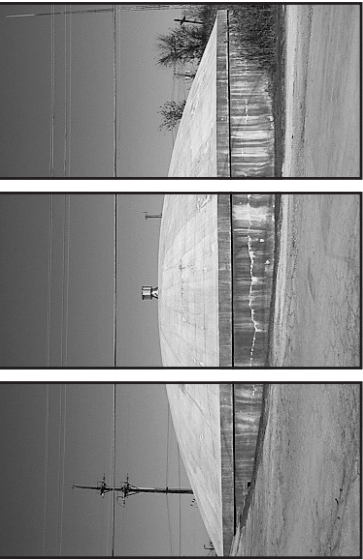


Department of Engineering Professional Development
432 North Lake Street Madison, Wisconsin 53706

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What's Next Starts Now

**Water Storage Tanks
Operation, Maintenance, and
Rehabilitation**

February 27 – 28, 2018 • Madison, Wisconsin



Water Storage Tanks Operation, Maintenance, and Rehabilitation

February 27 – 28, 2018 • Madison, Wisconsin

Learn how to choose maintenance, inspection, repair and rehabilitation methods to extend tank life and minimize life cycle costs.





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Course Benefits

Water storage tanks are an important, visible component of your water distribution system. Proper operation and maintenance of water storage tanks can significantly impact fire protection, water quality, service delivery, and maintenance costs. Rehabilitation costs for existing tanks sometime exceed original construction costs, so it is important to select operation, maintenance, inspection, and repair procedures to minimize the life cycle costs of your tanks.

Learn How To

- Improve tank asset management
- Adopt best practices for tank operation, maintenance, and rehabilitation
- Implement an effective tank inspection program and select appropriate inspection procedures
- Select appropriate tank coatings and application procedures
- Specify cost effective tank repairs
- Modify tanks to improve water quality
- Assure that antenna installations do not compromise your tank's operability or integrity
- Address special considerations for concrete tanks

Who Should Attend

- Water utility managers and supervisors
- Engineers
- Public works directors and superintendents
- Water system operators
- Others with responsibilities for specifying, operating, maintaining and rehabilitating water storage tanks

Instructors

Michael Duer, PE

Chief Engineer
Tideflex Technologies

Ira M. Gabin, PE

Vice President
Dixon Engineering, Inc.

Joseph Hoban, PE

Senior Project Engineer
Dixon Engineering, Inc.

Al Larson, PE, BCEE

Principal Engineer
Madison Water Utility

James T. Lary

NACE Corrosion Technologist
Corrpro Companies, Inc.

Catherine Wunderlich, PE, ENV SP

Chief, Public Water Engineering Section –
Drinking Water and Groundwater
Wisconsin Department of Natural Resources

James Orr

Project Manager
Dixon Engineering, Inc.

Earn Continuing Education Credit

By participating in this course, you will earn 14 Professional Development Hours (PDH) or 1.4 Continuing Education Units (CEU).



Water Storage Tanks

Operation, Maintenance, and Rehabilitation

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Course Outline

Water Storage Tank Types

- Tank type overview
- Initial cost comparison
- Future painting/rehabilitation costs
- Design efficiency
- Operations and maintenance considerations
- Aesthetics

Water Utility Asset Management Basics

- Asset management expectations for utility infrastructure

Developing a Cost-Effective Water Storage Tank Maintenance Program

- Learn the steps from initial evaluation, prioritization, and specification development, to bidding and construction administration

Tank Inspection

- Essential elements of tank inspections
- Inspector qualifications
- Inspection types—drained tank, underwater inspections
- Photo and video documentation
- Inspection reports
- Repair/rehabilitation alternatives
- Budgetary cost estimates
- Evaluating rehabilitation vs. replacement

Steel Tank Coatings

- Coating types
- Expected coating life
- Coating selection
- Surface preparation
- Quality control
- Display of quality control tools for tank coatings

Concrete Tank Coatings

- Coating types
- Appropriate project application

Corrosion control

- Cathodic protection methods/systems
- Operation of cathodic protection systems

Winter Storage Tank Operation and Maintenance

- Preventing icing damage
- Modifying tank operations

Mixing in Water Storage Tanks

- Storage tank water quality problems and causes
- Water storage tank mixing—mixing basics, methods of mixing, potential mixing problems
- Modeling mixing and water aging in storage tanks
- Retrofits to improve mixing and tank water quality

Safety for Water Storage Tank Operation and Rehabilitation

- Important safety issues
- Overview of safety equipment and procedures for tank climbing and rigging
- Tank details for safety and rescue retrieval

Concrete Tanks

- Types of concrete tanks
- Concrete tank inspection and maintenance
- Concrete tank distresses and failures
- Repair and rehabilitation of concrete tanks

Attaching Antennas to Tanks

- Typical antenna attachment details
- Protecting structural integrity of tanks
- Avoiding paint damage and corrosion
- Operational and aesthetic concerns
- Accommodating future antenna installations

Water Storage Tank Rehabilitation

Case Study

- Rehabilitation of water storage tank assets at the Madison Water Utility

Schedule

Registration and course will be held at:
The Pyle Center
702 Langdon Street
Madison, WI

Day 1

7:30 a.m. to 8:00 a.m. Registration
8:00 a.m. to 5:00 p.m. Class

Day 2

8:00 a.m. to 5:00 p.m. Class

The daily schedule will include midmorning and midafternoon refreshment breaks and lunch at noon.



Enroll Today!

Internet:

epd.wisc.edu/RA00207

Phone:

800-462-0876 or 608-262-1299 (TDD 265-2370)

Fax:

800-442-4214 or 608-265-3448

Mail to:

The Pyle Center, Attn: Engineering Registration
702 Langdon Street
Madison, Wisconsin 53706

Have Questions?

Call toll free **800-462-0876** and ask for

Program Director: Benjamin J. Jordan
bjordan@wisc.edu, 608-265-4478

Program Associate: Theresa Rodger
theresa.rodger@wisc.edu, 608-262-5361

or email custserv@epd.wisc.edu

General Information

Fee Covers Course materials, break refreshments, scheduled lunches and certificate.

Cancellation If you cannot attend please notify us at least seven days prior to the course start, and we will refund your fee. Cancellations received after that date and no-shows are subject to a \$150 administrative fee per course. You may enroll a substitute at any time before the course starts.

Location This course will be held at the Pyle Center, 702 Langdon Street, Madison WI.

Accommodations

Lowell Center

(rates starting at \$105/night)
866-301-1753 or 608-256-2621
Group code: S993EPD
Room requests after 1/27/2018 will be subject to availability.

Course Information

To enroll, or for complete course schedule, instructor biographies, cancellation policies, discounts and other information, visit epd.wisc.edu/RA00207.

Please enroll me in

- Water Storage Tanks: Operation, Maintenance, and Rehabilitation Course #S993** February 27 – 28, 2018 in Madison, Wisconsin
Fee \$995
- I cannot attend at this time, please send me brochures on future courses.

Personal Information (Please print clearly.)

Name _____

Title _____

Company _____

Address _____

City/State/Zip _____

Phone (____) _____

Email _____

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