IEEE Power and Energy Society
Entity Annual Report

2025

Entity:	Switchgear Committee (SWG)
Website:	http://www.ewh.ieee.org/soc/pes/switchgear/
Chair:	Donnie Swing
Vice-Chair:	John Webb
Secretary:	Terry Woodyard
Immediate Past Chair:	Doug Edwards
Standards Coordinator:	Keith Flowers

1. Significant Accomplishments:

Standards Work

The Switchgear Committee currently has purview over 96 active standards, of which 27 are currently under PAR activity. Seven (7) new projects are also underway that brings its total number of active PARS to 34 and that could bring its total document count to 103. These projects include the following:

- **C37.01**
  Standard for High Voltage Direct Current Circuit Breakers above 3200 Vdc
- **C37.30.7**
  Standard Requirements for High-Voltage Air Switches Rated Above 1000 Vdc
- **C37.86 ****
  Guide for Internet of Things (IoT) Switchgear Terminals (52 kV and below)
- **C37.100.8**
  Guide For Methodologies to Demonstrate the Expected Life of Lubricants Used in Switching Devices
- **C37.20.7.1**
  Guide for Application, Installation, and Use of Switchgear Rated Up to 52 kV Tested for Internal Arcing Faults
- **C37.303**
  Guide for Field Measurement of Partial Discharge within Switchgear (above 1000 Vac)
- **C37.10.2**
  Guide for X-ray Digital Imaging of Alternating Current (AC) High-Voltage Switchgear with Rated Maximum Voltage 72.5 kV and Above

** - This project is likely to fail to produce a document due to lack of progress despite efforts.

New PAR Activities

Eight (8) new projects were authorized for the Switchgear Committee by NesCom in 2025 compared to 11 in 2024 and 16 in 2023. Although seemingly quite far below the values for the last two years, eight is still above average for the past ten years.

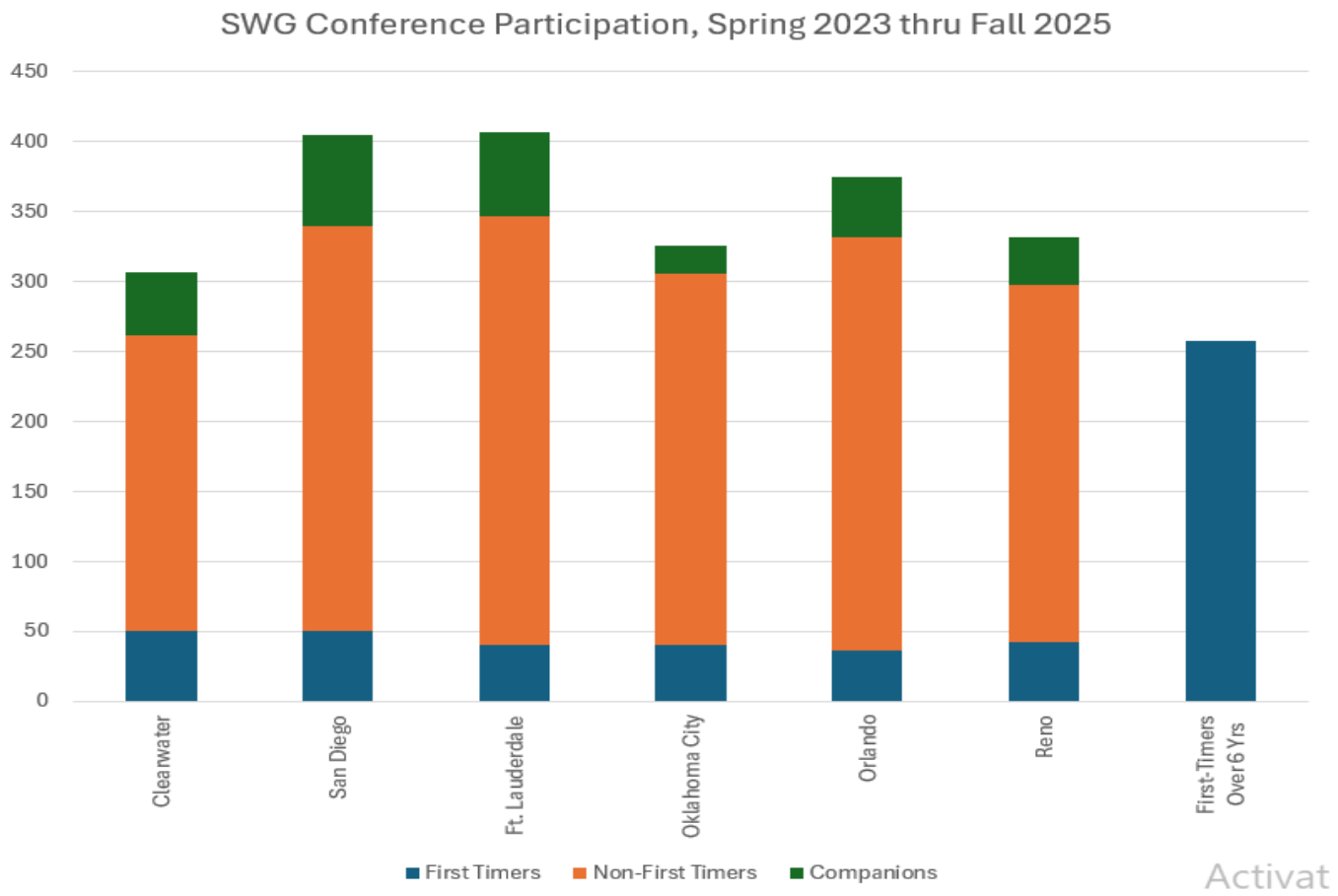
Completion of PAR Activities

The Switchgear Committee as a whole sent 14 documents to RevCom in 2025 of which two are new:

- **C37.100.6**
  Guide for Determination of Test Specimens for Seismic Qualification for Building Code Applications
- **IEEE 2969**
  Guide for Continuous Thermal Monitoring of Switchgear and Motor Control Centers up to 52 kV (Co-sponsored IAS PCI document)

Participation & Growth

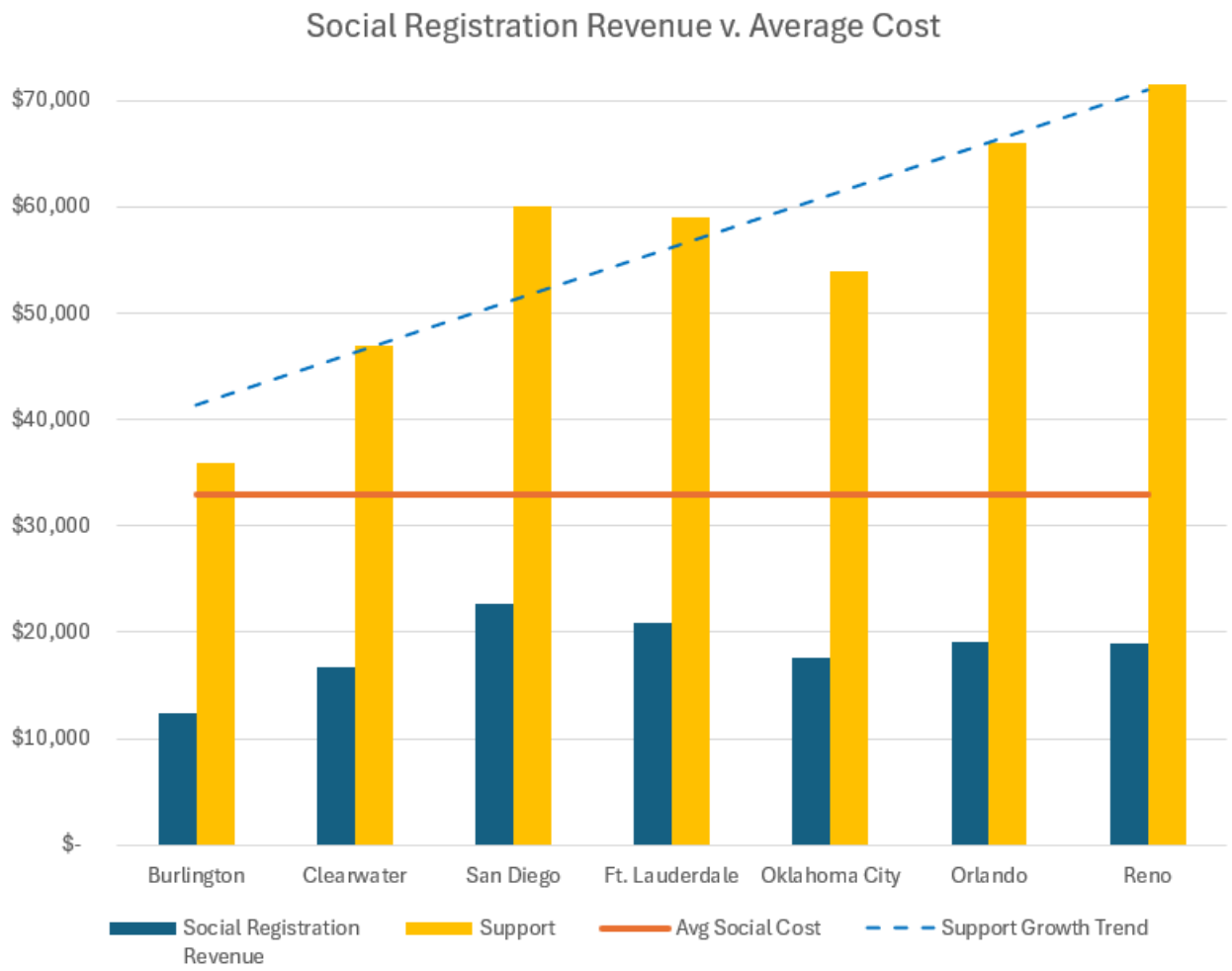
Of particular note for 2025 was the growth in participation, particularly new participants.



For many years, there has been concern for the Switchgear Committee that its long-time participants would be reaching retirement age within a relatively short time frame, leaving a vacuum of knowledge and expertise that would be difficult to fill. The past few years, with 2025 being no exception, have shown drastic increases in first-time (and continuing from then on) attendees. Our spring 2025 conference held in Orlando saw 36 first-time attendees, and our fall conference held in Reno saw 42. This shows a great new interest in the Switchgear Committee and a promising new wealth of knowledge and experience that will allow the continued and expanded operation of the committee.

Financial Support

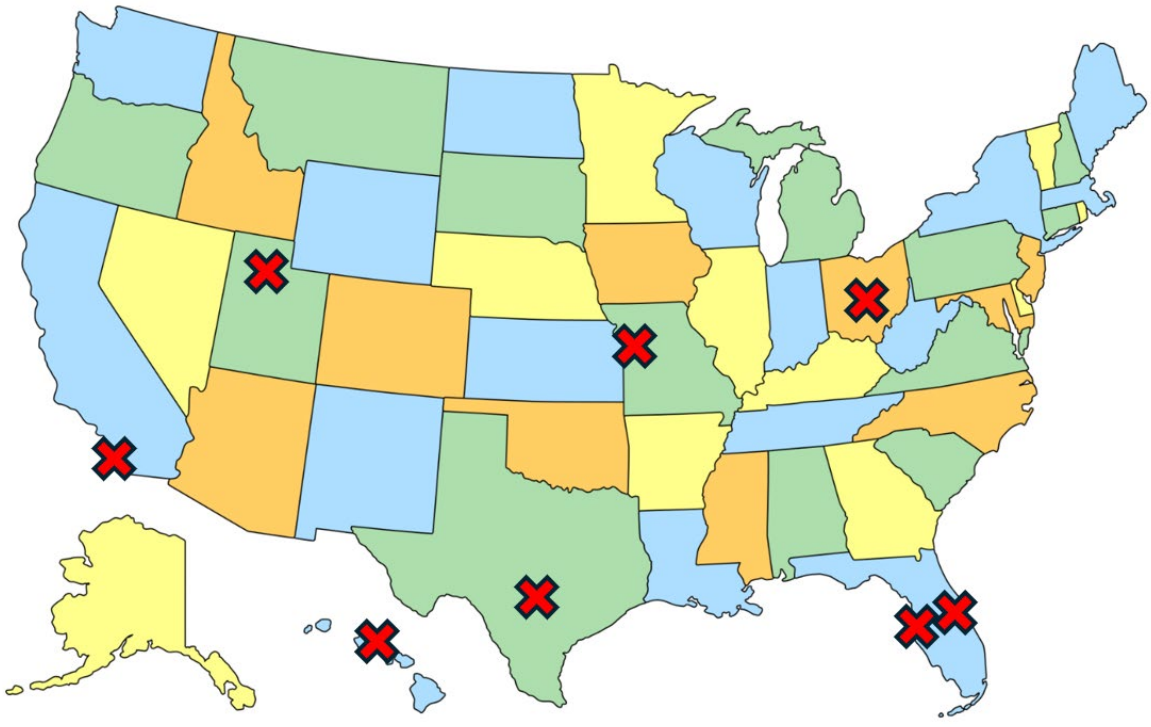
The Switchgear Committee graciously accepts and heavily relies on the continued financial support of its generous supporters. In recent years, and as was true for 2025, support contributions comprise roughly one-third of the revenue for a given Switchgear Committee conference. As can be seen in the chart below, which focuses only on the need for support as it relates to our social events, our supporters help keep our registration costs down. Lower registration costs results in greater participation as the cost itself is more easily justifiable, especially with our participants that are retired or affiliated with themselves.



Venue Selection, Companion Attendance, and Social Events

The Switchgear Committee strives to select venues that help to increase participation. It achieves this through not only choosing locations that are appealing to most, such as beaches, but also by moving around the country. This is an effort to give more companies and attendees the opportunity to have a conference to be more local, which might garner more participation from a particular area. Below is a list of upcoming conference locations that have fully executed contracts.

- ***Spring 2026***
  Clearwater Beach, Florida
- ***Fall 2026***
  San Diego, California
- ***Spring 2027***
  Orlando, FL
- ***Fall 2027***
  Waikiki Beach, Hawaii
- ***Spring 2028***
  San Antonio, Texas
- ***Fall 2028***
  Columbus, Ohio
- ***Spring 2029***
  Kansas City, MO
- ***Fall 2029***
  Salt Lake City, Utah



2. Benefits to Industry and PES Members from the Committee Work:

The Switchgear Committee develops new standards and maintains existing standards under its purview that benefit the electrical power industry in many ways, including but not limited to:

- Manufacturers, test laboratories, third-party certification entities, and ultimately users benefit by having performance requirements that are consistent and that give confidence that products carrying equal ratings exhibit equal performance.

- Manufacturers and users benefit by having known performance-oriented requirements rather than rote construction mandated (but not necessarily performance-oriented) requirements. This allows manufacturers to introduce new technologies that produce equal performance without conflicting with arbitrary standards-mandated construction requirements.

- Manufacturers, test laboratories, third-party certification entities, and users benefit from having relatively stable standards for products, as revisions of standards are generally made at intervals of seven to ten years.

- Manufacturers, test laboratories, third-party certification entities, and users benefit from the creation of new standards covering areas previously not addressed in standards, such as testing of equipment under conditions of internal arcing faults, special interrupting applications such as transformer-limited faults, and conversions of existing equipment to implement newer technologies.

The Switchgear Committee's Vice Chair and Immediate Past Chair gave an interactive presentation to the local student chapter of the Reno area IEEE group. This provided a look into our activities which, unless previously observed, are typically not known by college students or entry-level engineers.

3. Benefits to Volunteer Participants from the Committee Work:

Participation in Switchgear Committee standards activities provides a unique education for new participants, while providing a forum for capturing the knowledge and experience of its diverse range of participants.

The Switchgear Committee participation includes a significant number of experts who have formally retired from the business world, yet continue to participate, in several cases without financial support from their former employer or some other firm. It is reasonable to surmise that such individuals would not do so except that participation provides them some measure of satisfaction, however their depth of knowledge and "mentoring mentality" provide a tremendous benefit to the Committee membership and guests.

Participants in the standards process benefit from recognition within their employer organizations as "experts" in their technical field, and particularly if they participate in some officer capacity in working groups or in the committee structure.

The Switchgear Committee provides recognition to working group members and committee officers, typically with a jacketed certificate when standards are published. The working group members and ballot participants are also recognized in the front matter of the document.

At each of our semiannual meetings, the Switchgear Committee offers a technical presentation during lunch on Tuesday. The topics for 2025 were:

- ***"The Origins of The Scientific Method"***
  presented by Leslie Falkingham
- ***"Slide Rules: History & Application in Today's World"***
  presented by John Webb

In our spring meetings, we offer a technical presentation after the conclusion of our main committee meeting on Thursday. The topics for 2025 were:

- ***"TRV Fundamentals + Transformer Limited Faults"***
  presented by Dustin Sullivan
- ***"Overview of C37.100.7 Guidance Related to the Qualification of SF6 Alternatives"***
  presented by Dan Schiffbauer

Continued in 2025 was the Switchgear Committee's fall "training track" which offers attendees an opportunity to learn from industry experts from around the world on various topics. The topics from the fall 2025 training track included the following:

- ***"Gas Analysis: A guide to insulated gas analysis"***
  presented by Billy Lao
- ***"Application of High Voltage Circuit Breakers in Extreme Electrical Conditions"***
  presented by John Webb, Jan Weisker, and Victor Savulyak
- ***"Controlled switching - introduction and emerging applications"***
  presented by Urmil Parikh
- ***"SF6 Alternatives in HV Switchgear: Capabilities, Trade-Offs, and the Case for Tailored Solutions"***
  presented by Javier Mantilla
- ***"Capacitive switching with Medium-Voltage Vacuum Circuit Breakers"***
  presented by Martin Leusenkamp
- ***"Recent Developments within CIGRE A3"***
  presented by Frank Richter and Nicola Gariboldi
- ***Panel Session: "Digital Switchgear in Action: Real-World Use Cases from Utilities and Industry"***
  with Francois Trichon, Erhard Aumann, and Farnoosh Rahmatian

Another valuable benefit to participants is certificated professional development hours (PDH) that can be applied towards professional engineer license requirements. While these certificates cost $5 each from the IEEE Certificate Program, the Switchgear Committee covers this cost and provides them to participants at no charge.

4. Recognition of Outstanding Performance:

Working groups that complete standards receive recognition during Switchgear Committee conferences along with the plaques and certificates. The following working groups were recognized:

- **C37.13**
  IEEE Standard for Low-Voltage AC (1058 V and Below) Power Circuit Breakers Used in Enclosures
- **C37.20.7**
  IEEE Recommended Practice for Testing Switchgear with Rated Voltages Up to 52 kV for Internal Arcing Faults
- **C37.27**
  IEEE Guide for Low-Voltage AC (635 V and below) Power Circuit Breakers Applied with Separately-Mounted Current-Limiting Fuses
- **IEC 62271-37-013-2021/Cor 1**
  IEEE/IEC International Standard for High-voltage Switchgear and Controlgear--Part 37-013: Alternating current generator circuit-breakers - Corrigendum 1
- **C37.41**
  IEEE Standard for Design Tests and Specifications for High-Voltage (>1000V) Fuses and Accessories
- **C37.122.3**
  IEEE Guide for Sulfur Hexafluoride (SF6) Gas Handling for High-Voltage (over 1000 Vac) Equipment
- **C37.62**
  IEEE Standard for Pad-Mounted, Dry Vault, Submersible, and Overhead Fault Interrupters for Alternating Current Systems Up to and Including 38 kV

Carl Scheutz was awarded the **Standards Medallion** for outstanding leadership and contributions to the development of IEEE switchgear standards.

Leslie Falkingham received the **IEEE Lifetime Achievement Award** for more than 25 years of leadership and significant contributions to the creation and development of national and international standards from IEEE, IEC, and BSI in the field of electrical switchgear.

The Switchgear Committee presented the **Distinguished Individual Service Award** to Paul Barnhart for his efforts key to document development, and for being a steward to the certifying agencies that serve our industry.

Four outgoing subcommittee chairs were also recognized for their contributions over the past 2-3 years:

- Jacob Blake – High Voltage Switches (HVS)
- Jeff Mizener – Low Voltage Switchgear Devices (LVSD)
- Frank DeCesaro – Reclosers and Other Devices (RODE)
- Alex Cochran – Technology and Innovation (T&I)

5. Coordination with Other Entities (PES Committees, CIGRE, standards, etc.):

The Switchgear Committee maintains close and overlapping working relationships with many other standards organizations, and it is always looking to expand outside participation. These partnered organizations include, but are not limited to:

- **ANSI Accredited Standards Committee (ASC) C37**
  - The Switchgear Committee currently has an official liaison to C37, John Webb, as well as 13 members that hold voting status within ASC C37.
- **CIGRE**
  - John Webb, Switchgear Committee Vice Chair, currently serves as the liaison for A3, the CIGRE committee which focuses on transmission and distribution equipment.
  - Nenad Uzelac recently served as chair of A3 and continues to participate at a high level.
  - George Becker currently serves as the liaison for B3, the CIGRE committee which focuses on substations.
- **NEMA**
  - Several Switchgear Committee members participate in working groups for NEMA documents. C37.13 was recently revised and published to incorporate changes made by NEMA.
- **STL**
  - Victor Savulyak currently serves as the chair for STLNA, the North American group that liaises with STL.
- **IEC**
  - John Webb is the liaison to IEC TC 17 which covers high voltage switchgear and controlgear.
  - The Switchgear Committee has several joint documents with the IEC:
    - IEEE C37.60 / IEC 62271-111
      Automatic circuit reclosers for alternating current systems up to and including 38-kV
    - IEC/IEEE 62271-37-013
      Alternating current generator circuit-breakers
    - IEC/IEEE 62277-37-082
      Measurement of Sound Pressure Levels
- **Other IEEE PES Technical Committees**
  - **SUB**
    - **C37.20.9**
      Standard for Metal-Enclosed Switchgear Rated 1 kV to 52 kV Incorporating Gas Insulating Systems

- **C37.017**
  Standard for Bushings for High-Voltage (Over 1000 Vac) Circuit Breakers and Gas-Insulated Switchgear
- **C37.302**
  Guide for Fault Current Limiter (FCL) Testing
- **IEEE 1860**
  Recommended Practice for Voltage Regulation and Reactive Power Compensation at 1 MV Alternating Current (ac) and Above
- **IEEE 1861**
  Recommended Practice for On-Site Acceptance Tests of Electrical Equipment and System Commissioning of 1 MV Alternating Current (ac) and Above
- **IEEE 1862**
  Recommended Practice for Overvoltage and Insulation Coordination of Transmission Systems at 1 MV Alternating Current (ac) and Above
- **C37.122**
  Standard for High Voltage Gas-Insulated Substations Rated Above 52 kV
- **C37.122.2**
  Guide for the Application of Gas-Insulated Substations Rated 1 kV to 52 kV
- **C37.122.3**
  Guide for Sulphur Hexafluoride (SF6) Gas Handling for High-Voltage (over 1000 Vac) Equipment
- **C37.122.10**
  Guide for Handling Non-Sulphur Hexafluoride (SF6) Gases for High-Voltage Equipment Rated above 1000 Vac
- **IEEE 3443**
  Guide for Substation Physical Resilience

- **TR**
  - **IEEE 1860**
    Recommended Practice for Voltage Regulation and Reactive Power Compensation at 1 MV Alternating Current (ac) and Above
  - **IEEE 1861**
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  - **IEEE 1862**
    Recommended Practice for Overvoltage and Insulation Coordination of Transmission Systems at 1 MV Alternating Current (ac) and Above
  - **C57.12.30**
    Standard for Pole-Mounted Equipment--Enclosure Integrity for Coastal Environments

- **C57.12.31**
  Standard for Pole-Mounted Equipment--Enclosure Integrity
- **C57.142**
  Guide to Describe the Occurrence and Mitigation of Switching Transients Induced by Transformers, Switching Device, and System Interaction
- **IEEE 3443**

  Guide for Substation Physical Resilience

- **T&D**
  - **IEEE 3476.3**
    Standard for Supply Chain and Asset Traceability for Energy (SCATE)—Interrupting Devices
  - **IEEE 3476.4**
    Standard for Supply Chain and Asset Traceability for Energy (SCATE)—Switching Devices
  - **IEEE 1860**
    Recommended Practice for Voltage Regulation and Reactive Power Compensation at 1 MV Alternating Current (ac) and Above
- **PSIM**
  - **IEEE 316** (Recently revised after 50 years of dormancy)
    Standard Requirements for Direct Current Instrument Shunts

- **IEEE Standards Association Standards Board (SASB)**
  - Several Switchgear Committee members were appointed to the IEEE SASB or its Subcommittees.
    - Ted Burse: SASB member, NesCom Chair, SA Award Chair
    - Doug Edwards: SASB member, AudCom Chair, ProCom member
    - Donnie Swing: AudCom member, RevCom member

6. Coordination and Involvement with Young Professionals:

The Switchgear Committee continued its efforts in 2025 to better identify, utilize, and recognize its young professionals. Difficulty has been experienced in this effort due to necessary compliance with General Data Protection Regulation (GDPR), but this issue is currently being discussed at the IEEE PES Technical Council level.

7. New Technologies of Interest to the Committee:

High-Voltage Direct Current (HVDC)

A standard addressing HVDC circuit breakers, C37.01, has been in process within the Switchgear Committee since 2020. Work is ongoing.

Internet of Things (IoT)

Work on a standard for IoT switchgear terminals, C37.86, has been slow since 2020. Although this effort may not result in a published document, interest remains in the Switchgear Committee, and the topic arises in other working groups' discussions.

Life of Lubricants

C37.100.8 is a new document that delves into life expectancy of switchgear lubrication with considerations for age, mixed lubricants, and other factors.

SF6 Alternatives

This has long been a topic of interest to the Switchgear Committee and its participants. Several of our members are not only involved in standards activities regarding the subject, but are also heavily entrenched in research and design of equipment.

SCATE

Asset tracking has recently become a topic of interest for the Switchgear Committee with traceability down to the component and even hardware level being considered for root cause analysis and exposure.

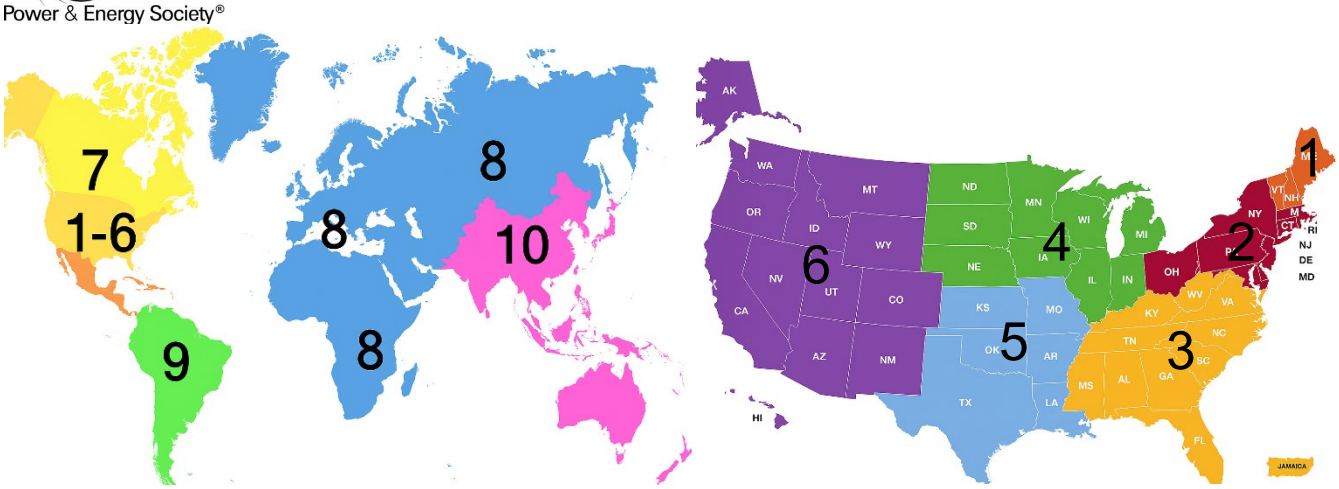
Field Measurement of Partial Discharge

Work began in 2025 on a guide that specifically covers partial discharge detection and trending to be applied to online and offline equipment installed in the field. This document evolved from the revision process of a now-inactive standard, C37.301.

8. Global Involvement

The Switchgear Committee enjoys participation from all ten regions of IEEE. While the vast majority (around 90%) are from North America, ten percent (and increasing) is a commendable position considering the rate of uptake of IEEE as compared to IEC on the international level.

IEEE Region	Total Number VM, HM, NVM, & Email	Officer (Main, Subcommittee, & WG)	Voting Members	Honorary Members	Non-Voting Members
1	23	0	0	0	0
2	245	18	17	3	14
3	397	26	32	4	24
4	139	8	12	1	4
5	145	10	8	3	3
6	79	1	2	0	0
7	81	1	3	0	1
8	84	3	1	2	4
9	15	0	0	0	0
10	36	6	0	0	6
Grand Total	**1244**	**73**	**75**	**13**	**56**



9. Problems and Concerns:

Committee Management System

The Switchgear Committee looks forward to the implementation of a new committee management system to replace 123signup which has been unavailable for several years.

Outgrowth of Legacy Venues

While difficult to describe growth in any other way but positive, the immense growth of the Switchgear Committee has forced it to expand its search efforts for new, larger venues that can handle the increase in participants. For example, the upcoming fall conference at the Catamaran Resort in San Diego will likely be the committee's last at that location due to meeting room size deficiencies.

10. Significant Plans for the Next Period:

The Switchgear Committee will focus its efforts in 2026 on the following:

- Continuing efforts to increase new participation and retain those new participants. One way this has been encouraged is by offering a "second-timer discount" on registration fees, but that has been identified to be a benefit to the participants' employers rather than a true enticement to the participants themselves. Other options are being explored.
- Finalizing and implementing an effective method to identify and recognize young professionals that contribute significantly to the Switchgear Committee.
- Working towards a full five years of executed contracts for conference venues. This is a goal that is well within reach.
- Immediately implementing the new committee management system selected and vetted by IEEE PES Technical Council.

Submitted by: Donald Swing, 2025 Chair
Date: 30 January 2026