but not a great burden. Come and place your mark on your professional society! If interested you can contact Vince Forte at Vincent.J.Forte@ieee.org or Amal Mallavarapu at Amal.Mallavarapu@cgglobal.com or Sowmya Nellutla at Sowmya.Nellutla@cgglobal.com for further information.

In addition to our shared leadership tasks which provided succession planning experiences, we also had the opportunity for more formal training. Sowmya attended Chapter Chair training during the 2015 IEEE Power & Energy Society General Meeting in Denver. Amal has attended Section Membership Chair training in New Jersey in November. These training opportunities were supported financially by IEEE National level and partially by our Schenectady PES Chapter or Section.

Looking forward to 2016 Sowmya will be the PES Chapter Chair, Prabhakar and Naveneeth the PES Vice Chairs, and Amal the IEEE Section Membership Chair. Vince will be Past PES Chair and plans to remain involved.

Again your PES Chapter remains open for new leadership team volunteers. I promise you will find being part of this team fun, fulfilling, and helpful for career development.

PES Officer Meetings 2015

Your PES Chapter leadership team has met often during this year to discuss PES vision, annual agenda, succession planning, and action items related to the colloquium and other projects. These meetings were often short and sometimes accomplished by conference call. Between meetings email and shared cloud space helped us to stay coordinated with minimal time commitment.

Colloquium

Judging by responses from all attendees, the **2015 IEEE Engineering Colloquium** held by the **Schenectady PES Chapter** on September 25 was another great success. This was the second conference organized by the Schenectady chapter and it will continue as an annual event. Speakers came from a diverse background of impressive organizations and each had great credentials.

The seven presenters (see table below) all made excellent presentations with timely information regarding regulatory changes to encourage more resiliency and distribution level energy resources, nearby active micro-grid pilots, smart grids here and in India, HVDC updated substation in Vermont, and energy storage. Continuing education credits were provided for each presentation. This is the cheapest, quickest way to earn PDH continuing education credits. Every PES member with a PE license should keep this one day local conference on their calendars.

Speaker Name	Speaker's Firm	Topic
Dr. Kannan Tinnium	GE Global Research	Technology Challenges and Opportunities in Smart Grids
Dr. Chuck Seifert	Siena College	Ethics
Jeremiah Miller	Smarter Grid Solutions	Market Animation: System-Level Data & Technology Requirements of REV
Michael Razanousky	NYSERDA	Micro-grid pilots in New York State
Matt Wallace	NY PSC	Reforming the Energy Vision (REV) proceedings impacts on technology
Jeff Carrara	Vermont Electric Power	Updated HVDC substation
Dr. Herman Wiegman	GE Global Research	Energy Storage Metrics, Applications and Recent Developments

SAVE THE DATE: The 2016 IEEE Engineering Colloquium will be held in mid-September (the most likely date will be either 16th or 23rd) on the Union College campus in Schenectady. If you have topic ideas or if you wish to present contact any of your Chapter leadership team by email.

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Steinmetz Memorial Lecture

The Schenectady PES Chapter Chair is the IEEE Section representative and Co-Chair on the Steinmetz Memorial Lecture committee which is co-chaired with Union College. This memorial was created by Steinmetz's many friends and admirers in 1925.

Since then, many eminent scientists and engineers have presented public lectures in honor of Charles Proteus Steinmetz. Each year or two a national level speaker makes a presentation and is honored. This year's honoree and speaker was Lynn Conway. Go to the Section website http://sites.ieee.org/schenectady/ to find a link to the video of this lecture (it is also on Union College's website).

Charles Proteus Steinmetz

Lynn Conway

There is still time to volunteer to be on the selection committee for the 2016 lecture. Contact Vince Forte at Vincent.J.Forte@ieee.org if you are interested in learning more about becoming part of the committee for this interesting and historic event.

PES Regional Monthly Leadership meetings

This year we had increased PES Region 1 interaction resulting in more exchanges of challenges and achievements between all the chapters in the region. These exchanges surfaced some common issues that we may be able to better address collectively with or through PES National. This process is strengthening ties between various IEEE organizational elements. (It should be remembered that IEEE is a matrixed organization of mainly volunteers, not a hierarchy. So keeping these various leadership teams closely linked through timely and efficient communications is important.)

Presentations and Tours

Engineer's Week – Cosponsored with NYSSPE February 2015 (Continuing Education PDH credit provided)

Avoiding Flaws in Electrical Specifications
The Future of Electricity Markets
Engineering Approach to Disaster Resiliency
Substation Physical Security - CIP-014 Compliance and Real World Implementation

March 2015 New York BEST Annual Meeting and Conference - CAPTURE THE ENERGY (Cosponsored)

Adam Spence of the NYS Governor's Office - keynote
NY REV: What's the Role for Energy Storage - panel session

Mechanicville Hydro presentation and tour – May 2015 (Cosponsored)

The PES chapter co-sponsored this tour with the DEIS chapter, which led the process. This was an excellent tour through the generation plant and included a very complete take away document about its history.

NYISO presentation and tour – December 2015

This tour debuts the New York Independent System Operator (NYISO) control center in Rensselaer County. Section Chair Jamie Barrett arranged this excellent tour which thoroughly explained the function and processes of the NYISO as well as providing a view of the control room.

Outstanding Engineer Award

The PES leadership team developed the selection criteria and award process to establish a Chapter Outstanding Engineer Award. This opportunity was posted on our website soliciting member submittals and it was announced in a monthly newsletter too. No submittals have been received to date.

Members can submit nominations through the PES Chapter tab on the IEEE Section website. Recipient will be presented with a plaque during a local ceremony. Go to this link to learn more: http://sites.ieee.org/schenectady/power-energy-society/ or email Sowmya at Sowmya.Nellutla@cgglobal.com

Outstanding Chapter Award

Your PES Chapter earned an Outstanding Chapter Award. This international award of the IEEE signifies that your chapter provides great value to its membership and is active in many excellent ways. Please consider volunteering a small portion of your time to help us maintain this high level of achievement.

Community Outreach

Edison-Steinmetz Statuary Project

Vince Forte, PES Chair, represented the Section on this local business community collaboration, the Schenectady County Chamber of Commerce, and IEEE to commemorate Thomas Edison and Charles Proteus Steinmetz with bronze statues of the two of them in discussion. Phil Barker was also an IEEE PES member on this committee. We provided comments on the bronze plaques describing the backgrounds of these two giants in our industry, ensuring Steinmetz's tenure as a national president of AIEE (a predecessor of IEEE) was noted.

The statues were dedicated May 2015. They are located in the newly updated Schenectady streetscape at the intersection of Erie Blvd and North Ferry Street about midway between the GE main plant and State Street.

Currently a lighting project for these statues (study developed by the RPI Lighting Research Center) is in progress. Expect better lighting of these bronze statues by Spring 2016.

A bronze bust of Steinmetz is also planned to be unveiled April 2016 on the lot where his home was located.

This statuary committee is considering doing more bronze statues of significant local engineers and scientists. If you want to be part of this committee let Vince Forte know.

Electric City Wizards Collaboration

Vince Forte, PES Chair, began a collaborative project with the Schenectady City School District, Union College, and the local business community (led by Merriam Insurance Agency) to continue and accelerate the education of our youth relative to electrical and electronic engineering. A preponderance of current STEM studies appear to focus on civil and mechanical engineering. The Wizards Collaboration will develop a pilot program to advance an understanding of the value of EE and the exciting "cool things" that engineers do and create. The Collaboration will: 1) Target professional development to SCSD secondary math/science teachers to increase understanding of electrical technology and careers in electrical engineering; 2) Professional sharing to expand the reach of the professional development, from the initial teachers to their colleagues in each local school; 3) Student engagement connecting working engineers directly to students through classroom visits and mentoring; 4) Hands on units of study supporting EE topics; 5) Parental and community engagement building awareness of EE so that the most important adults in a student's life can support the importance of early and continued STEM studies; and 6) Creation of an internet based portal for sharing videos and demonstration lessons, aligned to the math/science curricula.

Our PES members will be invited to explain how students STEM studies relates to electrical engineering and answer the student question "Why do I have to know this?" Also for each module an engineer will create a short (90 second) video at their work location explaining how a problem the students are working on relates to an aspect of the engineer's work.

Four education modules will be created each composed of 2 hands on labs for the students to learn a basic technology, 1 video of engineers explaining their exciting work and how it relates to secondary student homework, and 3 classroom opportunities where engineers will talk directly with students,

assist teachers with labs, and demonstrate to students their continuing interest over a three to six week calendar period.

To increase awareness and reach of this program, Project partners will author an IEEE paper and submit it for publication explaining the program features including portal web address, collaborative development process, and results to date.

To accomplish this ambitious project a grant application was made to the IEEE Foundation in 2015. This international grant competition was finalized mid-December 2015. Unfortunately we did not win the funding; however, we plan to continue the work by funding it through the local business community. This project will begin in 2016 and we will be soliciting IEEE Section members to volunteer their support of it.

Please consider volunteering for this effort. It is a great way to encourage the next generation to enter electrical engineering careers and highlight your company's involvement in local community.

Union College STEP Program

The Science and Technology Entry Program (STEP) at Union College helps encourage and prepare students in grades 7-12 for entry into postsecondary degree programs in scientific, technical, health-related, and licensed professions. Union College hosts, at no cost to students, twelve Saturday sessions comprised of academic workshops and local field trips and a three-week intensive research-based summer program. PES Chapter supports this effort by finding member volunteers to present on electrical or electronic engineering. This year PES member Timothy Corrigan of CG Power Solutions volunteered to present.

Leadership Training

PES Chair Training

Frank Lambert, IEEE PES VP Chapters, invited and funded travel and lodging expenses for a training session at the 2015 IEEE General Meeting in Denver. Sowmya Nellutla, PES chapter Vice-Chair, was able to attend and brought back information while also sharing our best practices with other PES chapters from around the country.

IEEE Membership Chair Training

IEEE National invited and funded expenses to train new Section Membership Chairs. PES chapter Vice-Chair Amal Mallavarapu attended this training which was held in New Jersey in November 2015.

PES Chapter Leadership Manual

To create a more sustainable leadership pattern and also to make it easier for more members to step up to the leadership roles, we created a leadership manual for the chapter. This is a living document with contacts information and step by step process similar to that used in other all volunteer organizations. This manual will be updated in November or December of each year and shared with the Chapter, Section, and Regional leadership teams. Please know if you volunteer this manual will help you to be an instant leadership expert!

Chapter Collaboration

Co-sponsored meetings

PES and DEIS chapters working more closely this year. They co-sponsored a hydro tour.

WIE

Both 2015 PES Chapter Vice-Chairs are members of the Schenectady section WIE affinity group.

Student Chapter Outreach

Through the Schenectady Section Student Activities position the PES Chapter leadership offered to host a campus meeting in 2015. This could be a viewing of our copy of the film "Divine Discontent: Charles Proteus Steinmetz", pizza and soda courtesy of the chapter, and socializing with local working engineers. There was no response to this invitation, but it will be extended again in 2016.

Miscellaneous

PES Website

A PES Chapter tab was created on the Schenectady Section website in 2014 and used in 2015 for the colloquium, the Outstanding Engineer Award, and to help PES members locate their chapter leadership contact information. Having the PES tab on the Section website allows for efficient support by both chapter and section personnel of the website while still maintaining a distinct web space for members to find PES only related material.

A technical glitch caused the loss of information on the website. This has only partially been recovered and work continues to completely restore the website content. If members are looking for something that is not yet restored please feel free to contact any member of your chapter leadership team (contact information has been restored to the site).

Conclusion

This has been an eventful year for the chapter. The second annual colloquium has proved to be a success and has demonstrated to be a sustainable annual event. This will help to raise the stature and awareness of engineers in the 14 county area served by the chapter and section.

In addition to many new activities, such as the collaboration with the Schenectady County Chamber of Commerce bronze statuary committee and the collaboration with the Schenectady City School District / Union College for the Electric City Wizard's project, the chapter also earned an Outstanding Chapter Award.

We have created a more sustainable leadership process through succession planning and training. That process was enhanced by continued updating of a detailed leadership manual. The vitality and enthusiasm of our Vice Chairs and our other leadership team members in 2015 is encouraging. This enthusiasm has translated into leadership members running for Chair, Vice Chair, and Section Membership Chair positions for the coming year. We look forward to another exciting year for the PES Schenectady Chapter and our close working relationship with the Section. We also look forward to more PES members volunteering for leadership or for specific short term projects of the PES Chapter.