



RusHydro's Sayano-Shushenskaya



2nd Case Studies Workshop: Learning from International Experience-Best Practices, Incidents and Failures

Improving the Operational Reliability of Flow Control Equipment for Dams and Hydropower Stations

A CEATI International Dam Safety and Hydraulic Plant Life Interest Group Workshop



Planning in coordination with the Federal Energy Regulatory Commission (FERC)
Division of Dam Safety and Inspections

March 15-16, 2011 - Las Vegas, NV

Building on the success of the March 2009 "Case Studies Workshop: Learning from International Dam Incidents and Failures" held in Los Angeles, CA, USA, CEATI International is undertaking a second event focusing on engineering and maintenance strategies to prevent the uncontrolled discharge of water flows. The scope will be expanded to include best practices along with incidents and failures.

Supported by over 60 hydro utilities from around the world, CEATI's Hydraulic Plant Life and Dam Safety Interest Groups have combined forces to develop the hydro industry's premier utility and dam owner focused gathering.

Managing the risk of owning and operating hydropower projects requires the best available knowledge to improve reliability, recognize potential failure modes and understand the associated consequences. It is imperative that dam and hydro plant owners, regulators and consulting engineers maintain expertise and knowledge in these important areas. The retirement of experienced personnel leaves today's hydropower professionals with fewer opportunities to gain experience. As such, the combined knowledge of the hydropower community can be shared in order to minimize risks to the public and to hydropower assets.

Who Should Attend?

Engineering Managers
Dam Safety Managers
Asset Managers
Plant Managers
Water Managers
Dam Safety Regulators
Civil/ Structural/ Mechanical/
Electrical Engineers
Maintenance Supervisors
Operations Supervisors
System Planners/ Operators
Manufacturers/ Suppliers
Consultants
Project Managers
Service Contractors

For information or to submit an abstract, please visit:
<http://www.ceati.com/Meetings/DS2011/>

7:30 – 8:00

Breakfast and Registration

8:00 – 8:05

Workshop Introduction and Objectives

Mr. Chris Hayes, Director, Generation Program, CEATI International Inc.

Session 1 - Operational Impacts on Reliability

Session Chairs- Mr. Tony Bennett, Director Dam Safety, Ontario Power Generation, Mr. Colin Clark, Chief Technical Officer, Brookfield Renewable Power, and Mr. Alastair Wilson, HPLIG Technical Advisor, CEATI

8:05 - 8:50

- A Systems Based Approach to Reliability; Revisiting the Sayano-Shushenskaya Unit 2 Failure
Mr. Pat Regan, Regional Engineer, Federal Energy Regulatory Commission (FERC)

8:55 - 9:40

- Reclamation's Power Equipment Reliability and Gate Testing Program
Ms. Erin Foraker, Mechanical Engineer, U.S. Bureau of Reclamation

9:40 - 10:10

Break

10:10 - 10:55

- Operational Decisions and their Impacts on Dam Safety at EWEB's Carmen-Smith Hydroelectric Facility during the Flood of 1964
Ms. Catrin Van Donkelaar, Generation Manager, Eugene Water and Electric Board

11:00 - 11:45

- Lake Delhi Dam Failure - July 2010
Mr. William Fiedler, Civil Engineer, U.S Bureau of Reclamation, and Mr. Wayne King, Deputy Regional Engineer, FERC

11:45- 12:15

- End of Session Panel and Open Discussion
Panelists- Mr. Pat Regan, Ms. Erin Foraker, Ms. Catrin Van Donkelaar, Mr. William Fiedler, and Mr. Wayne King

12:15 – 1:15

Networking Lunch

Session 2- Learning from Engineering Shortfalls, Dam Safety Incidents, and Best Practices

Session Chairs- Mr. Andrew Datsko, Operations Manager, Allegheny Energy Supply and Mr. James Kerr, Chief, Mechanical, U.S. Army Corps of Engineers HDC

1:15 - 2:00

- Mechanical Effects Related to Hydraulic Phenomena in Hydraulic Turbines
Mr. André Coutu, Technical Leader, Mechanical Analysis, ANDRITZ-Hydro LTÉE

2:05 - 2:50

- Arapuni G7 Turbine Governor Incident "Errare humanum, perseverare diabolicum"
Mr. Giuseppe Grilli, Principal Engineer, Hydropower Engineering

2:50 - 3:20

Break

3:20 - 4:05

- Penstock Reliability Case Histories
Mr. Charles Ahlgren, Chief Dam Safety Engineer, Pacific Gas and Electric Company

4:10 - 4:55

- Responding to Gate Operational Reliability Issues at Keowee Spillway
Mr. Edwin C. Luttrell, Senior Vice President, HDR Engineering, Inc. of the Carolinas; William Duke, Professional Engineer, FERC, and Brad Keaton, Chief Dam Safety Engineer, Duke Energy

5:00 - 5:30

- End of Day Panel and Open Discussion
Panelists- Mr. André Coutu, Mr. Giuseppe Grilli, Mr. Charles Ahlgren, Mr. Edwin C. Luttrell, Mr. William Duke, and Mr. Brad Keaton

5:30-7:00

Evening Reception

Join us in the Exhibition Hall for the Evening Reception and Meet the Exhibitors Session. Mingle and make new contacts - don't forget to bring business cards!



7:30 – 8:00

Breakfast

Session 2 - Continued

Session Chairs- Mr. Andrew Datsko, Operations Manager, Allegheny Energy Supply and Mr. James Kerr, Chief, Mechanical, U.S. Army Corps of Engineers HDC

8:00 - 8:45

- Response and Failure Prevention, following the Identification of a Major Lining Defect in the Tekapo Canal, New Zealand
Mr. Jim Walker, Engineer - Dam Safety & Civil, Meridian Energy Ltd.

8:50 - 9:35

- Holter Flashboard Gate Test Failures- Best Practices for Spillway Gate Tests
Mr. David W Lord, Senior Civil Engineer, FERC

9:40 - 10:25

- Design Engineering Review for Crosby Clip Installations on Spillway Gate Dead-End Systems at Manitoba Hydro Kettle Generating Station
Mr. Muhammad T. Peerbocus, Mechanical Engineering, Technical Services Department, Manitoba Hydro

10:25 - 10:55

Break

10:55 - 11:40

- USACE Survey of Dam Gate Usage and the Implications for Reliability
Mr. Stuart Foltz, Research Civil Engineer, Maintenance Management Division, U.S Army Corps of Engineers (USACE)

11:40 - 12:10

- End of Session Panel and Open Discussion
Panelists- Mr. Jim Walker, Mr. David W. Lord, Mr. Muhammad T. Peerbocus, and Mr. Stuart Foltz

12:10 – 1:25

Networking Lunch

Session 3- Systems Based Approaches to Improving Reliability

Session Chairs- Dr. Martin McCann, Professor, Stanford Engineering, Dr. David Bowles, Professor, Institute for Dam Safety Risk Management and Mr. Constantine Tjomas, DSIG Technical Advisor, CEATI

1:25- 2:10

- Achieving Reliable and Secure Control of Spillway Gates
Mr. Tyler Atkinson, Senior P&C Engineer, Ontario Power Generation

2:15- 3:00

- Tainter Gates and Identification of Interim Risk Reduction Measures
Ms. Laurie Ebner, Hydraulic Engineer, U.S Army Corps of Engineers (USACE)

3:00 - 3:30

Break

3:30- 4:15

- BC Hydro Spillway Gates Upgrade Projects
Mr. Neil Ferguson, Director of Water & Wind Power, Western & Pacific Region, Hatch Ltd. and Stephen Rigbey, Manager of Dam Safety, BC Hydro

4:15- 4:45

- End of Session Panel and Open Discussion
Panelists- Mr. Tyler Atkinson, Ms. Laurie Ebner, Mr. Neil Ferguson, and Mr. Stephen Rigbey

4:45 - 5:05

- End of Conference Open Discussion
Moderators- Mr. Chris Hayes, Mr. Constantine Tjomas, and Mr. Alastair Wilson, CEATI International Inc.

- Accomplishments/ Have we met our objectives?
- Future Efforts and Workshops
- Next Steps

The CEATI Hydro Program brings together over 60 of the world's leading hydropower organizations.



Other CEATI Events held in Conjunction with the Workshop:

March 14, 2011: The Dam Safety Interest Group (DSIG) Meeting

The Dam Safety Interest Group (DSIG) is composed of dam owners who jointly sponsor research & development projects designed to help assess and improve the safety of dams. They have found great value in their ability to test and discuss different maintenance, design and emergency response strategies through the forums CEATI provides.

March 17-18, 2011: The Hydraulic Plant Life Interest Group (HPLIG) Meeting

The Hydraulic Plant Life Interest Group (HPLIG) is a collaborative, technology-focused program designed to assist hydroelectric utilities in their efforts to lower capital and operation costs, extend equipment life, increase reliability and reduce outage times for equipment repair and maintenance, and improve safety, efficiency, environmental performance, risk based asset management decision making, performance evaluation and benchmarking techniques.

If you are a dam owner/operator/utility and not yet involved but interested in learning more about participation, please contact Generation Program Director Chris Hayes at chris.hayes@ceati.com or 514-866-5370.

For additional details, please visit <http://www.ceati.com/collaborative-programs/generation>

Your Information

Name

Organization

Street Address

City, Province/State

Postal/Zip Code

E-mail

Phone

Fax

Payment Options

- Visa
- Mastercard



Card No.

Expiry Date /

Signature

Cardholder

Send your completed registration form by fax to
(514) 904-5038

Registration Fees & Discounts

- \$695 Standard Registration
- \$545 Speaker Registration

Discounts

- \$150 CEATI Hydro Program Participant Organizations*
- \$50 Early Bird [Register by January 14th and save!!](#)

*Applies to Standard Registration only.

The CEATI International Hydraulic Plant Life Interest Group will be meeting on March 17-18, 2011 in Las Vegas following the workshop. The Dam Safety Interest Group will be meeting on March 14, 2011 preceding the workshop. If you have interest in participation, please contact CEATI.

Exhibition

- \$1500 Exhibition Space

Includes one workshop registration pass. For additional passes please see Registration Fees & Discounts. Sponsorship opportunities for exhibitors are also available. Please contact workshops@ceati.com for more information.

Important Information

Registration fees include proceedings packages and breaks, lunches, and reception where indicated on the schedule. Please notify us if you have any special dietary needs.

All prices are listed in American Dollars (\$USD) and are subject to applicable taxes and exchange rates. Charges will appear as 'CEATI International Inc.' Please note that CEATI cannot guarantee currency exchange rates for credit card transactions and can only accept Visa or Mastercard.

All cancellations received before February 14, 2011 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.

Workshop Location



**CAESARS
PALACE**
LAS VEGAS

3570 Las Vegas Blvd South, Las Vegas, NV
89109

For reservations call 1-866-227-5938 or visit
www.caesarspalace.com

The workshop will be taking place at the beautiful Caesars Palace Hotel. All workshop guests are eligible for a discounted rate of \$139 (USD)- simply mention "CEATI International" when reserving.

Reservations must be made prior to January 28, 2011 in order to be eligible for the discounted rate (subject to room availability).