WASTEWATER PUMPING STATION AND FORCEMAIN SYSTEMS DESIGN, OPERATION AND MAINTENANCE WORKSHOP

«AddressBlock»

JANUARY 21 & 22, 2010 | WINNIPEG MB

Sponsored by MWWA & WCWEA

It is not unreasonable for facility owners to desire wastewater pumping systems that are suitable for their system flows, include efficient equipment, are constructed cost-effectively, operate smoothly and minimize downtime with normal maintenance. Wastewater pumping systems that are compatible with the piping systems they are connected to would be strongly encouraged as well. Unfortunately, cases of mismatched materials to design requirements and the unfamiliarity or lack of mandatory design checks have kept the legal industry busy. This workshop aims to reduce the frequency of these types of incidents.

The objective of this workshop will be to present topics regarding overall system design concepts, design criteria for both pumping stations and forcemains, assessment of existing stations and upgrading of existing facilities, and a review of operational and maintenance issues related to the sustainability of pumping station systems. Design examples for both small and large pumping stations, including the respective forcemain system design, will be included in this workshop. Manitoba Hydro will be present to speak on their Performance Optimization Program (POP).

This two-day workshop offers the latest in wastewater pump station engineering knowledge as well as an opportunity for networking with fellow professionals. A mini tradeshow may be included with this workshop.

See reverse for Speakers and Agenda

Date **January 21/22, 2010**

☐ **WCW Member** **$315 ($300 + $15 GST)**

☐ **Non Member** **$420 ($400 + $20 GST)**

Walk On Registrations add $50

Payment Method: ☐ Visa ☐ MC ☐ Cheque

Location: Canad Inns Polo Park

1405 St. Matthews Avenue, Winnipeg MB

Hotel Reservations (204) 775-8791

Block Reference. 159750, $109.00 Book by January 6

Make cheque Payable to: WCWEA
PO Box 1708 Stn Main. Cochrane AB T4C 1B6

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CANCELLATION POLICY

- Cancellation received before January 15, 2010 full refund less $25.00 service charge.
- NO REFUND after January 15, 2010 (Substitutions Welcome)

Western Canada Water p 1.877.283.2003 / 403.709.0064 Fax: 1.877.283.2007 / 403.709.0068

WASTEWATER PUMPING STATION AND FORCEMAIN SYSTEMS DESIGN, OPERATION AND MAINTENANCE WORKSHOP

Topics

- Overall System Design Concepts
- Pumping Station Design Basics
- Forcemain Design
- Design Examples
- Manitoba Hydro Performance Optimization Program (POP)
- Condition Assessment and Existing Station Upgrades
- Operational and Maintenance Issues

Speakers

(confirmed to date)

- Michael Porretta (City of Edmonton)
- Chris Macey (AECOM)
- Martin Bima (Manitoba Hydro)
- Kirby McRae (AECOM)
- Eymond Toupin (AECOM)
- Blair Moore (AECOM)

Who Should Attend?

- Design Engineers and Technicians
- Pumping Supervisors and Operators
- Consulting Engineers
- Pumping Maintenance Engineers and Technicians
- Wastewater Utility Managers
- Regulators
- Pumping Service and Supply Professionals

*Application for **1.2 CEUs** is being made for this Seminar*

Day One

8:00AM	**Registration**
8:30AM	**Overall System Design Concepts**

	• Review of system as a whole
	• Review generalized design process
	• Design flows
	  ○ Basic design objectives
	  ○ Wet weather flow considerations
	• Applied hydraulics – steady state, dynamic, and transient modeling
	  ○ Analytical approach - small stations
	  ○ Analytical approach – complex systems
	• Introduction to life cycle costing concept

10:15AM	Break
10:30AM	**Pumping Station Design Basics**
	• Prefabricated stations • Large station design • Pumps and their applications • Pump Scheduling and Redundancy • Motors and variable speed drives • Instrumentation and SCADA • HVAC • Backup Power
12:00PM	Lunch (provided)
1:00PM	**Forcemain Design**
	• Material selection • Fatigue and cyclic loading limits in thermoplastics • Air entrainment design • Transient control • Redundancy in forcemain design • Other design features (check valves, cleanout chambers, dewatering chambers)
2:30PM	Break
2:45PM	**Design Examples**
	Design Example No. 1 – Small Station and Forcemain Design • Station Design considerations • Modelling using Epanet • Modelling using SWMM
4:15PM	**Open Forum for Questions, Answers and Remarks**
4:30PM	**Mini Trade Show and Reception**

Day Two

8:30AM	**Design Examples**
	Design Example No. 2 – Large Station and Forcemain System Design • Large Station Design considerations • Complex structure modeling using InfoWorks CS • Hydraulic transient modeling
10:00AM	Break
10:15AM	**Manitoba Hydro Performance Optimization Program (POP)**
	• Benefits of Improved System Performance • Systems Approach • Supported Technologies • Measurement and Verification • Case Study
12:00PM	Lunch (provided)
1:00PM	**Condition Assessment and Existing Station Upgrades**
	• Code issues • Confined entry • Assessment methods – inside station • Assessment methods - forcemains
2:30PM	Break
2:45PM	**Operational and Maintenance Issues**

	• Operation and Maintenance overview
	• Corrosion and odour control
	• Troubleshooting pumping station problems
	  ○ Operational problems
	  ○ Premature failure

4:15PM	**Open Forum for Questions, Answers and Remarks**
4:30PM	**Final Adjournment**

Agenda subject to change