

# 9th Annual Grounding & Lightning Conference

October 3 - 4, 2017 • San Antonio, Texas

## Conference Overview

Grounding and lightning issues continue to be an important area of development for the industry. New and better ways to design, construct and test grounding and lightning protection systems are continuously being developed in order to meet higher standards and changing industry demands. This conference is an open forum for information exchange, technical presentations, and training. Eight overarching themes will be addressed through the discussion of ideas and experiences to benefit attendees and the industry as a whole.

Supported by over 30 participating utilities, the Annual Grounding and Lightning Conference brings together leading subject matter experts from around the world, while providing an exceptional opportunity for networking with consultants, manufacturers and representatives from electric utilities.

## Who Should Attend?

Electric & Gas Utilities

Consultants

Manufacturers & Equipment  
Vendors

Universities



## Conference Themes

- Personal Protective Grounding
- Distribution System Grounding
- Transmission System Grounding
- Lightning Protection & Performance
- Substation Grounding
- Pipelines and T&D Lines
- Copper Theft
- Power and Control Cable Grounding

## GLIG Meeting Overview

CEATI's Grounding & Lightning Interest Group (GLIG) will hold its fall General Meeting the day before the Conference. The full day meeting will place emphasis on the participant driven program development for 2018, as well as sharing of grounding & lightning best practices, issues and solutions. The group will also review the activities and developments from 2017.

## GLIG at a Glance

**Participation:** 29 Participating Utilities

### Focus Areas:

- Grounding & Lightning T&D Systems:
  - Design
  - Construction
  - Testing
  - Maintenance
  - New Technologies
- Personal Protective Grounding
- Pipeline Mitigation in Proximity to Electrical Structures
- Copper Theft Mitigation

## GLIG Participants



**For more information, visit**  
[www.ceati.com/GL2017](http://www.ceati.com/GL2017)

# DAY 1 • October 3, 2017

7:00 – 8:00 Registration & Breakfast - Exhibit Hall

8:00 - 8:15 Welcome Address

John Williamson, CEATI Intl.

## Session 1: Pipelines and Transmission & Distribution Lines

During the installation of gas pipelines near electric supply lines, be it transmission or distribution, it is critical to ensure adequate separation distance to protect the safety of both the pipeline and the powerline structures. Issues of potential concern include induction, arcing and contact voltages as well as AC corrosion and its mitigation.

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8:15 – 8:45 Engineered Grounding Systems and Pipelines: Best Practices

Clay Brelsford, Bass Engineering Company

8:45 – 9:15 Managing Successful Projects in Corridors with Pipelines

Andrea Wood & David Lewis, POWER Engineers, Inc.

9:15 – 9:45 Voltage Induction of Power Line Harmonic Currents on Pipelines

Wilsun Xu, University of Alberta

9:45 – 10:15 HVAC Corridors and Substations and Pipeline ICCP Systems

Bryan Beske, ATC & Mike Ames, Chapman Engineering

10:15 – 10:30 Morning Question Period ~ Pipelines and Transmission & Distribution Lines

10:30 - 11:00 Morning Refreshment Break - Exhibit Hall

11:00 – 11:40 Panel Session on Co-Existing Pipeline / Powerline

Panelists Include:

Jon Martin, Pacific Gas & Electric  
Juan Menendez, South California Edison  
Aram Khalil-Pour, FortisBC  
Kurtis Martin-Sturmey, METSCO

11:45 – 12:00 Panel Question Period ~ Pipelines and Transmission & Distribution Lines

12:00 - 1:00 Lunch Break - Exhibit Hall

## Session 2: Lightning Protection and Performance

Both lightning protection & performance of electric utility systems are important to electrical utilities. This includes safety of people & equipment, response to outages, as well as prediction & location of lightning events.

1:00 – 1:30 Lightning Overvoltage Protection of Combined Overhead Line and Underground Cable Distribution Network

Bozidar Filipovic-Grcic, Uni. of Zagreb, Croatia

1:30 – 2:00 Lightning Surge Causing Circuit Breaker Failure – Utility Experiences from National Grid & NBPowr

Daniel Falla, National Grid & John Williamson

2:00 – 2:30 Lightning Protection Approach & Simulation Tool to Quantify the Probability of Direct Strikes to Areas of Power Plants

Carlos Mata, Scientific Lightning Solutions

2:30 - 3:00 Afternoon Break - Exhibit Hall

3:00 – 3:30 Performance of the Line Surge Arresters of the 110 Kv Overhead Lines on the Island Brač, Croatia

Ivo Uglesic, University of Zagreb, Croatia

3:30 – 4:00 Lightning Ground Potential Rise Associated With Large Ground Electrodes

Pieter Pretorius, TERRATECH South Africa

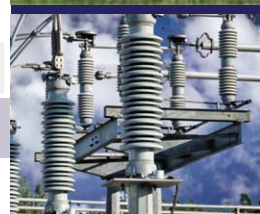
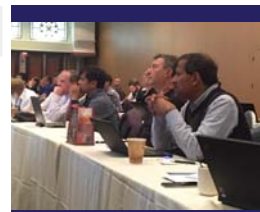
4:00 – 4:15 Question Period ~ Lightning Protection and Performance

4:15 – 5:00 Open Forum Question Period

Industry Experts

Reception 6:00 pm - 7:30pm ~ Exhibit Hall

\* Agenda is subject to change without notice



# DAY 2 • October 4, 2017

7:30 – 8:30 Registration & Breakfast - Exhibit Hall

|             |                                     |                                     |
|-------------|-------------------------------------|-------------------------------------|
| 8:30 – 8:45 | Morning Announcements               | John Williamson, CEATI Intl.        |
| 8:45 – 9:15 | Grounding Techniques of Solar Farms | Rob Schaerer, POWER Engineers, Inc. |

## Session 3: Transmission Grounding

## Session 4: Distribution Grounding

|  |   |              |                         |                                       |
|--|---|--------------|-------------------------|---------------------------------------|
| HEM Survey – Accuracy & Validation of Measurements | Mazana Armstrong & Hamed Ahmadi, BC Hydro | 9:30 - 10:00 | Stray / Contact Voltage | David Kalokitis, Power Survey Company |
|--|---|--------------|-------------------------|---------------------------------------|

10:00 - 10:30 Morning Refreshment Break - Exhibit Hall

|  |  |               |  |   |
|--|--|---------------|--|---|
| Identifying AC Interference Concerns and Preventing Inordinate Mitigation Requirements | Andrea Wood & David Lewis, POWER Engineers, Inc. | 10:30 – 11:00 | The Value of Modern Touch & Step Voltage Audit Methods - Case Studies from ATC | Stephen Palmer, Safearth & Bryan Beske, American Transmission Company |
| How Can Cell Phone Base Stations be Located Safely Near Transmission Structures        | Bill Carman, Bill Carman Consulting              | 11:00 – 11:30 | Grounding of Light Duty Steel Poles  | Tim Tipping, Ampirical & TBA  |
| Question Period ~ Transmission Grounding   |  | 11:30 - 11:45 | Question Period ~ Distribution Grounding                                       |   |

11:45 - 1:00 Lunch Break - Exhibit Hall

## Session 5: Personal Protective Grounding

|             |   |                                       |
|-------------|---|---------------------------------------|
| 1:00 – 1:30 | Permanent Connections Used in Substation Grounding                      | Kamran Tabarraee, Powertech Labs Inc. |
| 1:30 – 2:00 | Grounding and Working on De-Energized Power Lines - FortisBC Experience | Aram Khalil-Pour, FortisBC            |
| 2:00 – 2:30 | Temporary Protective Grounds - Ground Mats                              | TBA                                   |
| 3:00 – 3:30 | Temporary Protective Grounds - Cables & Clamps                          | Kamran Tabarraee, Powertech Labs Inc. |
| 3:30 – 3:45 | Question Period ~ Personal Protective Grounding                         |                                       |

2:30 - 3:00 Afternoon Break - Exhibit Hall

## Session 6: Substation Grounding

|             |   |   |
|-------------|---|---|
| 3:45 – 4:15 | Improvements in Integrity Testing         | Steve Greenfield & Stephen Palmer, Safearth |
| 4:15 – 4:45 | Grounding Issues Related to Doble Testing | Ken Elkinson, Doble Engineering             |
| 4:45 – 5:00 | Question Period ~ Substation Grounding    |   |
| 5:00 – 5:15 | Closing Remarks                           | John Williamson                             |

The Personal Protective Grounding (PPG) session discusses current practices and methods, which are extremely important to ensuring the safety of utility workers, the general public and valuable equipment.



Proper design, construction and testing of substation grounding systems will be discussed within these session, in addition to the software used for design and equipment used in testing. The risk of error resulting in unsafe conditions, both inside and outside the substation is a concern for grounding engineers.

\* Agenda is subject to change without notice

# Registration Form

## 9th Annual Grounding & Lightning Conference

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You may also register online at [www.ceati.com/GL2017](http://www.ceati.com/GL2017)

### Your Information

|                      |                      |
|----------------------|----------------------|
| Name                 | <input type="text"/> |
| Title                | <input type="text"/> |
| Organization         | <input type="text"/> |
| Street Address       | <input type="text"/> |
| City, Province/State | <input type="text"/> |
| Country              | <input type="text"/> |
| Postal/Zip Code      | <input type="text"/> |
| E-mail               | <input type="text"/> |
| Phone                | <input type="text"/> |
| Fax                  | <input type="text"/> |

### Payment Options

Visa   Mastercard 

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|-------------|---|
| Card No.    | <input type="text"/>                        |
| Expiry Date | <input type="text"/> / <input type="text"/> |
| Signature   | <input type="text"/>                        |
| Cardholder  | <input type="text"/>                        |

### Location Information

**Omni Hotel at the Colonnade**  
9821 Colonnade Boulevard  
San Antonio, Texas, 78230  
TEL: +1.210. 691. 8888



All conference guests are eligible for a discounted group rate of \$121 (USD) subject to availability. Simply mention "CEATI International" when reserving.

### Registration Fees & Discounts

Register by July 30, 2017 and save \$50.

- \$945 USD Standard Registration
- \$675 USD CEATI Participant Registration
- \$475 USD Academia/ Speaker Registration
- N/A GLIG Participants\*

\* GLIG participating organizations receive 2 complimentary registrations.

Contact [events@ceati.com](mailto:events@ceati.com) for exhibitor and sponsorship opportunities!

### 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 30 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 completing this form will be added to CEATI's mailing list. If you do not wish to be included in this electronic outreach, please click the "unsubscribe" button in the email to remove yourself. 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.

Completed registration forms can also be sent by email to [events@ceati.com](mailto:events@ceati.com) or by fax to (514) 904-5038