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This workshop is organized with the support of the participants of the CEATI Hydro Program, bringing together over 40 of the world's leading hydroelectric utilities.

Collecting and Managing Hydrologic Data
for Effective Water Use Planning

November 15-16, 2006 - Portland, OR, USA

A key component of the effective operation of any water control structure is the measurement, and processing of hydrologic data. The foundation of all hydrologic, hydraulic and operational modeling and decision support software packages is quality data. The quality of data collected can be improved by the use of better acquisition methods and equipment, well designed networks, redundancy and maintenance schedules, and modern quality control applications. Water Managers are charged with the task of making decisions while challenged with limited resources to measure and collect data.

Managing hydrologic data requires the timely delivery of high quality data. Data requirements for real-time operation of fast response basins may be different from large storage basins where seasonal forecasting plays an important role. Since operations today rely on data that is shared by many users, the cost effective delivery of quality data in a timely manner to users is becoming increasingly more important.

Photo of Libby Dam courtesy of the US Army Corps of Engineers

1

Data Collection – Network Design, Methods, Standards & Maintenance

Although recent technologies have improved the reliability of the collection platforms, the need for and the level of maintenance required continues to offer challenges to those responsible for providing accurate and reliable hydrologic data. This session offers an opportunity to explore network design criteria standards and technologies that can offer support for cost effective maintenance to achieve acceptable levels of reliability and accuracy.

2

Quality Control – Data Validation

No system is perfect: missing or suspect data will continue to challenge water managers and decision makers. Continued improvements in data collection platforms, maintenance techniques and quality control software are increasing the level of comfort with complex modeling and decision support software used by water managers. This session will explore possible solutions to the old adage "garbage in garbage out" through improved methods and techniques in quality control.

3

Data Sharing – Network Coordination

Never has the hunger for information been so great as in today's world of high speed satellite connectivity where the "buffet table" of information can truly overwhelm and stress the best of managers. The challenge we face is how to manage information and data in a way that allows us the see what we 'truly need' in time to make valuable decisions when needed. This session will explore the ways companies and government agencies manage and share hydrologic data necessary for water managers to make timely effective decisions and for system users to become more informed.

Wednesday
November 15

8:00 Registration - Bellmont Ballroom
Continental Breakfast

8:30 Opening Remarks
Robert Metcalfe, WMIG Technology Coordinator

Session 1 – Data Collection

8:45 Session Introduction
Rob Carson, Ontario Power Generation

9:00 Hydrometeorological Data Processing at EDF: The example of the snow water equivalent
Emmanuel Paquet, EDF - Division Technique Générale

9:30 High Quality Flow Data using the Doppler Technology in the Hydrometric Network Stations at Hydro-Québec
Yves Choquette, Hydro-Québec IREQ

10:00 The Use of Acoustic Velocity Sensors in Culverts for Determining Discharge
Jeff Woodward, Environment Canada - Water Survey of Canada

10:30 *Break*

10:45 Estimation of Channel Discharge for Flows Under Ice Cover
Dapei Wang, Environment Canada - MSC

11:15 A Maximum-Likelihood, Hydraulically-Based Fitting Approach to Rating Curve Development
Gabriel Sentlinger, Knight Piesold

11:45 The Role of Hydrodynamic Models in Estimating Streamflow
Syed Moin, Environment Canada - MSC

12:15 *Lunch and Exhibition*

1:15 Practical Examples of Applying Rating Curve Shifts in the Canadian Prairies
Greg MacCulloch, Environment Canada - Water Survey of Canada

1:45 Lessons Learned in Remote Data Collection
Dave Gunderson, US Bureau of Reclamation

2:15 Establishing the Limits of the Unique Rating Curve in Streamflow Measurements
Syed Moin & Jacob Bruxer, Environment Canada

2:45 **Session Wrapup**
Roundtable Discussion

3:15 *Break*

Session 2 – Quality Control

3:30 Session Introduction
Peter Brooks, US Army Corps of Engineers

3:45 Maintaining the Quality and Reliability of Multi-Use Hydrologic Data
Chuck Bach, Tennessee Valley Authority

4:15 USGS Accurate Real Time-Data, 2006
Glen Hess, US Geological Survey

Session continued on November 16

5:30 **Evening Reception**
Hors d'oeuvres
Cash bar

Thursday
November 16

8:00 *Continental Breakfast*

Session 2 – Quality Control

8:30 Management of Hydrologic Data in the Corps of Engineers Columbia River Basin Office
Jim Barton, US Army Corps of Engineers

9:00 Lessons Learned During the Migration to an Updated Water Management System
Wendy Kaspick, Manitoba Hydro

9:30 Data Acquisition and Quality Control for Hydro Power Applications
Tung Van Do, Powel-MiniMax

10:00 *Break*

10:15 Water Survey of Canada – Ensuring Quality
Pat McCurry, Environment Canada - Water Survey of Canada

10:45 Using the Parity Space Method in Aquatic Data Validation
Ed Quilty, Aquatic Informatics

11:15 Hydrometric Workstation Project: Water Survey of Canada's future hydrometric data production system
André Bouchard, Environment Canada - MSC

11:45 **Session Wrapup**
Roundtable Discussion

12:15 *Lunch and Exhibition*

Session 3 – Data Sharing

1:15 Session Introduction
Marc Drouin, Manitoba Hydro

1:30 TVA – Data Sharing & Network Coordination
Chuck Bach, Tennessee Valley Authority

2:00 The US Army Corps of Engineers Emergency Data Dissemination Network
Richard Engstrom, US Army Corps of Engineers

2:30 Meteorological Service of Canada's Data Management Framework
Dave Spiegl, Environment Canada - MSC

3:00 *Break*

3:15 Hydropower Operations Data Management at Bonneville Power Administration
Rob Dies, CddHoward Consulting

3:45 Opportunities for using Real-Time Meteorologic and Hydrologic Data in Water Use Operations and Planning – The operational forecasting perspective
Amy Sansone, 3TIER Environmental Forecast Group

4:15 **Session Wrapup**
Roundtable Discussion

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November 15-16, 2006 - Portland, OR, USA
Holiday Inn Portland-Downtown Convention Center

Early Bird Special

Save $45 on registration by sending in this form before September 1, 2006.*

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Your Information

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This workshop is organized with the support of the participating utilities of the CEATI Hydro Program.

Registration

- ☐ $199 Speakers *
- ☐ $299 Water Management Interest Group Organizations
- ☐ $399 CEATI Hydro Program Organizations (DSIG/HPLIG)
- ☐ $499 All other attendees
- ☐ $1199 Exhibitors (includes one [1] workshop registration)

Payment Options

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Registration fees include continental breakfasts, lunches, refreshment breaks, evening reception, proceedings package and applicable taxes.

Hotel reservations can be made at the Holiday Inn Portland-Downtown Convention Center, 1441 NE 2nd Avenue, Portland, OR 97232. Mention the "CEA Tech" group code before September 1 to save on your hotel reservation! Call (503) 233-2401 to reserve.

Important Notices
- All prices are listed in Canadian Dollars ($CAD).
- Charges will appear as 'CEA Technologies Inc.'

All cancellations received before October 15, 2006 will be subject to a $100 processing fee. There will be no refunds granted after this date. Delegate substitution is permitted at no extra cost.

* Discount not available to speakers; must include payment details.

CEATI INNOVATION THROUGH COLLABORATION

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