

Agenda

Presented by Lori A. Burkert, P.G., M.S.

Public Water Supply Systems: An Introduction

What is a public water system?

Definitions

- Public vs. private
- Community vs. non-community
- Transient vs. non-transient

Basic objectives: quantity and quality

- Calculating demand: domestic flows and fire suppression
- Typical sources of raw water

Major infrastructure: source, transmission, treatment, pumping, distribution, storage, services

Small group activity: developing a water supply master plan

Federal and State Regulatory Framework

Federal Safe Drinking Water Act (SDWA)

Alphabet soup: Review of federal rule-making:

- The surface water treatment rule (SWTR)
- The groundwater rule (GWR)
- Distribution-related rules (DRR, DBP, LCR, TCR)
- Chemical contaminants (arsenic, LCR, radionuclides)

State drinking water programs

- Recent rule-making (PA, NJ, MD, DE)

Emerging contaminants

Group survey: public notification requirements

Sources and Treatment

Water sources: quantity, quality, and reliability

Surface water treatment processes Groundwater treatment processes

Permitting, compliance and reporting

Case studies: water supply for multiple client types and sizes

Transmission, Distribution, and Storage

Design constraints: flow, pressure, water age

Distribution system Distribution storage

Maintenance

Considerations

- System mapping (GIS/CAD)
- Hydraulic modeling
- Water loss and leak management
- Water quality
- Compliance and reporting

Small group activity: water quality in distribution systems

Emergency Preparedness and Response

Common failure mechanisms

Results/discussion of group survey on public notification requirements

Emergency response planning

Lessons from Flint, Michigan

Public Water Supply Systems

Fort Washington, PA - Wednesday, April 17, 2019



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Learning Objectives

You'll be able to:

Explore different types of public water supply systems and define their basic objectives.

Receive an update on recent state drinking water regulatory rule-making in Pennsylvania, New Jersey, Maryland and Delaware.

Evaluate case studies of different types and sizes of water supply systems.

Discuss groundwater and surfacewater treatment processes.

Handle design constraints due to flow, pressure and water age.

Identify common failure mechanisms impacting water quality and quantity.



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Receive an introduction to public water supply systems

Learn about water transmission, distribution and storage

Consider the federal and state regulatory framework

Discuss emergency preparedness and response

Examine water sources and compare treatment options

Continuing Education Credits

Professional Engineers
6.5 PDHs

Pennsylvania Attorneys
6.5 CLE Hours

Professional Geologists
6.5 PDHs



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Faculty

Lori A. Burkert, P.G., M.S. *Project Manager / GIS Manager at Entech Engineering, Inc.*

Mrs. Burkert is a professional geologist with 18 years of experience in water resources, water supply and wastewater systems. Her expertise includes source water investigation and protection, geographic information systems (GIS) mapping, water distribution system operations and maintenance, wastewater inflow and infiltration control programs, water quality, data management, regulatory compliance, field inspection and site work, and environmental consulting.

Ms. Burkert previously worked for the Pennsylvania Department of Environmental Protection as a public water supply inspector. She received a B.S. degree from Elizabethtown College in Environmental Science, and an M.S. degree from Lehigh University in Earth and Environmental Science, with a focus in (geo)chemistry.

She served as the president of the Pennsylvania state chapter of the American Water Resources Association (PA-AWRA) in 2017 and 2018.

Entech Engineering is a full-service engineering firm with six office locations throughout Pennsylvania. Entech serves utilities, government, commercial, manufacturing, and higher education organizations. The company offers civil, environmental, MEP, structural and architectural services, helping clients to make more informed decisions to achieve their goals.

Seminar Information

Hilton Garden Inn Fort Washington
530 W. Pennsylvania Avenue
Fort Washington, PA 19034
(215) 646-4637

Tuition
\$289 for individual registration
\$269 for three or more registrations.

Included with your registration: Complimentary continental breakfast and printed seminar manual.

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- Mail-in or fax the attached form to 715-835-6066
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Continuing Education Credit Information

This seminar is open to the public and provides 6.5 PDHs to professional engineers and geologists in Pennsylvania. The Pennsylvania State Board of Professional Engineers, Land Surveyors, and Geologists does not pre-approve continuing education actives.

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The Pennsylvania CLE Board has approved this event for 6.5 CLE hours for attorneys.

Attendance will be monitored and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Additional Learning

Webinar Series

National Electrical Code

- **National Electrical Code, Part I**
Wed., March 6, 2019, 11:00 AM - 3:30 PM CST
- **National Electrical Code, Part II**
Thurs., March 7, 2019, 11:00 AM - 3:30 PM CST
- **National Electrical Code, Part III**
Fri., March 8, 2019, 11:00 AM - 3:30 PM CST

Commercial Solar Peaker Batteries

- **Commercial Solar Peaker Batteries, Part I**
Wed., March 13, 2019, 11:00 AM - 3:15 PM CDT
- **Commercial Solar Peaker Batteries, Part II**
Thurs., March 14, 2019, 11:00 AM - 2:15 PM CDT

Handling Ethical Issues in Professional Engineering Practice

Fri., March 15, 2019, 11:00 AM - 12:00 PM CDT

Structural Forensic Engineering

- **Introduction to Forensic Engineering Process**
Wed., March 27, 2019, 11:00 AM - 1:00 PM CDT
- **Causes of Failures and the Forensic Engineering Report**
Wed., March 27, 2019, 1:30 - 3:30 PM CDT
- **Forensic Examination of Structures and Use in Litigation**
Thurs., March 28, 2019, 11:00 AM - 1:00 PM CDT

Foundation Damage and Repair

- **Structure Loads, Soil Mechanics, Bearing Capacity and Geo-Environmental Hazards**
Thurs., March 28, 2019, 11:00 AM - 12:30 PM CDT
- **Foundation-Wall Design and Construction**
Thurs., March 28, 2019, 1:00 - 2:30 PM CDT
- **Assessment of Foundation-Slab Damage & Repair Alternative**
Fri., March 29, 2019, 11:00 AM - 12:30 PM CDT
- **Assessment of Foundation-Retaining Wall Damage & Repair Alternatives**
Fri., March 29, 2019, 1:00 - 2:30 PM CDT

For more information visit:
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Registration

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