

PowerTest Conference 2017

The Premier Electrical Safety Event

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DAY 1 Monday

We've gathered leaders in the industry and will stage a full day of engaging, 45-minute presentations sure to expand your thinking and generate new ideas. Choose from 27 detailed presentation track topics.



TECHNICAL PRESENTATIONS

ELECTRICAL SAFETY

- Improving Human Performance 1
D. Ray Crow, DRC Consulting Ltd.
- Electrical Safety for Contractors (Multi-Employer) Working in Industrial Facilities 7
Dennis Neitzel, AVO Training Institute, Inc.
- Guarded or Unguarded and Why It Makes a Safety Difference
Jim White, Shermco Industries 25
- Application of Work Flow Process in an Electrical Safety Program 42
Terry Becker, ESPS Electrical Safety Program Solutions Inc.
- Human Performance Best Practices in Electrical Safety 49
Mike Doherty, eHazard
- Design, Implementation, and Testing of Arc-Flash Mitigation on Low- and Medium-Voltage Systems 54
Christopher Inshaw, Southwest Energy Systems, LLC

PROTECTIVE RELAYS

- Testing High Magnitude Faults on a Transmission Line Using COMTRADE Records: A Case Study 65
Mohit Sharma and Vijay Sundaram, Megger
Chinmay Desai, National Field Services
- Testing Protective Relays – A Procedural Review N/A
John Cadick and Jefferson Bronfeld, Cadick Corporation and Dennis Moon, AVO Training Institute, Inc.
- Influence of Non-Linear Loads on Generator Differential Protection 82
Vijay Sundaram and Dhanabal Mani, Megger
- Understanding Basic High Speed Tripping and Communications (Basics of Tone and Carrier Schemes) 98
Jay Garnett, Doble Engineering Company
- End-To-End Testing Methods Compared 117
Christopher Pritchard and Will Knappek, OMICRON electronics Corp. USA
- Man-Made Faults – Line Protection Operation for an Unintended Phase Cross-Connect Condition 128
Ryan McDaniel, Schweitzer Engineering Laboratories, Inc.

EQUIPMENT & RELIABILITY

- How Vacuum Interrupters Work and How They Fail..... 161
John Toney, Vacuum Interrupters, Inc.
- Commissioning of Plant Electrical Systems Using Distributed Testing 173
Randall Sagan, MBUSI
Mose Ramieh III, PGTI, a CE Power Company
Will Knappek, OMICRON electronics Corp. USA
- Primary Current Injection Testing: Then and Now 193
Robert Probst, Megger
- How to Choose the Right Power Monitoring Tools 213
Ross Ignall, Dranetz Technologies
- Making Reliability Lean & Mean 237
Noah Bethel, PdMA
- Grounding Fundamentals That Help Avoid Electrical Disasters 255
David Brender, Copper Development Association

POWER TRANSFORMERS

- Why Get Excited about Excitation Current Tests 309
Keith Hill, Doble Engineering Company
- Understanding the Value of Electrical Testing for Power Transformers 328
Charles Sweetser, OMICRON electronics Corp. USA
- Sweep Frequency Response Analysis (SFRA) and the Best Practices for Reliable Results 343
Sanket Bolar and Robert Foster, Megger
- Emergency Transformer Bushing Replacement 367
Mark Haas, Power Asset Recovery Corporation
Randy Williams, ABB
- A Systematic Approach to Analyzing Exciting Current Measurements on Power Transformers 371
Brandon Dupuis, OMICRON electronics Corp. USA
- Pre-Locating Faults with Alternative Method to Arc Reflection 422
Robert Probst and Jason Souchak, Megger

DAY 1 Monday *(continued)*

TECHNICAL PRESENTATIONS *(continued)*

BATTERY SYSTEMS

- Battery Testing by the Standards and Field Experiences 431
Daniel Carreño-Perez and Volney Naranjo, Megger
- Station Battery Maintenance 101: What You Need to Know
Tom Sandri, Shermco Industries 452
- NERC Requirements for Battery Acceptance and Maintenance Testing 464
Steve Canale, American Electrical Testing Co., Inc.

SYMPOSIUM

Medium-Voltage Vacuum Circuit Breakers: An Industry Update

Moderator: *David Huffman, Power Systems Testing Co.*

Medium-voltage circuit breakers are key and integral to system reliability and electrical power system performance, and have been a part of the electrical landscape for many years. This symposium will focus on medium-voltage circuit breaker technology, both new and old, and will provide insight and updates from medium-voltage circuit breaker subject matter experts.

5:00 PM – 6:00 PM

New Product Forum

Learn about dozens of the latest products and innovations, major expansions by leading industry-specific manufacturers and suppliers.



Hospitality Suites

Mingle with colleagues and a host of leaders at Monday night's hospitality suites. Eight companies will offer their own brand of hospitality with uniquely themed suites.

6:00 PM – 10:00 PM

TRADE SHOW HIGHLIGHT

The Right Instruments For Your Power Quality & Energy Measurements

- Voltage current and power monitoring
- Harmonic detection analysis
- Inrush current analysis
- Energy cost analysis and management
- Power factor analysis and correction
- Power demand and consumption monitoring
- Transient detection and analysis
- Data logging



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