CEATI

CEA Technologies Inc.

Water Management Process to Meet Efficiency, Regulator and Environmental Objectives

November 3-4, 2004 Vancouver, British Columbia, Canada

This workshop is organized with support from:

- Abitibi Consolidated
- Alcan
- BC Hydro Generation
- Corporation Énergie Brascan
- Électricité de France
- ESKOM
- Hydro Tasmania
- Hydro-Québec
- Manitoba Hydro
- New York Power Authority
- Newfoundland & Labrador Hydro
- Ontario Power Generation
- SaskPower

Program Overview

The meaning of water varies depending on who you ask. A water manager views it as a renewable energy source – to generate electricity as well as to store energy. To others it is a source for transportation of raw materials and goods, crop irrigation, recreation, employment. Most important, it is a sustaining element of the natural environment of our world.

Sessions

Licensing

Water managers must consider supply conditions, conservation, water channel & facility capabilities, equipment efficiencies, needs of other users, safety and protection of the environment. The licensing process provides a foundation accounting for all interests while developing water use strategies which quickly demonstrates the current trend of the multi-objective nature of water resource management.

Flow Modification

The ability to store water on a short term basis is an important water management process tool. Not only does it provide additional energy in times of need, but it also helps reduce greenhouse gases by offsetting the need for fossil fuelled generation.

Alternative Energy Sources

As an example, wind generation is a fast evolving energy alternative. New technologies are emerging while solutions to environmental and social concerns are studied and implemented. A self dispatching energy source, such as wind must be integrated into water management processes. This may allow for additional water conservation therefore water managers will want to include wind in their forecasting toolkit.

Workshop Objectives

To bring together experts and practitioners from National and International Hydroelectric Utilities and Governments to share current practices, discuss improvements and plan future cooperation to help hydroelectric water managers deal with the multi-objective stakeholder requirements.

Workshop Themes

A Licensing of hydroelectric facilities and operation – a formula for success, success stories of licensing and re-licensing, lesson learned & feedback from regulators, varied licensing requirements, improving the process for the future and potential threats on the horizon.

B Flow modification to meet energy demands and environmental requirements - peaking operation as a benefit to hydroelectric operation – flexibility, changes in flow not always considered to be acceptable.

C Integration of alternative energy options into the water management process - integration of alternate green energy (i.e. wind and thermal) into reservoir operations, conservation of our water resource.

Who Should Attend

Hydroelectric operations managers, engineers, consultants and facility regulators who have a responsibility or interest in the area of water management, energy production planning, energy market operations, facility licensing and others peripherally involved.

Day 1 - November 3, 2004

8:00 - 8:30	Continental Breakfast Registration (pick up badges, proceedings package)

Session One:
Licensing of Hydroelectric Facilities and Operation

8:30 - 8:40	**Opening Remarks** - Session Chair: Joan Frain, Ontario Power Generation
8:40 - 9:20	**New York Power Authority's Experience with an Alternative Licensing Process** John Suloway, New York Power Authority
9:20 - 10:00	**Interactive Reservoir Modeling for Assessing Operational Trade-Offs** Dave Bonser, BC Hydro
10:00 - 10:20	Break
10:20 - 11:00	**Dynamic Constraints for Maximum Operating Level for Optimal Reservoir Management** Douglas Sparks, Hydro-Québec
11:00 - 11:40	**Using Multiple Forecast Scenarios for Short-Term Flood Protection in Reservoir Management** Douglas Sparks, Hydro-Québec
11:40 - 12:20	**Flow Forecasting Scenarios to Support the Multiple-Objective Management of Publicly-Owned Dams in Quebec** Richard Turcotte, Centre d'expertise hydrique du Québec
12:20 - 13:20	Lunch
13:20 - 14:00	**Water Level Gauges, the Most Important Water Management Instruments - A Revolutionary Evolution** Claude Bouchard, Hydro-Québec
14:00 - 14:40	**Hydroelectric Plant Turbine, Spillway and Stream Flow Measurement** David Lemon, Jan Buermans, Josef Lampa, ASL AQFlow
14:40 - 15:00	Break
15:00 - 15:40	**Implementing Detailed Efficiency Data for Optimal Use in Hydroelectric Generating Plants** Pierre Parent, Hydro-Québec
15:40 - 16:20	**Title TBA** Speaker TBA, BC Hydro

Day 2 - November 4, 2004

8:00 - 8:30 Continental Breakfast

Session Two:
Flow Modification to Meet Energy Demands and Environmental Requirements

8:30 - 8:40 **Opening Remarks** - Session Chair: Brian Fast, BC Hydro

8:40 - 9:20 **Advanced Methods for Short- and Long-Term Streamflow Forecasting**
Amy Sansone, 3Tier Environmental Forecast Group

9:20 - 10:00 **Applications of Hydraulic Models for the Environmental Impact Assessment of the Proposed Wuskwatim Generation Station**
Efrem Teklemariam, Manitoba Hydro

10:00 - 10:20 Break

10:20 - 11:00 **Hydro-Meteorological Ensemble Prediction and its Relevance to Water Operations Planning - The HEPEX Project**
Charles D. D. Howard, Consulting Engineer

Session Three:
Integration of Alternative Energy Options into the Water Management Process

11:00 - 11:10 **Opening Remarks** - Session Chair: Richard Mueller, New York Power Authority

11:10 - 11:50 **Water Management and the Role of Alternative Energy Sources in Power Systems**
Thomas Lavender, Water Resources & Power Planning Corporation

11:50 - 12:30 **Wind Speed in Mountainous Terrain**
Roland Stull, University of British Columbia

12:30 - 13:30 Lunch

13:30 - 14:10 **Challenges of Wind/Hydro Energy Integration**
Pascal Storck, 3Tier Environmental Forecast Group

14:10 - 14:50 **Optimum Short-Term Scheduling of Combined Hydro-Electric and Wind Generation Facilities**
Stuart Bridgeman, Synexus Global

14:50 - 15:00 **Closing Remarks**

Registration Form

Sign Up for the Workshop

Phone or fax your registration information today to reserve a place at the
Water Management Process to Meet Efficiency, Regulator, and Environmental Objectives Workshop
November 3-4, 2004 in Vancouver, BC, Canada

Name and Title: (As will appear on badge)

1. _____
2. _____
3. _____

Company: _____

Address: _____

City / Prov. or State: _____

Postal/Zip Code: _____

E-mail: _____

Phone: (____) _____

Fax: (____) _____

☐ WMIG Participant

☐ CEATI Utility Participant

☐ Speaker

☐ Other

Payment Options:

☐ Enclosed is my cheque for $_____ (payable to CEA Technologies Inc.)

Charge to my VISA ☐ / AmEx ☐ / MasterCard ☐ :

_____

Exp. Date: ____ / ____ Signature: _____

CEA Technologies Workshop Information

Accommodations & Registration Fees

Location

CEA Technologies "Water Management Process to Meet Efficiency, Regulator, and Environmental Objectives" Workshop will take place in the Centre Auditorium of the **BC Hydro Building**, 6911 Southpoint Drive, Burnaby, British Columbia, Canada

Accommodations

Hotel accommodations can be made at the **Hyatt Regency Vancouver,** located at 655 Burrard Street, only blocks away from Robson Street and Pacific Centre. The hotel is also close to sports complexes and theatres, 1000-acre Stanley Park, Granville Island and Grouse Mountain for skiing and recreation.

For reservations contact:

The Hyatt Regency Vancouver by phone at **(604) 683-1234**, toll-free at **1-800- 233-1234**, or by fax at **(604) 689-3707**.

The nightly rate is $80.00 CAD Single/Double occupancy plus applicable taxes. The same rate will apply 2 days prior and after the meeting based on availability. Please identify yourself as a CEA Technologies Group member in order to get the preferred rate.

Registration Fees

Registration Price	**$350 CDN + taxes**
Speaker Price	**$175 CDN + taxes**

All fees include sessions, proceedings, continental breakfast, morning/afternoon breaks and lunches.

Cancellation Fees:

A $50 CDN processing fee will apply to cancellations received before October 01, 2004.
A $100 CDN processing fee will apply to cancellations received between October 01-31, 2004.
No refund will be granted for cancellations after October 31, 2004.
Delegate substitution is permitted at no extra cost.

For additional information and to register, contact Paul R. Cook
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