



## IEEE PES Industry Technical Support Task Force Summary of Activities 2018

The IEEE Power & Energy Society Industry Technical Support Task Force (ITS TF) was formed to provide support to and cooperate with governments and regulatory organizations globally on technical issues related to power and energy topics. The IEEE PES ITSTF works closely with IEEE Standards Association (SA), IEEE USA, and other societies on a needed basis. The objective is to tap on IEEE membership and various organizations (e.g. Technical Committees, Smart Grid and Smart Cities, chapters) to provide support, including tutorials, workshops, developing documents on the fast-track, etc. . Joint IEEE efforts have resulted in cooperative relationships with the organizations noted below through each signing of a Memorandum of Understanding (MoU) with IEEE, which includes specific implementation plans.

- [US Federal Energy Regulatory Commission](#) (FERC)
- [North American Electric Reliability Corporation](#)
- [US Department of Energy](#) (DOE)
- [Ministerio de Electricidad y Energia Renovable del Ecuador](#) (MEER)
- [North American Transmission Forum](#) (NATF)

### 2018 Highlights

Reports and testimony documents under ITS TF leadership have been developed on the fast-track to satisfy industry needs. Some of those documents developed became the top most widely viewed IEEE PES reports.

#### US Federal Energy Regulatory Commission (FERC)

A tutorial on Energy Storage was provided by the Energy Storage & Stationary Battery (ESSB) Committee in February - led by Chris Searles.

A workshop on IEEE 1547 DER Interconnection August by Babak Enayati.

A testimony for 2018 Reliability Technical Conf., Docket No. AD18-11-000, was delivered in July based on the written testimony “Managing the New Grid” with focus on Essential Reliability Services - led by Damir Novosel. “Managing the New Grid” document will be expanded with additional relevant material for an article in the Power & Energy Magazine.

A response to the Resiliency Docket No. AD18-07-000, “Definition and Quantification of Resilience”, was delivered in June - led by Alex Stankovic.

Above documents are stored on the IEEE PES Resource Center. <http://resourcecenter.ieee-pes.org/pes/product/technical-publications>



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### North American Electric Reliability Corporation (NERC)

A guide “Impact of Inverter Based Generation Dynamics and Short Circuit Performance”, which addresses impact of inverter-based generation on bulk power system dynamics and short-circuit performance, was delivered in June 2018. The effort was organized in cooperation with IEEE PES committees by Miriam Sanders and led Kevin W. Jones and Pouyan Pourbeik. The work on more detailed follow-on IEEE PES documents will be done through appropriate technical committees.

The document is stored on the IEEE PES Resource Center, <http://resourcecenter.ieee-pes.org/pes/product/technical-publications>. It has also been presented at various occasions by and Gary Kobet.

### US Department of Energy (DOE)

A white paper “Impact of IEEE 1547 Standard on Smart Inverters” was delivered in May - led by Babak Enayati. It is stored on the IEEE PES Resource Center, <http://resourcecenter.ieee-pes.org/pes/product/technical-publications>.

Feedback was provided on the 3 volumes of DOE’s Next Generation Distribution System Platform (DSPx), as well as to the DOE Grid Wise Architecture Council on updating the Transactive Energy Framework - led by Doug Houseman.

### North American Transmission Forum (NATF)

NATF has participated at IEEE PES conferences in an effort led by Marianna Vaiman.

### Cooperation Task Areas

1. Standards and Interoperability - Support grid modernization and improve communications and interoperability through timely development of standards.
2. Technology - Support technology advancement through working with existing IEEE Technical Committee working groups or work with IEEE Technical Council and Committees to develop new working groups.

Dagmar Niebur organized a meeting with the Australian Parliament representatives in September in New York, including a peer-reviewed presentation. IEEE PES was represented by Aleksi Paaso and Babak Enayati and supported by Farid Katiraei and received a very good feedback. Dagmar Niebur and Jeff Nelson also coordinated the response from PES Technical Committees and provided input to the IEEE European Public Policy Initiative Position Statements on the following topics.

- Electrification of Transportation in the European Union
- Energy Storage for Renewable Integration in the European Union
- Renewable Energy in the European Union
- Heating and Cooling Future of Europe and Interactions with Electricity
- DC Electricity Distribution in the European Union



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### 3. Conferences and Meetings - Facilitate Participation at IEEE PES conferences, including organizing workshops, panel sessions, and project reviews.

This team has facilitated participation at the following events:

- August 2018 – Participation at PES GM 2018 panel sessions “Resilience through Grid Modernization” included discussions on the ongoing work with IEEE USA, DOE, NERC, and ESIG among others – chaired by Marianna Vaiman.
- September 2018 – IEEE PES San Francisco Chapter organized a workshop on DER Integration at California Public Utility Commission.

Following activities are planned:

- February 2019 – IEEE PES ISGT North America Conference
  - Monday February 18<sup>th</sup> from 3:30 - 5:00pm – Planning and Operating a Flexible and Resilient Grid: Insights of Recent ITS TF technical reports – chaired by Jay Liu
  - Tuesday February 19<sup>th</sup> from 1:30 - 3:00pm – Operating a Flexible and Resilient Grid: Round table discussion with industry leaders from IEEE PES, IEEE USA, ComEd, National Grid, PJM, TVA, DOE, FERC, NATF, NERC on lessons learned and effective strategies for planning and operating a flexible and resilient grid - chaired by Marianna Vaiman.
- August 2019 – IEEE PES General Meetings - Presenting ITS TF cooperation activities and round table discussion with industry leaders as part of the Late Breaking News Session- chaired by Marianna Vaiman.

### 4. Education - Develop and/or deliver educational and informational materials, such as Webinars, On-demand Tutorials, Publications and Newsletter articles

A tutorial on Battery Energy Storage was organized for NextEra at their offices in West Palm Beach, Florida. It was championed and organized by Edina Bajrektarevic (NextEra) and led by Chris Searles (ESSB committee). The tutorial was attended by ~150 people and is accessible to NextEra for next 5 years.



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### Officers and Points of Contact

- IEEE PES Governing Board VP of New Initiatives: Shay Bahramirad (ComEd)
- IEEE ITS TF Lead Officer: Damir Novosel (Quanta Technology)
- IEEE PES Program Manager: Shana Pepin
- IEEE Standards Association: Erin Spiewak and Ravi Subramaniam IEEE-SA
- IEEE USA Point-of-Contact: Shay Bahramirad (ComEd) and Veronika Rabl (Vision and Results), IEEE-USA
- NIST Liaison: Jerry Fitzpatrick

### IEEE Team Members

- Julio Romero Aguero (Jacksonville Electric) - Conferences and Meetings
- Emanuel Bernabeu (PJM Interconnection) - FERC Representative
- Bill Chiu (Southern California Edison) – FERC Representative
- Jaime Cepeda (CENACE) – MEER Representative
- Carla Freih (ComEd) – Technology
- William Hederman (University of Pennsylvania) – DOE Representative
- Doug Houseman (Burns & McDonnell)- Standards and Interoperability & DOE Rep.
- Sharma Kolluri (Entergy) – Education
- Jay Liu (PJM Interconnection) – NERC Representative
- Dagmar Niebur (Drexel University) - Technology
- Tom Pierpoint (Consultant) - Conferences and Meetings
- Chris Root (VELCO) – NATF representative
- Marianna Vaiman (V&R Energy) - Education & NATF representative
- Chan Wong (Entergy) - Standards and Interoperability