



Understanding and Treating Iron & Manganese

MWWWA Course Seminar (Course ID # MWWWA 11-003)

In 2014 MassDEP set a health standard for manganese of 0.3 mg/L and over 120 public water systems in the state exceeded this limit. Manganese, and its common counterpart of iron, have been an aesthetic headache for water purveyors for decades. Now that manganese removal is required for many systems in the state, it is important for managers and operators to understand the nuances of the various treatment technologies available.

This half day class will review the chemistry and occurrences of iron and manganese and provide an overview of the treatment technologies of media, membrane and biological filtration. There will also be a discussion about options for residuals handling. Attendees will be given the opportunity to take part in an optional afternoon tour of the Acton iron and manganese treatment plant. A total of **3.0 TCHs** (Training Contact Hours) will be issued.

Learning Objectives:

- To become familiar with the occurrence of both iron and manganese in Massachusetts public water systems.
- To understand the chemistry of iron and manganese and the problems associated with each.
- To learn about the advantages/disadvantages of the various treatment options.
- To discuss the problems and possible solutions of handling and disposal of iron and manganese residuals.
- To review a case study of the treatment experiences of Franklin, MA

LOCATION: Acton Public Safety Building
371 Main St. Acton, MA 01720

DATE: Wednesday, November 20, 2019

TIME: 8:30 AM – 12:15 PM (optional afternoon tour of Acton Treatment Plant)

INSTRUCTORS: Richard Protasowicki, P.E., Vice President, Wright-Pierce
Derek Belanger, P.E., Project Engineer, Tighe & Bond Inc.
James Cray, P.E., Project Manager, Wright-Pierce
Laurie Ruzsala, P.E., Superintendent., Franklin Water & Sewer Dept.

AGENDA: 8:30 AM – 8:45 AM	Registration & Introductions
8:45 AM – 9:15 AM	Regulations, Occurrence, Health Effects & Chemistry of Iron and Manganese (R. Protasowicki)
9:15 AM – 10:15 AM	Overview of Treatment Options (R. Protasowicki) <ul style="list-style-type: none">• Sequestration• Pressure Media (e.g. Greensand Plus™)• Membrane Filtration
10:15 AM – 10:30 AM	Break
10:30 AM – 11:00 AM	Biological Filtration (D. Belanger)
11:00 AM – 11:30 AM	Residuals: Handling and Disposal Options (J. Cray)
11:30 AM–12:00 PM	Case Study – Franklin, MA (L. Ruzsala)
12:00 PM– 12:15 PM	Conclusions, Assessment Questions & Course Evaluations
1:00 PM	Optional Tour of the Action Water Treatment Plant

ATTENDANCE & TCH POLICY: Participants must attend 90% of the program and complete a session evaluation form to be eligible for TCHs. TCHs will not be issued until full payment is received.

**PLEASE COMPLETE AND MAIL/FAX THE REGISTRATION FORM
ON THE BACK OF THIS NOTICE OR REGISTER ON-LINE AT
WWW.MASSWATERWORKS.ORG**

DIRECTIONS TO ACTON PUBLIC SAFETY BUILDING
371 Main St., Acton, MA 01720



Massachusetts Water Works Association

Understanding and Treating Iron & Manganese
Wednesday, November 20, 2019 – Acton, MA 01720
MWWA ID#: 11-003, MA Wastewater ID#: BC-2019-3428

REGISTRATION FORM

Name: _____
Company: _____
Business Address: _____
Phone No.: _____ Email: _____
Fax No.: _____ MWWA Membership Number: _____

Pre-registration is required. Register on-line at www.masswaterworks.org.

You will receive an invoice via email, then mail check payable to **Mass Water Works Association** by **November 15, 2019**. Or fill out form and fax to: (978) 263-1376 or mail.

Mail to: MWWA
P.O. Box 1064
Acton, MA 01720 (*Note: *TCHs will not be issued until full payment is received*)

Payment: \$75.00 (MWWA member) \$135.00 (Non-member)

If you need an invoice sent somewhere else besides email provided above, enter instructions here: _____

Check here if you have a disability that requires accommodations to participate.
MWWA will contact you.

I am not currently a member of MWWA and would like to receive membership information.