Presented by:
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Chairman, IEEE PES Surge Protective Devices Committee

Activities of the IEEE PES Surge Protective Devices Committee (SPDC)

Standards Development

Working Group Topics

https://pes-spdc.org/

Scope of the SPDC

Treatment of all matters in which the dominant factors are the design, construction, testing, preparation of IEEE standards, recommended practices, guides and conformity assessment procedures, selection, application and integration of protective devices with auxiliary systems and equipment (such as shield wires, lightning masts, etc.) designed to prevent damage and/or outages to electrical power generation, transmission, distribution, utilization and communication systems, and associated equipment due to overvoltages or overcurrents or both created by external or internal electrical surge events (such as lightning, utility switching or internal system or equipment operation).

Scope of the SPDC

Included is treatment of the following:

- Overvoltage surge protective devices (such as surge arresters, surge protective devices, protective gaps, and surge protective capacitors).
- Neutral grounding devices (such as grounding reactors and grounding transformers - jointly with the Transformer Committee - resistors and combinations thereof).
- Lightning and switching surge investigations jointly with the Transmission and Distribution Committee.

Scope of the SPDC

Included is treatment of the following:

- Promotion of studies, technical papers, and discussions on performance of devices, seeking new contributions on improved recommended practices, updating bibliographies, standards and guides.
- Matters relating to surge protective devices specifically designed for application covered by other technical committees of IEEE (such as Power System Communication Committee) or societies (such as Industry Applications Society and Communications Society), may be treated jointly if emphasis is on the particular requirements of the application.

Scope of the SPDC

Included is treatment of the following:

- SPDs employed in generation, transmission, distribution and utilization of electrical energy including the effects of such device on the system's operation.
- Treatment of the techniques and needs for coordination within, between, and among SPDs and their environment, to the extent that these factors affect protection functions or performance. Environment includes such items as insulation coordination and the application of system neutral grounding devices.

Scope of the SPDC

Included is treatment of the following:

- Sponsorship and development (either alone or jointly with other technical committees and/or organizations) of standards, recommended practices, guidelines and policies as well as preparation of position papers and/or documents, technical conferences and/or sessions on matters related items above.
- Liaison and cooperation with other technical committees, societies, subcommittees and associations concerned with various aspects of items above.
- SPDs and surge protective components, SPCs, employed in information and communications technologies systems including the effects on the system operation.

SPDC Activities

- Low-Voltage AC Power Circuits
  - Guidance on the Surge Environment (C62.41.1)
  - Characterization of Surges and Test Waveforms (C62.41.2)
  - Surge Testing for Equipment Connected to Low-Voltage AC Power Circuits (C62.45)
  - Test Specifications for Surge Protective Devices (C62.62 & C62.34)
  - Application Guidance for Surge Protective Devices (C62.72 & C62.44)
  - Guidance on the Interactions Between Power System Disturbances and SPDs (C62.48 soon to be C62.41.3)

SPDC Activities

- Emerging Technologies
  - Guidance for SPDs used in Smart Grid Electrical Protection (PC62.220)
  - Guidance for SPDs used in Photovoltaic Facilities Electrical Protection
  - Guidance for SPDs used in Wind Power Facilities Electrical Protection (PC62.200)
  - Guidance for SPDs used in EVSE (Electric Vehicle Service Equipment and Infrastructure) Surge Protection (PC62.230)

SPDC Activities

- Communication Circuits
  - Application of Surge-Protective Components in Surge Protective Devices and Equipment Ports (including Metal Oxide Varistors, Silicon PN-Junction Clamping Diodes, Thermally Activated Current Limiters, High Frequency Signal Isolation Transformers, Gas Discharge Tubes and more) (PC62.42 Series)
  - Surge Parameters of Isolating Transformers Used in Networking Devices and Equipment (C62.69)

SPDC Activities

- Communication Circuits
  - Surge Protectors and Protective Circuits Used in Information and Communications Technology (ICT) Circuits, Including Smart Grid Data Networks (PC62.43 Series)
  - Test Methods for Surge Protectors Used in Low-Voltage Data, Communications, and Signaling Circuits (C62.36)
  - Surge Protection of DC Power Feeds to Remote Radio Heads (RRH) (C62.55)

SPDC Activities

- Communication Circuits & Power Circuits
  - Performance Criteria and Test Methods for Plug-in (Portable) Multiservice (Multiport) Surge- Protective Devices for Equipment Connected to a 120 V/240 V Single Phase Power Service and Metallic Conductive Communication Line(s) (C62.50)

SPDC Activities

- Surge Protective Components
  - Test Methods and Performance Values of Metal-Oxide Varistor Surge Protective Components (C62.33)
  - Test Methods and Preferred Values for Silicon PN-Junction Clamping Diodes (PC62.59)
  - Application of Component Surge-Protective Devices for Use in Low-Voltage Circuits (C62.42)

SPDC Activities

- High-Voltage AC Power Circuits
  - Test Standard for Metal-Oxide Surge Arresters (C62.11)
  - Application of Metal-Oxide Surge Arresters (C62.22)
  - Surge Protection of Electric Generating Plants (C62.23)
  - Insulation Coordination (C62.82 Series)
  - Neutral Grounding in Electrical Utility Systems (C62.92 Series)
  - High Voltage Arrester Protection and Coordination - Transformer Insulation
  - Surge Voltage Protective Equipment on AC Rotating Machinery (C62.21)

SPDC Activities

- Recent areas of focus
  - Specific application guidance and recommendations for both power and communication SPDs
  - How to protect specific systems
  - Where to place SPDs for effective protection
  - Emphasis on proper installation

SPDC Activities

- Upcoming Meetings:
  - 22-26 May 2017 Spring Meeting in St. Louis, Missouri - Drury Plaza Hotel St. Louis at the Arch
  - 02-07 October 2017 Fall Meeting in Clearwater Beach, Florida - Sheraton Sand Key Resort

  - https://pes-spdc.org/