

More Power to the Future



Industry Technical Support Leadership Committee

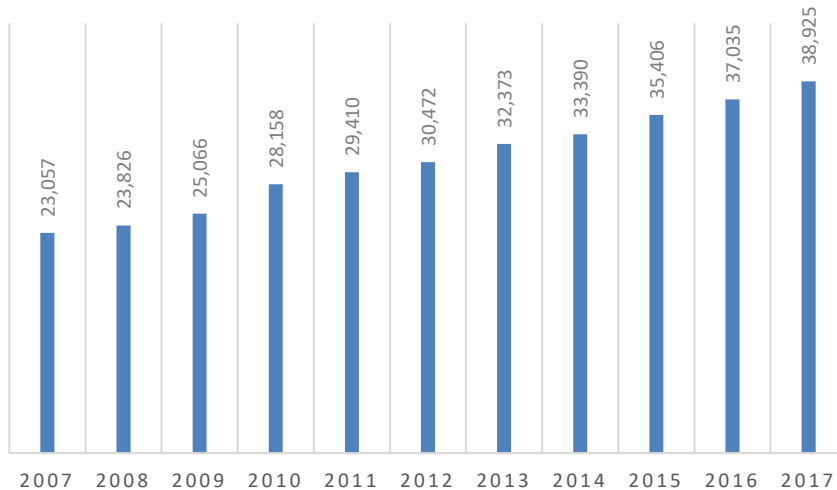


May 2019

MORE POWER TO THE FUTURE

Record Membership Growth!

TOTAL PES MEMBERSHIP



Official PES Membership: 38,925

Accomplishments...

- Increased Industry Participation – Members to Volunteers
- Valuable Products & Services, Conferences & Workshops
- Increased Global Participation
- Providing objective technical leadership, globally
 - *Respond to changing industry needs*
 - *Fast-track standards development*
 - *Cooperation with global government and regulatory agencies*

Globally Industry/Government Participation

Milestones – IEEE Industry MOUs

U.S. DOE to address grid modernization challenges

FERC to address energy infrastructure & market challenges

NERC to perform and promote regional & international standardization

NA Transmission Forum MOU to facilitate interactions on issues pertaining to the electric transmission

Ministerio de Electricidad y Energia Renovable del Ecuador to address reliability and resiliency challenges due to significant changes in the energy industry

EU Commission, California PUC, etc.

Industry Technical Support Leadership Committee

- Facilitates global collaboration between the IEEE and governments, regulatory, and other industry organizations on important technical issues
- Provides independent and unbiased viewpoints from IEEE membership
- Leverages IEEE membership and various organizations (e.g. Technical Committees, Smart Grid and Smart Cities, chapters) by coordinating efforts with the organizations mentioned above
- Works closely with IEEE Standards Association (SA), IEEE USA, and other societies
- The term of office for all members is one year. Having served one term, he/she shall be eligible to be re-appointed for up to four additional one-year terms, not to exceed five years of total service.

ITS LC Organization

■ **Officers and Points of Contact**

- IEEE PES VP of New Initiatives and Outreach: Shay Bahramirad
- Lead Officer: Damir Novosel, PES
- IEEE Staff Lead: Shana Pepin
- IEEE Standards Association: Erin Spiewak and Ravi Subramaniam
- IEEE USA: Shay Bahramirad and Veronika Rabl

■ **Task 1: *Standards and Interoperability***

- Leads: Doug Houseman/Chan Wong
- Ravi Subramaniam (IEEE SA)
- NIST Liaison: Jerry Fitzpatrick

■ **Task 2: *Technology***

- Leads: Dagmar Niebur/Carla Freih

■ **Task 3: *Conferences and Meetings***

- Leads: Tom Pierpoint/Don Hall

■ **Task 4: *Education***

- Leads: Marianna Vaiman/Sharma Kolluri

ITS LC Organization

■ Regulatory and Government

- FERC: Emanuel Bernabeu and Bill Chiu
- NERC: Ravi Subramaniam and Jay Liu
- DOE: Doug Houseman and Ravi Subramaniam
- NATF: Marianna Vaiman and Chris Root
- MEER Ecuador: Jaime Cepeda

■ Corporate Engagement

- Region 1-7 Leads: Marianna Vaiman, Sharma Kolluri, and Chris Root
- Region 9 Lead: Juan Celis

IEEE PES VP Of Membership and Image: Juan-Carlos Montero

Benefits of Corporate Engagement

Membership	Full IEEE-PES membership includes access to the PES Resource Center, P&E Magazine, IEEE Electrification Magazine, and many more benefits
Conferences	Company's PES Members enjoy special conference and event registration membership discounts
PES Resource Center	PES Resource Center contains a wealth of practical information that would help Company's engineers and technologist. Company will receive free custom webinar training on using the Resource Center.
Technical Activities	PES can assist and train Company's PES members on Technical Committee participation and processes.
Standards	Company's PES members trained and engaged in developing guides and standards with a free custom webinar.

Selected Achievements

■ NERC

- Workshop on IEEE 1547 DER Interconnection standard
- Guide on “Impact of Inverter Based Generation on Bulk Power System Dynamics and Short-Circuit Performance” – **June '18**
- Identified a list of priority topics with a plan to address them

■ FERC

- Workshop on IEEE 1547 DER Interconnection standard
- Tutorial on Energy Storage by the BESS Committee
- Resiliency docket: “Definition and Quantification of Resilience” - **June '18**
- Testimony for Reliability Technical Conf. (Docket No. AD18-11) on “Managing the New Grid” – **July '18**
- Feasibility of “universal” transformer specs

Selected Achievements

■ DOE

- White paper “Impact of IEEE 1547 on smart inverters” – **May '18**
- Supporting Grid Modernization Laboratory Consortium on interoperability, metrics and other key topics, Next Generation Distribution System Platform (DSPx) and Grid Digitization

■ Other

- Meeting **Australian Parliament** representatives, including the peer-reviewed presentation in New York, **Sep '18**
- Supported the technology chapter of the World Bank energy report on Mini Grid Technology and Costs, **Q1 '19**
- Supported IEEE-USA a position paper on Energy Sector Research and Development, **Q1 '19**
- Input to the IEEE **European Public Policy Initiative** Position Statements on: Electrification of Transportation; Energy Storage for Renewable Integration; Heating and Cooling Future of Europe and Interactions with Electricity; DC Electricity Distribution

Conferences and Workshops

- Engage regulators and other industry organization (e.g. DOE, NERC, FERC, NATF, CPUC, ENTSO-E) in IEEE conferences and workshops
 - IEEE PES San Francisco Chapter has organized two workshop on DER Integration at California Public Utility Commission
 - PES ISGT 2018: Chair - M. Pesin (DOE Deputy Assistant Secretary)
 - Participation at panel sessions: 2017 and 2018 PES GM, 2018 T&D, and 2018 and 2019 ISGT, and ISGT 2019:
 - Planning and Operating a Flexible and Resilient Grid: Vision for the Future, with leaders from DOE, NERC, FERC, NATF, IEEE PES
 - Panel session on Planning and Operating a Flexible and Resilient Grid: Insights of Recent ITS Technical Reports
- PES participation in regulatory and government initiatives
 - Attending FERC Technical Conference and State Regulator Conferences, e.g. Ohio's Grid Modernization Initiative (DER panel)

Other Achievements

- Panel Session on “Success Factors for Sustainable Electrical Energy Delivery” at the Fourth United Nations Multi-Stakeholder Forum on Science, Technology, and Innovation in New York City, **May `19**
- White paper on “Success Factors for Sustainable Electrical Energy Delivery” to provide an objective perspective for media outreach, **April `19**
- The report on “Impact of Inverter Based Generation on Bulk Power System Dynamics and Short-Circuit Performance” received the 2019 IEEE PES Working Group Recognition Award – Technical Report
- NextEra Storage Workshop attended by ~150 people, West Palm Beach, Florida, **Sep. `18**

Resource Center Content

- “Impact of IEEE 1547 Standard on Smart Inverters” , Report
- “Impact of Inverter Based Generation Dynamics and Short-Circuit Performance”, Report
- “Definition and Quantification of Resilience”, White Paper
- “Managing the New Grid”, White Paper
- “Success Factors for Sustainable Electrical Energy Delivery” , White Paper
- “DER Integration and Microgrids”, Presentation
- Tutorials on
 - “Energy Storage”, delivered to FERC and NextEra
 - “IEEE 1547”

All-time highest traffic of all IEEE PES documents

2018 Page Views	2018 Unique Page Views	Product Title
13,682	5,016	Impact of IEEE 1547 Standard on Smart Inverters
6,382	1,659	The Definition and Quantification of Resilience
5,305	3,029	Distribution Network
4,554	1,934	Tutorial Course Transient Analysis of Power Systems. Solution Techniques, Tools, and Applications
4,255	1,978	Impact of Inverter Based Generation on Bulk Power System Dynamics and Short-Circuit Performance

2018 Downloads	Product Title
1,241	Impact of IEEE 1547 Standard on Smart Inverters
649	The Definition and Quantification of Resilience
629	Impact of Inverter Based Generation on Bulk Power System Dynamics and Short-Circuit Performance
465	Tutorial Course Transient Analysis of Power Systems. Solution Techniques, Tools, and Applications
407	IEEE Tutorial on the Protection of Synchronous Generators
395	Energy Storage Tutorial: Session 1 of 4 - Overview & Technologies
366	Energy Storage Tutorial: Session 2 of 4 - The Application Matrix for Electrical Energy Storage
347	Energy Storage Tutorial: Session 4 of 4 - Grid Challenges of DER and ESS

Thank You!

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