

# Spring 2017 Industry Event - Hydropower

## Maintaining Safe and Reliable Operations of Hydropower Projects while Meeting New Standards and Expectations

March 7 - 8, 2017 • Indian Wells, CA, USA

### Conference Overview

Hydropower has been used to provide flexibility and balancing to the power grid for many years. With the evolution of energy markets in response to the demands of non-dispatchable generation sources, the role and importance of hydropower has continued to grow, placing complex demands on the electrical and mechanical equipment and diversion structures. CEATI's 2017 hydropower conference will bring together experts to discuss key challenges associated with maintaining the safe and reliable operation of projects while meeting new expectations and standards.

Key challenges related to dam safety, power plant operations, planning, and equipment reliability will be discussed, while taking into account today's reality of new operating requirements. Aging infrastructure, erosion of expertise in the industry, training and knowledge transfer will be covered, as well as the need to make good planning and investment decisions to maximize the use of funds.

### Conference Goals

1. Learn from each other;
2. Provide knowledge and procedures necessary to recognize and manage new challenges;
3. Identify areas where additional research may improve our knowledge of potential failure modes;
4. Identify ways to ensure that the knowledge of the past is available for the future, and previous mistakes are not repeated;
5. The continuation of global communication, coordination, collaboration and advancement.

### Topics for Discussion:

**New Hydro Generation Strategies** - Impacts of flexible operations; market dispatching; integration of renewables - What should hydropower engineering, asset and dam safety managers be thinking about?

**New Technologies** - equipment, maintenance techniques, instrumentation, monitoring and controls.

**Failure Modes** - are there new factors to consider which were not seen or thought of in prior analysis including systems effects? How can changes in operation affect the safety of project structures?

**Risk Management** - what are the biggest risks? How to identify and rank/prioritize day-to-day risks? Examples of owners applying risk informed decision making to their projects.

**Planning** - how to get the most out of your projects - how long can you defer investing in assets, and what are the consequences of waiting to invest?

**Rehabilitation and Upgrades** - best practices, new strategies, new methods and materials .

**Real World Examples** - events, experiences and solutions.

### Themes

- Improving operational reliability, maintenance requirements, regulatory compliance and dam safety
- The evaluation of aging dams, equipment and infrastructure with respect to new fitness-for-service expectations
- Successful use/implementation of new predictive technologies
- Flexible modes of operations and impacts on stress and fatigue associated with the reliability of turbines and flow control equipment
- Identifying consequences and costs of integrating renewables

### Concurrent Sessions:



For more information, visit [www.ceati.com/Spring2017](http://www.ceati.com/Spring2017)

# MARCH 7<sup>th</sup> DAY 1- HYDRO PROGRAM

**12:00 - 1:30 Networking Lunch - Exhibition Hall**

**Session 1, Chairs - Chuck DeVane, Southern Company & Matt Frerking, Ameren**

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|------|--|--|
| 1:30 | <b>Welcoming Address – Southern California Edison</b>  | <i>Phil Herrington,<br/>Southern California Edison</i> |
| 1:45 | <b>Introduction: CEATI Hydro Program Update</b>  | <i>Chris Hayes,<br/>CEATI International</i>            |
| 2:00 | <b>Operational Reliability and a Systems Approach to Maintaining Safe Dams &amp; Power Production Facilities</b> | <i>Pat Regan</i>                                       |
| 2:30 | <b>Hydro Tasmania: Hydro System Case Study</b>   | <i>Robert Dillon,<br/>Hydro Tasmania</i>               |

**3:00 - 3:30 Networking Break - Exhibition Hall**

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|------|--|---|
| 3:30 | <b>Implementation of Asset Management Program at SCE and Centralized Work Scheduling</b>                     | <i>Vic Gloria,<br/>Southern California Edison</i>   |
| 4:00 | <b>THEMED PANEL DISCUSSION: Dam Safety, Plant Reliability and Operations &amp; Planning: A Balancing Act</b> | <i>Greg Lewis, Alastair Wilson,<br/>Toby Brewer, Gus Tjoumas,<br/>Kevin Gawne &amp; Marcel Paul<br/>Raymond</i> |

**5:00 - 7:00 Networking Reception - Exhibition Hall**

# MARCH 8<sup>th</sup> Day 2- HYDRO PROGRAM

**7:00 - 8:00 Networking Breakfast - Exhibition Hall**

## Session 2A - CIVIL TRACK

**Session Chairs - Carolyn Koroa, TVA & Anders Isander, Energiforsk**

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|------|---|
| 8:00 | <b>Geological Interpretation and 3-D Modeling at Boundary Dam, WA: Visualizing a Geologically Complex Site</b><br><i>Robert Cannon, Schnabel Engineering</i>                      |
| 8:30 | <b>Use of Current Methodologies to Assess Life Extension of an Aging 99-Year Old Multiple Arch Dam</b><br><i>Mohammadreza Mostafa, MWH &amp; Margaret Hannaford, Hetch Hetchy</i> |

## Session 2B - ELECTRICAL/MECHANICAL TRACK

**Session Chairs - Andrew Currie, CMS Energy  
Brandon Haney, Columbia Power**

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|------|---|
| 8:00 | <b>Hydroelectric Generator Off-Line Partial Discharge Case Study</b><br><i>Ben Lavrinoff, Kinectrics</i>  |
| 8:30 | <b>Cost/Benefit Assessment of Stator Refurbishment Options at Northern Wasco PUD</b><br><i>Darin Johnson, BIS Consulting &amp; Roger Kline, Northern Wasco County PUD</i> |

*Agenda is subject to change without notice*

# MARCH 8<sup>th</sup> DAY 2- HYDRO PROGRAM

## Session 2A - CIVIL TRACK

9:00 **Stochastic Flood Simulation Framework for Quantitative Risk Assessment of a System of Dams: A Paradigm Shift from Event Tree Models**

*Shaun Carney, RTI International & Keil Neff, USBR*

9:30 **Kaikoura Earthquake Effects & Phenomena**

*Dan Forster, Dam Safety Intelligence*

### 10:00 - 10:30 Networking Break - Exhibition Hall

10:30 **Inflection Points and How They Enhance the Understanding of Structural Safety**

*Guy S. Lund, Gannett Fleming*

11:00 **PANEL DISCUSSION - Session 2A Speakers**

## Session 2B - ELECTRICAL/MECHANICAL TRACK

9:00 **Generator Eccentricity and Circulating Current Diagnostics**

*Jim DeHaan & Bryan Hampson, USBR*

9:30 **Runner Life Extension Through In Situ Start-Up Optimization**

*Christine Monette, Andritz Hydro & Ben Wang, BC Hydro*

10:30 **Integration of an Independent Dual Pressure Governor Oil Supply for Reliable Kaplan Turbine Blade Manipulation**

*Ryan Bean & Jeremy Winkle, Avista Utilities*

11:00 **Measurement of Torque, Pulsations, Vibrations and Unbalanced Magnetic Pull as Part of Commissioning at the Lewiston Pumped Generating Plant**

*Peter Ludewig, NYPA & Marcus Crahan, PowerEngineering*

11:30 **PANEL DISCUSSION - Session 2B Speakers**

### 12:00 - 1:30 Networking Lunch - Exhibition Hall

## Session 3, Chairs - Greg Lewis, Duke Energy & Toby Brewer, Tacoma Power

1:30 **Impacts and Costs of Integrating Non-Dispatchable Renewables – One Size Does Not Fit All**

*Marcel Paul Raymond, CEATI*

2:00 **A Simple Field Test for Measuring Tainter Gate Operational Reliability**

*Brett Commander, BDI  
Roger Raeburn, PacifiCorp*

2:30 **Prioritization of Repairs to the Big Bend Spillway Gates on the Missouri River After the 2011 Flood**

*Nick Reis, J.F. Brennan Company  
Brian Tri, Barr Engineering*

### 3:00 - 3:30 Networking Break - Exhibition Hall

3:30 **Integrity Management of Penstocks Through Leading-Edge Inspection and Fitness-for-Service**

*Eric Scheibler, Quest Integrity & John de Groot, Snowy Hydro*

4:00 **CLOSING PRESENTATION: Key Takeaways & Future Work Programs**

*CEATI International*

*Agenda is subject to change without notice*

Tel: 1.514.866.5377 events@ceati.com www.ceati.com

Join Us in Indian Wells!

# Spring 2017 Industry Conference

3 Tracks - 1 Venue

March 7-8, 2017 • Indian Wells, CA

Hydropower

Protection & Control  
Stations

## Registration Form

You may also register online at [www.ceati.com/Spring2017](http://www.ceati.com/Spring2017)

### Your Information

Name

Title

Organization

Street Address

City, Province/State

Country

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### Registration Fees

Register by January 12, 2017 and save \$50.

- \$955 USD Standard Registration
- \$735 USD CEATI Participant Registration
- \$735 USD Speaker
- \$475 USD Student

**Exhibitor options available online!**

### 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.

### Payment Options

- Visa 
- Mastercard 

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

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All conference guests are eligible for a discounted rate of \$229 (USD) subject to availability. Simply mention "CEATI International" when reserving. Reservations must be made prior to January 12, 2017.