

Stations 2019:

Data Analytics and Performance & Diagnostics Center

March 19-20 • Tucson, AZ

Conference Agenda

Stations

Overview

The installation of intelligent devices on transformers and other monitoring equipment on critical substation assets have given energy service providers unprecedented access to accurate real-time system data. The natural evolution of the smart grid is to apply real-time equipment monitoring and diagnostics to electrical substations. Modern digital technologies allow for real-time monitoring of equipment, which permits the identification of equipment issues prior to a cascade, the scheduling of risk-based maintenance activities, and the effective transmission of data to planners. Applications that provide for operational efficiencies, such as performance and diagnostic evaluation systems, demonstrate the benefits of technological enhancements.

The performance and diagnostic center (PDC) concept allows engineering and operations subject-matter experts to analyze data trends to improve day-to-day system performance. Major equipment – such as station transformers, circuit breakers, and switching devices – can be monitored to detect irregularities that may cause severe equipment damage or failures. Machine-learning software can also identify trends and irregularities in equipment operating points. The data captured from equipment monitors can be utilized to move toward condition-based maintenance programs and predict equipment end of life or failure.

The SEAM program is interested in initiatives that are changing traditional methods of collecting and analyzing large amounts of data, and of gathering evidence of equipment degradation. This can provide more effective evaluation of the station assets conditions to determine what maintenance is required, or even necessary. When unexpected equipment failures do occur, the availability of this real-time operational data can assist in post-mortem analysis of the events and cause. This information is vital for preventing similar occurrences.

Performance measurement allows utilities to demonstrate how well they are using the funding and resources provided by their ratepayers, regulators, shareholders and other stakeholders. New tools and techniques enabled by this technology may improve reliability, increase availability of equipment, and extend expected life cycles by providing more and better data to monitor equipment condition and predict maintenance requirements.

These systems provide the opportunity for the electric utility industry to efficiently use data capture capabilities and processes, improve system condition monitoring, and harness the data to improve the analysis of events, trends, and asset management programs.

Objectives

- Gather information on techniques, technologies, and tools employed in analyzing the performance of substation assets.
- Identify opportunities to improve diagnostic ability to increase station reliability and resiliency, preventing unexpected failures.
- Examine methods and trends in failure analysis to address performance gaps and prevent repeat occurrences.
- Explore new methods of data analytics to recognize trends and identify issues.
- Learn from others who have developed or adopted new methods in performance analysis and diagnostics of station assets.
- Examine the experience of other industries on these topics, for possible application to electric utilities.

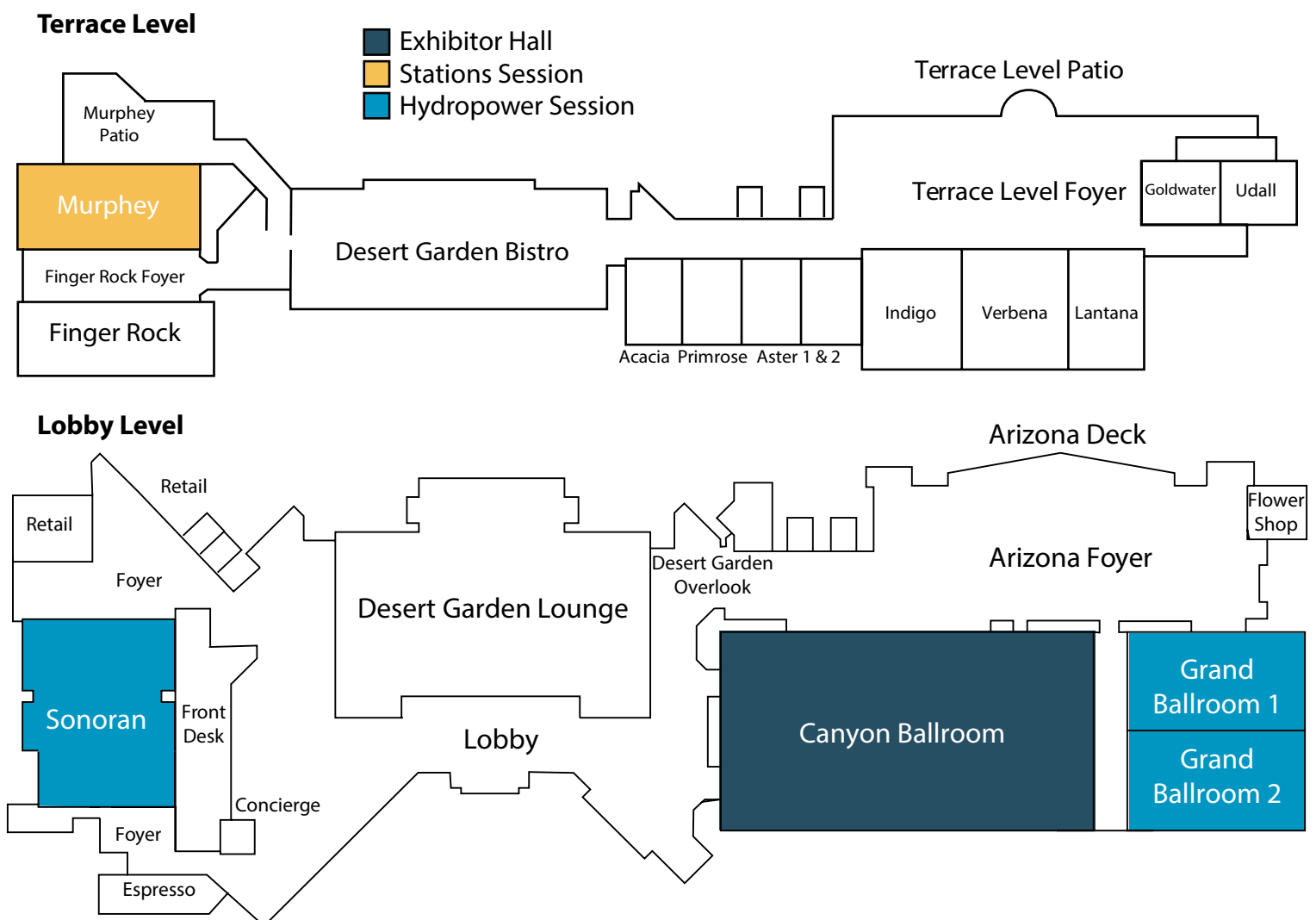
Conference at a Glance

Themes

- 1 Maintenance of Assets - Needs vs. Options
- 2 Trends in Failure Analysis
- 3 Failure Analysis - Root Cause and Symptoms
- 4 Performance Analysis & Diagnostics

Conference Floorplan

All meals, breaks, and receptions will take place in the Exhibitor Hall, unless otherwise indicated.



Day 1: Stations

March 19, 2019

7:00-8:00 Breakfast

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|-----------|---|--|
| 8:00-8:10 | Opening Remarks & Welcome Address | <i>Ken Kopechanski, CEATI International</i> |
| 8:10-9:00 | Key Note: Creation of a Performance and Diagnostics Center | <i>Daryn Thompson, METSCO Energy Solutions</i> |

Session 1: Maintenance of Assets; Needs vs. Options

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|-----------|--|---|
| 9:00-9:45 | Avoid A Failure and Extend the Life: System Critical Non-Segregated Phase Bus | <i>Mohsen Tarassoly & Mitch Pallansch, Electrical Builders Inc. (EBI)</i> |
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9:45-10:30 Break

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|-------------|---|--|
| 10:30-11:15 | The Value of Regular Continuity Testing | <i>Keith Wallace, Safearth Consulting</i> |
| 11:15-12:00 | A Dry Type Insulation Platform for IEC 61850 Ready Smart Grid Applications | <i>Eric Euvrard & Bob Middleton, RHM International</i> |

12:00-1:30 Lunch

Session 2: Trends in Failure Analysis

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|-----------|--|---|
| 1:30-2:15 | How Reliability-based Dissolved Gas Analysis Can Improve Maintenance Planning and Reduce Field Failure Rates in High-Voltage Transformers | <i>Bill Mayer, Delta - X Research</i> |
| 2:15-3:00 | The Impact of Increasing Levels of Short-Circuit Currents on Existing Substations' Electrical and Structural Components | <i>Yair Berenstein, Commonwealth Associates</i> |

3:00-3:45 Break

| | | |
|-------------|---|--|
| 3:45-4:15 | Asset Reliability Review using Fault Data Results from UK Distribution Networks | <i>Bill Higinbotham, EA Technologies</i> |
| 4:15 - 5:00 | Performing Internal Inspections on Oil-Filled Power Transformers with a Submersible Inspection Robot | <i>Ed teNyenhuis, ABB</i> |

5:00-7:30 Exhibitor Networking Reception

Agenda is subject to change without notice.

Day 2: Stations

March 20, 2019

7:00-8:15 Breakfast

Session 3: Failure Analysis; Root Cause and Symptoms

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|-----------|---|---|
| 8:15-9:00 | The NTSB's Role and Process in Causal Investigations | <i>Dana Schulze, National Transportation Safety Board</i> |
| 9:00-9:45 | Session Presentation TBC | <i>TBC</i> |

9:45-10:30 Break

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|-------------|--|-----------------------------------|
| 10:30-11:15 | Measurements to Enable Predictive Maintenance | <i>John Lauletta, Exacter</i> |
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Session 4: Performance Analysis & Diagnostics

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|-------------|---|---|
| 11:15-12:00 | How On-line Condition Monitoring Improves Performance and Diagnostics Models of Power Transformers | <i>Thomas Schneider, Siemens Canada</i> |
|-------------|---|---|

12:00-1:30 Lunch

| | | |
|-----------|---|---|
| 1:30-2:15 | GTC Performance & Diagnostic Center: Lessons Learned | <i>Eric Schultz, Georgia Transmission Company</i> |
| 2:15-3:00 | Presentation Title TBC | <i>Eileen Duarte, National Grid</i> |

3:00-3:45 Break

| | | |
|-----------|---|--|
| 3:45-4:15 | Power Plant Analysis and Diagnostics | <i>Pavel Kovalenko, GRT Corporation</i> |
| 4:15-5:00 | Optimized Investment Program Using a Nationalized Asset Health and Consequence Model | <i>Bill Higinbotham, EA Technologies</i> |

5:00 Conference Adjournment

5:30-7:00 Women in Power Networking Reception

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Stations Conference

Data Analytics and Performance & Diagnostics Center

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Registration Form

You can also register online at www.ceati.com/SPRING2019

Your Information

Name

Title

Organization

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Country


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Card No.

Expiry Date /

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Cardholder

The Westin La Paloma
3800 East Sunrise Drive
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Registration Fees & Discounts

Register by December 17th, 2018 and save up to \$100

- | | | |
|--------------------------|------------|--------------------------------|
| <input type="checkbox"/> | \$1195 USD | Standard Registration |
| <input type="checkbox"/> | \$995 USD | Utility Registration |
| <input type="checkbox"/> | \$755 USD | CEATI Participant Registration |
| <input type="checkbox"/> | \$755 USD | Speakers |

*SEAM participating organizations may be eligible for a complimentary registration; contact your Program Coordinator for more information

Exhibit at the Stations Conference!

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|--------------------------|------------|--|
| <input type="checkbox"/> | \$4400 USD | Silver Sponsor Booth (2 passes) |
| <input type="checkbox"/> | \$3900 USD | Sponsorship Booth |
| <input type="checkbox"/> | \$3400 USD | Standard Booth (2 passes) |
| <input type="checkbox"/> | \$1500 USD | Conference Sponsor |
| <input type="checkbox"/> | \$755 USD | Additional Exhibitor Passes Quantity: _____ |

Please indicate your top 3 booth choices below:

For Exhibitors: All cancellations received 60 days prior to the event will be subject to a processing fee of 25% of the total amount. There will be no refunds granted after this date. Delegate substitution is permitted at no extra cost. Exhibitor registration and additional conference passes include proceedings package, access to the presentation room, breakfast, breaks, lunches, and reception where indicated on the schedule.

Important Information

Registration fees include proceedings package, breakfast, breaks, lunches and reception where indicated on the schedule.

- Please check if you wish to be contacted about allergies or other dietary requirements.

Prices are in USD. Charges will appear as 'CEATI International Inc' and are subject to applicable taxes and fees. All cancellations received at least 60 days prior to event will be subject to a \$200 processing fee. There will be no refunds granted after this date. Delegate substitution is permitted at no extra cost. Please note that all names registering for the event will be added to CEATI's mailing list. If you do not wish to be included in this electronic outreach, please click on the 'unsubscribe' button in the email to remove yourself. In the spirit of industry networking, your email may be shared with other conference participants. If you do not wish to have your email shared, please contact us at events@ceati.com. By attending, you acknowledge that there may be photographs or videos taken of you during this event, and you consent to the use of these photographs or videos in future CEATI communications.

All conference guests are eligible for a preferred rate of \$209 USD a night subject to availability. To receive this rate, please mention the group name CEATI International for the 2019 Spring Industry Conference. Preferred rate only available until January 22, 2019.