

Hydropower 2019

March 19-20 • Tucson, AZ

Conference Agenda

Hydropower

Overview

The electric utility industry is undergoing major changes which are influencing the way energy and capacity services are provided and power systems are planned.

Hydropower has been used to provide low variable cost energy, flexibility, and grid reliability for many years. However, this traditional role is being challenged by the growing presence of intermittent renewables, low cost natural gas, low load growth, excess capacity, and market uncertainty, which are creating pressures to reduce operating and maintenance costs and restrain capital expenditures that are necessary to address issues of operational risk and aging infrastructure.

These major changes require the best available knowledge to improve planning, operations, and maintenance, and an understanding of the risks associated with potential failure modes and associated consequences.

Tracks

1 Value and Flexibility of Hydropower in Grid Dispatch and Reliability

- Providing flexibility to the power system
- Strategic planning for efficient integration with other renewables (wind, solar)
- Implications and costs of entering new markets (such as EIM)
- Environmental legislation and regulatory impacts
- Justifying rehabilitation with low power prices
- The interplay of new market and operating conditions and dam safety considerations

2 Dam Safety: Learning from International Experience, Best Practices, Incidents, and Failures

- Dam Safety Incidents/Failures Case Studies
- Operational impacts of dam safety considerations
- Preventative maintenance
- Systems-based approaches to improving reliability
- Communications and coordination (internal/external) – examples of best practices and breakdowns
- Knowledge-based leading edge technological resources
- Lessons learned from other industries

Conference at a Glance

3 Hydro Equipment Reliability

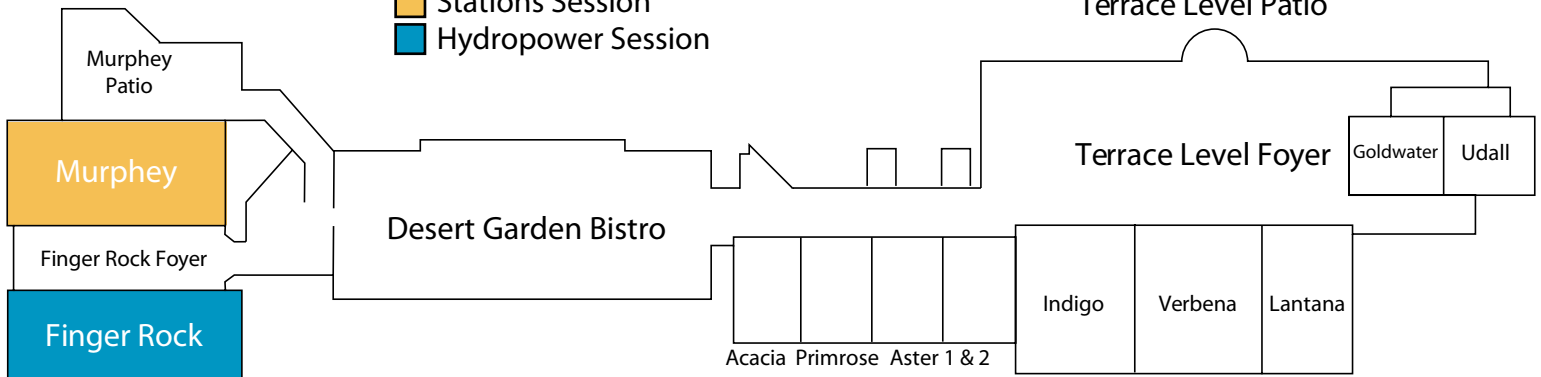
- Impacts on hydro equipment and operations
- Need for condition assessment and monitoring tools
- Techniques for optimally managing load (e.g., start/stops, artificial loads, economic spills, rate design)

CONFERENCE FLOORPLAN

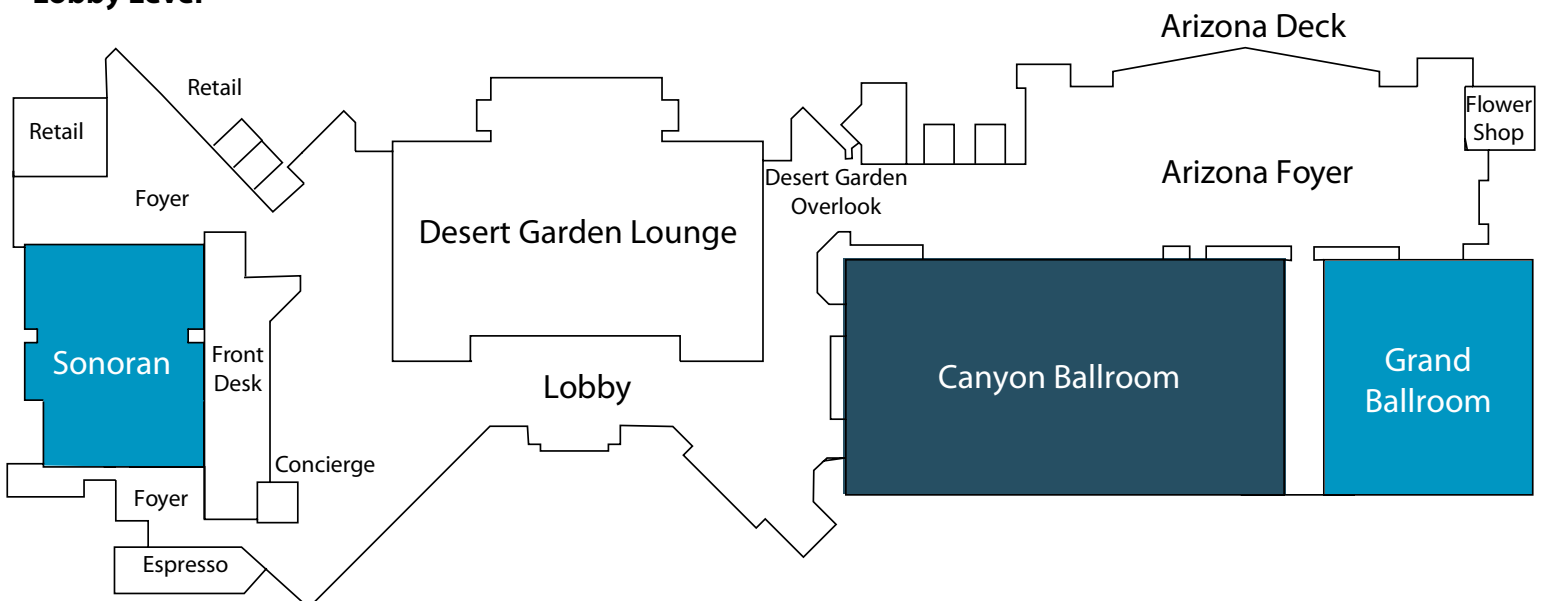
All meals, breaks, and receptions will take place in the Exhibitor Hall, unless otherwise indicated.

Terrace Level

- Exhibitor Hall
- Stations Session
- Hydropower Session



Lobby Level



Track 1: Value and Flexibility

Value and Flexibility of Hydropower in Grid Dispatch and Reliability - March 19

Session Chairs: Ann McManamon, Bonneville Power Administration & Shawn Béasse, SaskPower

 *Grand Ballroom*

7:00-8:00 Breakfast

8:00-8:15	CEATI Welcome & Introduction	<i>Lizzie Smith, CEATI International</i>
8:15-9:00	Integrating Variable Resources within the EIM	<i>Kresta Davis-Butts, Idaho Power</i>
9:00-9:45	Hydropower Operations in the IESO Market	<i>Kurt Kornelsen, Ontario Power Generation</i>

9:45-10:30 Break

10:30-11:15	How Changes in the Generation Mix in Iceland have Affected the Price of Flexibility	<i>Ulfar Linnét, Landsvirkjun</i>
11:15-12:00	Hydropower Value and Opportunities in Future Grid States	<i>Michael Ingram, National Renewable Energy Laboratory</i>

12:00-1:30 Lunch

1:30-2:15	Recognizing the Value of Hydro Storage and Flexibility	<i>Dan Prowse, Manitoba Hydro</i>
2:15-3:00	Preparing for Large Scale Grid Transformation: Importance of Synchronous Condenser Operation	<i>Lingxiao Situ, Hydro Tasmania</i>

3:00-3:45 Break

3:45-5:00	Panel Discussion: Pumped Storage Potential and New Developments	<i>Omar Torres, LADWP; Nathan Sandvig, National Grid; Henry Obermeyer, Obermeyer Hydro; & Mark Jacobson, National Renewable Energy Laboratory</i>
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5:00-7:30 Exhibitor Networking Reception

Agenda is subject to change without notice.

Track 1: Value and Flexibility

March 20 - Maintaining Flexibility and Adapting to Changing Conditions

Session Chairs: *Ulfar Linnet, Landsvirkjun & Chuck Bach, CEATI*

 Grand Ballroom

7:00-8:15 Breakfast

8:15-9:00	Spills Forecasting Where Ramping can Pose Potential Risks to Recreational River Users Downstream	<i>Bruno Benedetti & Brian Zakrajsek, Brookfield Renewable</i>
9:00-9:45	Modeling Day Ahead Hydropower Flexibility in RiverWare	<i>Tim Magee & Edie Zagona, CADSWES - University of Colorado</i>

9:45-10:30 Break

10:30-11:15	Providing Flexibility to the Power System	<i>Jorn Baayen, KISTERS</i>
11:15-12:00	Standardizing a Methodology to Evaluate the Impact of Climate Change on Hydropower Production	<i>Bruno Benedetti, Brookfield Renewable & Elyse Fournier, Ouranos</i>

12:00-1:30 Lunch

1:30-2:15	IHA Case Study: Implementing the Hydropower Climate Resilience Guidelines	<i>Robert Lempert, IHA</i>
2:15-3:00	Application of Modern Time Series Methods to Evaluate Streamflow	<i>Mike Vieira, Manitoba Hydro</i>

3:00-3:45 Break

3:45-4:30	University of Arizona Tree-Ring Reconstructions	<i>Connie Woodhouse, University of Arizona</i>
4:30-5:15	Combining Dendrochronology and River Policy to Improve Water Reliability in the Tennessee Valley	<i>Curt Jawdy, TVA</i>

5:15 Conference Adjournment

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

Agenda is subject to change without notice.

Track 2: Dam Safety

Dam Safety Incidents Case Studies - March 19

*Session Chairs: Annick Bigras, Hydro-Québec &
Roger Raeburn, PacifiCorp*

 *Sonoran Room*

7:00-8:00 Breakfast

8:00-8:15 **CEATI Welcome & Introduction** *Chris Hayes & Bruce Muller,
CEATI International*

8:15-9:00 **Teton Dam Incident Lessons Learned** *Karen Knight,
U.S. Bureau of Reclamation*

9:00-9:45 **Taum Sauk Incident Lessons Learned** *Matt Frerking,
Ameren*

9:45-10:30 Break

10:30-11:15 **Oroville Follow-up: Comprehensive Needs Assessment
and Risk Assessment Results** *Dave Sarkisian,
CADWR*

11:15-12:00 **New Zealand: Seismic Dam Safety** *Peter Amos,
Damwatch*

12:00-1:30 Lunch

1:30-2:15 **FERC Pilot Semi-Quantitative Risk Analysis of
Rhinedollar Dam** *Matt Muto, SCE &
Dean Durkee, Gannett Fleming*

2:15-3:00 **Integrated Systems Analysis of USACE Hydropower
Facilities on Missouri River** *Bob Patev,
U.S. Army Corps of Engineers*

3:00-3:45 Break

3:45-5:00 **Panel Discussion: Evolution of Dam Safety Programs
Over Time** *PJ Henscheid, Avista; Bill
Christman, Chelan County
PUD; Andy Durbin, Exelon;
Kenyon Schur, Mercury
Energy; & Nate Snorteland,
U.S. Army Corps of Engineers*

5:00-7:30 Exhibitor Networking Reception

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Track 2: Dam Safety

March 20 - Dam Safety Incidents Case Studies

*Session Chairs: Kim Pate, Seattle City Light &
Hugh Armitage, Southern Company*

 *Sonoran Room*

7:00-8:15 Breakfast

8:15-9:00 **Boon Dam Incident Lessons Learned** *Jennifer Dodd & Chris Saucier, TVA*

9:00-9:45 **Hardy Hydroelectric Project: Spill Tube Liner and Aspiration System Repair** *Cordelle Thomasma, Barr Engineering & DeVon Washington, Consumers Energy*

9:45-10:30 Break

10:30-11:15 **Red Willow Dam: Response to Sinkholes/Cracking on Embankment** *Jack Gagliardi, U.S. Bureau of Reclamation*

11:15-12:00 **Impact of Forest Fires on Dam Safety Planning** *Dave Ritzman, Pacific Gas and Electric*

12:00-1:30 Lunch

1:30-2:15 **Maintaining Low Water Levels to Ensure Safety** *Annick Bigras, Hydro-Quebec*

2:15-3:00 **Precipitation-Frequency and Storm-Related Information for Scoping Level Hydrologic Risk Analyses** *Mel Schaefer, MGS; Tye Parzybok, MetStat; & Roger Raeburn, PacifiCorp*

3:00-3:45 Break

3:45-5:00 **Panel Discussion: TBC** *TBC, TBC*

5:00 Conference Adjournment

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

Agenda is subject to change without notice.

Track 3: Hydro Equipment Reliability

Hydro Equipment Reliability - March 20

Session Chairs: *Chuck DeVane, Southern Company &
Craig Bourassa, Avista*

 *Finger Rock Room*

7:00-8:15 Breakfast

8:15-9:00 **How Hydro Turbines can Benefit from Instrumentation and Condition Monitoring System to Improve Flexibility** *Vincent Bouillet, Pierre-Yves Lowys, François André, & Hugues Mollet, GE Renewable*

9:00-9:45 **Control Systems Integration for Unmanned Operation of Remote Small Hydro** *Fon Hiew, New Brunswick Power & Christoph Moeglich, Reivax*

9:45-10:30 Break

10:30-11:15 **The Versatility of a Distributed Condition Monitoring System as a Way to Reduce Installation Costs** *Gregory Zurbriggen, Meggitt*

11:15-12:00 **Evaluation of Damaged Generator Rotor Laminations Using Fitness-for-Service Methods** *Eric Scheibler, Quest Integrity & Jason Shipp, TVA*

12:00-1:30 Lunch

1:30-2:15 **Using an Air Gap Monitoring System During Initial Commissioning Stages of a Hydro Generator** *André Tetreault, VibroSystM*

2:15-3:00 **Collection of Experiences using Resistance Temperature Detectors (RTD) as PD Sensors in Detecting and Locating Electrical Defects Deep Inside Hydro and Turbo Stator Windings** *Sandy Rainy, Northern California Power Agency & Raja Kuppuswamy, Dynamic Ratings*

3:00-3:45 Break

3:45-4:15 **Success of Overcoming High Load Instability of Mica New Generating Units** *Sabrina Lin, BC Hydro & Sylvain Marier, Andritz*

4:15-4:45 **Surface Partial Discharge in Stator Windings: Causes, Symptoms and Remedies** *Nicolas Dehlinger & Gregory Stone, Iris Power (Qualitrol)*

4:45-5:15 **Spider Cracking: Analysis and In-situ Repair** *Jason Sinkhorn, ElectroMechanical Engineering Associates*

5:15 Conference Adjournment

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

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Registration Form

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

Your Information

Name

Title

Organization

Street Address

City, Province, State

Country



Postal/Zip Code

E-mail

Phone

Fax

Payment Information

Visa  Mastercard 

Card No.

Expiry Date /

Signature

Cardholder

The Westin La Paloma
3800 East Sunrise Drive
Tucson, AZ 85718
+1.800.937.8461



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 |

*HPLIG, HOPIG, & DSIG participating organizations may be eligible for a complimentary registration; contact your Program Coordinator for more information

Exhibit at the Hydropower 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.