

Water Management Interest Group

As a result of today's competitive energy market and increased concerns regarding the environment, hydropower operators must develop business strategies to maximize availability and profitability of their plants to gain competitive advantages.

The scope of the Water Management Interest Group (WMIG) is to focus on the development of methods & tools required to optimize hydraulic processes while maintaining safe and environmentally-friendly operations.

Topics of interest include watershed management and water use planning, meteorological forecasting (water, ice, flow), operational modeling (benchmarking and performance measurement), data acquisition techniques, and impact assessment (flow, environmental requirements).

Topics & Issues

Watershed Management/Water Use Planning

Operational Modeling and Optimization

Meteorology - Climate

Hydrology

Data Acquisition & Techniques

Hydraulics

Ice on Rivers and Reservoirs

Impact Assessment



Technology Coordinator



Mr. Robert Paul Metcalfe has over 30 years of experience in Water Management. During the last ten years he was a manager in the Water Management Services Department where he was accountable for water management studies and technical support, communications with the public, water level gauge operation, hydraulic turbine testing, streamflow metering, data quality control, administration of water leases and hydraulic engineering support for environmental studies. Over the years Robert has been active in many professional organizations. He is on the International St. Lawrence River Board of Control as the Canadian Co-Chair of the Control Board's Communications Committee and a member of the Working Committee. In addition, Mr. Metcalfe is the Executive Director of the Harshman Fellowships Society and on the Board of Directors for the Canadian Water Resources Association (Ontario Branch).



Projects/Technology Reviews

for a complete listing, please visit: www.ceati.com/wmig

Watershed Management, Water Use Planning

- Water Management Road Map
- Water Management Research Initiatives

Meteorology & Hydrology

- Evaluation of Quantitative Precipitation & Temperature Translation Methods
- Accuracy of Inflow Forecasts
- The Impact of Climate Change on Hydroelectric Generation

Data Acquisition

- Hydrometric Gauging
- Hydrologic Data Quality Assurance

Hydraulics

- Review of Technical Literature on Operational Aspects
- TechWatch 2003
- Comprehensive River Ice Simulation System Project (CRISSP)
This \$1,250,000 three-year development will allow simulation of the formation, stability, jamming and break-up of ice in rivers. Ice considerations include hydraulic, meteorological, physical and thermal.
- Evaluation of the Shallow Water Ice Profiler Sonar for Measuring Frazil Ice

Hydroelectric Operation & Environmental Concerns

- Full Cost Environmental Accounting

Improved Safety of Waterways

- Waterways Public Safety Survey

Operational Modeling and Optimization

- Benchmarking Performance Optimization
- Technology of Real Time Measurement of Flow

Workshops

- Water Management Planning (2000)
- Hydro System Planning and Operation in Today's Changing Marketplace (2001)
- Data Management for Hydro Operations (2002)
- Dealing with Uncertainties in the Hydroelectric Energy Business (2003)
- Water Management Process to Meet Efficiency, Regulator and Environmental Objectives (2004)
- Water Management Decision Support Software (2005)
- Collecting & Managing Hydrologic Data for Effective Water Use Planning (2006)
- Improved Inflow Forecasts of Hydropower (2007)
- Climate Change & Hydropower (2008)
- Optimizing Hydropower Reservoir Management (2009)

Annual Activities

2-3 Meetings

1-2 Workshops

5-7 Conference Calls

Weekly Information Exchange

Participation is open to:

Hydro-Electric Utilities

Independent Power Producers

Agencies that possess hydro-electric generating facilities

Water Users

Project Reports

Over the years more than 1300 projects have been completed and published in the fields of:

Generation; Transmission Distribution; Utilization

For a complete listing, please consult our website.

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