



Technology for Creating Utility Training



George Bowman
Inorganic Chemistry Supervisor
State Laboratory of Hygiene



Rick Mealy
Program Chemist
DNR-Laboratory Certification

Disclaimer

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Water Utility Training

- ◆ Training as a Continuous Quality Improvement (CQI) tool has long been the foundation for Wisconsin's Operator Certification Program
- ◆ Operators continually strive to:
 - Keep up with technology and regulations
 - Improve skills
 - Ultimately safeguard the health and well-being of their customers
- ◆ 18 CEUs are required every 3 years to maintain waterworks operator's license [NR114.07(b)]

Training Challenges

- ◆ State mandated spending caps have been burdensome to water utilities
- ◆ Caps have:
 - Resulted in more work for **fewer operators**
 - Made it difficult for operators to attend training and to obtain the necessary CEUs to maintain operator licenses (*travel restrictions; political pressures, etc.*)
- ◆ Challenge for water utilities and regulators:
 - Reduce burden
 - Provide other training options



Training Opportunities Available



◆ Wisconsin Rural Water Association:

- Generally restricted to members
- Classroom style and some individual
- CEUs are generally issued based on DNR guidance



◆ Wisconsin Water Association

- Generally in form of workshops, seminars and conferences
- Classroom style training
- CEUs are generally issued based on DNR guidance
Private companies or independent contractors
- Classroom style training
- CEUs are generally issued based on DNR guidance
- Fee based training-added burden for utilities

Wastewater Training
Solutions

◆ Independents

On-line Training Opportunities

Free, on-line training agencies & organization

- WI DNR-Small Water System Operator Training
- Montana Operator Basics Training Series (Montana State University-funded by EPA)
- Generally do not offer CEUs

Fee-based, on-line training

- Companies such as CEU Plan
- Offer CEUs only when state approves training
(Not aware of any currently approved by WI DNR)

WI-DNR Operator Training

www.dnr.wi.gov/org/water/dwg/OpCert/HTML/main.htm

Wisconsin Department of Natural Resources
Small Water System Operator Training

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Main Menu

- Introduction
- Drinking Water Regulation
- Source Water
- Wells
- Contaminants
- Operation & Maintenance


Wisconsin Department of Natural Resources
Small Water System Operator Training

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Drinking Water Regulation

History

- Interstate Quarantine Act of 1893
 - Intend was to prevent the spread of disease
 - Enforced by the United States Public Health Service (USPHS)
 - Applied only to systems providing water to interstate travel (boats and trains)
- USPHS developed further non-mandatory water standards
- The United States Environmental Protection Agency (USEPA) was established in 1970



- Variety of subjects
- Review section
- Self-test
- Link to detailed manual
- Outstanding resource

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Drinking Water Regulation

1) What is the name of the Act that sets standards for drinking water quality?

a. Interstate Quarantine Act (IQA)
 b. Sanitary Inspection Act (SIA)
 c. Safe Drinking Water Act (SDWA)
 d. Primacy Authority Act (PAA)

Hint? (Click to get supporting information for this question)

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Montana State University -Operator Training

MENU GLOSSARY LOGBOOK CONTENTS HELP OPERATOR BASICS TRAINING SERIES

PRINTER FRIENDLY

Ground Water Systems

- Unit 1 - The Basics:**
Public water supply and operator certification
- Unit 2 - Sources:**
Types and characteristics of ground water sources
- Unit 3 - Treatment:**
Conventional treatment and chemical removal
- Unit 4 - Distribution and Storage:**
Drinking water distribution and storage components
- Unit 5 - Pumps, Facilities and Controls:**
Well construction, location and pump components
- Unit 6 - Regulations and Monitoring:**
Specific to ground water systems
- Unit 7 - Operation and Management:**
Communications, records management and safety



EXIT

Montana State University Operator Training-continued

The screenshot shows a software interface for 'Ground Water Systems'. At the top, there are navigation tabs: MENU, GLOSSARY, LOGBOOK, CONTENTS, HELP, and a title bar 'Ground Water Systems'. Below this, the main content area is titled '1 - The Basics' and 'Welcome to Unit 1 - The Basics'. The text includes:

Purpose:
Provide operators with a basic knowledge of public water supply systems. Operators will understand the definition of a public water supply system and know the basic criteria by which such systems are classified. They will understand what is required of operators and/or managers of public water supply systems in order to keep their skills up-to-date and ensure that public health is protected.

Key Concepts:

- 1) Understand the purpose of public water supply systems,
- 2) Identify types of public water supply systems, and
- 3) Gain basic knowledge about operator certification and continuing education.

Estimated Time To Complete: 0.4 hours
Reading: 0.2 hours
Activities: 0.2 hours

Contents:
1.1 - What Is a Public Water Supply System?

At the bottom right, there is a 'START UNIT >' button and a 'PRINTER FRIENDLY' icon. The interface also includes a sidebar on the left with 'Unit 1' and 'Section 1.1' labels, and a bottom toolbar with icons for a grid, speaker, folder, and 'EXIT'.

The screenshot shows a more detailed view of the software interface. The title bar is 'Ground Water Systems' and the main content area is titled 'Unit 1 - The Basics' and '1.1.1 - Purpose of Public Water Supply Systems'. The text includes:

ACTIVITIES TO COMPLETE

- Compare Acute and Chronic Health Effects
- Ethical and Legal

public water supply system
Acronym: PWSS
Defined by EPA as a system with 15 or more service connections or a system that serves 25 people a day for at least 60 days a year.

You can drag this box around the screen

The interface also includes a sidebar on the left with 'Unit 1' and 'Section 1.1' labels, and a bottom toolbar with 'PREV' and 'NEXT' buttons, and icons for a grid, speaker, folder, and 'EXIT'.

Montana State University Operator Training-continued

Ground Water Systems

Unit 1 - The Basics

1.1.1 b - Ethical and Legal Obligations part 1 of 1

Unit 1
Section 1.1
Activity b

Providing water to the public puts owners and operators under an ethical and legal obligation.

True
 False

Choose the correct answer and then click the SUBMIT button.

✘ INCORRECT
People rely on water systems for safe drinking water that is of acceptable taste, odor, and appearance. This water is sometimes used to meet limited irrigation needs. Fire protection is needed at all times.

True/False Activity **FINISH**

EXIT

Montana State University Operator Training-continued

CEU PLAN - Microsoft Internet Explorer

http://www.ceuplan.com/index.asp?fuseaction=main.singleState&stateName=Wisconsin

CEU PLAN
ONLINE INTERMEDIARY OPERATION

Monday, Feb. 20

STUDENTS / COURSES / INSTRUCTORS / LOGIN

GETTING STARTED TUTORIAL

THE STUDENT EXPERIENCE
BECOME A DRINKING WATER / WASTE WATER
EDUCATING EDUCATION STUDENT ONLINE!

WATER'S JOURNEY
WI

ENROLL NOW

COMMON FAQ'S

YOUR INFO
Login
Enroll

TOOL KIT
View All Courses
View Top 10
Tell a Friend
Need Help

New Releases
Water's Journey: The River Returns
Introduction in Biological Nutrient Removal
Arsenic Rule
Collection Systems: Getting to the Root of the Sewer Problems
Introduction to Backflow Prevention

CEU Plan:

- Sold by the course.
- CEUs are only available in some states
- Not approved in WI at this time.

Training Dilemma

- ◆ Operators often have difficulty attending enough classes to obtain the 18 CEUs needed to maintain license
- ◆ Problem is compounded by fiscal crunch and local political pressure
- ◆ What can water utility operators do?

Screaming doesn't help!

Compromise Approach

- ◆ Work with regulators to develop a policy to allow a blend of classroom and on-line training to fulfill CEU requirements
- ◆ This option will help reduce the burden on water utilities
- ◆ On-line or distance learning is NOT a substitute for classroom style training...
..it's a supplement

WSLH Approach

- ◆ The WSLH has recently acquired tools and technology to create distance learning training modules
- ◆ Received a grant from the APHL through the Minnesota Department of Health
- ◆ Developed a CD-ROM based training course for the determination of *E. coli* in beach water.

Features of WSLH Distance Learning Course

- ◆ CD or internet accessible
- ◆ Features a blend of video, traditional PowerPoint and graphics with full audio narration.
- ◆ Video may be paused, fast-forwarded and rewind so students can set their own pace
- ◆ Designed with input from professional partners (*WSLH staff, WI DNR, Minnesota Department of Health, Wisconsin Public Television*)

Features of WSLH Training Course- Continued

- ◆ Designed around program requirements (*i.e., asked agency during planning stage versus asking for approval after the fact which is the process vendors often use*)
- ◆ Secure self-test to verify comprehension
- ◆ Auto-loading CD-ROM offers option to (re)view training video or take test
- ◆ WSLH web administrators can generate secure report for submittal to regulators so CEUs may be issued to participants.

Tools used by the WSLH to produce the *E. coli* Training

- ◆ PowerPoint
- ◆ Sony "Vegas 6" video production software
- ◆ Sony "Sound Forge" audio production software
- ◆ Digital sound recording hardware
- ◆ Same tools may be used to produce training courses for water utility operators

Example of WSLH Training

***E. coli* Detection Using the Colilert® and Colilert-18® Enzyme Substrate Technique and the Automated MPN Method.**

Training Presentation

On-Line Quiz



Problems with this training should be forwarded to [George Bowman](#)



Example of WSLH Training

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and the Automated MPN Method.**

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WSLH » Login » New account

Create a new username and password to log in with:

Username:

Password:

Please supply some information about yourself:
(Note: your email address must be a real one)

Email address:

Email (again):

First name:

Surname:

City/town:

Country:

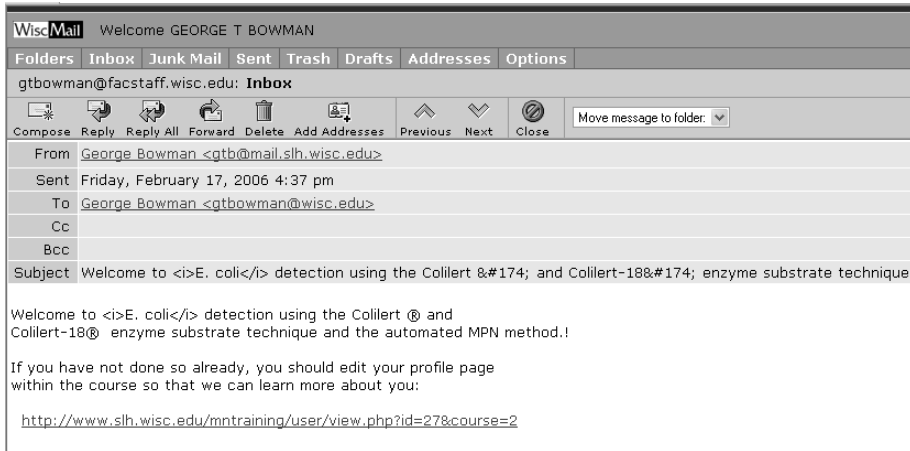
Confirm your account Logout

WSLH » Confirm your account

An email should have been sent to your address at **gtbowman@wisc.edu**

It contains easy instructions to complete your registration.

If you continue to have difficulty, contact the site administrator.



⇒ **Automatically notifies student via e-mail after registering**

⇒ **Program tracks how many times test attempted and all scores**

Your registration has been confirmed

Thanks, George Bowman

Your registration has been confirmed

-> Courses

You are logged in as George Bowman (Logout)

Home

https://www.slh.wisc.edu/mntraining/login/index.php


Minnesota Department of Health / Wisconsin State Lab of Hygiene Online Training Login

WSLH -- Login to the site

Returning to this web site?	Is this your first time here?
<p>Login here using your username and password: (Cookies must be enabled in your browser) ⓘ</p> <p>Username: <input type="text"/> Password: <input type="password"/> <input type="button" value="Login"/></p> <p>Some courses may allow guest access: <input type="button" value="Login as a guest"/></p> <p>Forgotten your username or password? <input type="button" value="Send my details via email"/></p>	<p>Hi! For full access to courses you'll need to take a minute to create a new account for yourself on this web site. Each of the individual courses may also have a one-time "enrolment key", which you won't need until later. Here are the steps:</p> <ol style="list-style-type: none">1. Fill out the New Account form with your details.2. An email will be immediately sent to your email address.3. Read your email, and click on the web link it contains.4. Your account will be confirmed and you will be logged in.5. Now, select the course you want to participate in.6. If you are prompted for a "enrolment key" - use the one that your teacher has given you. This will "enrol" you in the course.

Minnesota Department of Health / Wisconsin State Lab of Hygiene Online Training Login


Site news

 **E. coli detection in beach water using the Colilert® and Colilert-18® enzymatic substrate methods**
by WSLH Webmaster - Tuesday, 17 May 2005, 12:51 PM

[Please click here to take the quiz](#)

Discuss this topic (0 replies so far)

You are not logged in. ([Login](#))



***E. coli* Detection using the Colilert and Colilert-18 Enzyme Substrate Technology, Including the Automated MPN Method**

Prepared by: The WSLH Training Team

Training Team Members: Jeremy Olstadt, Archie Degnan, Sharon Kluender, George Bowman, Kristofer Hable, Rick Mealy (WI DNR advisor), DeWayne Kennedy-Parker, Barb Burmeister, Pam Skaar, Karl Patzer, and Jan Klawitter



Instructions: You will have 20 minutes to complete the quiz. There are 10 questions. For each question, select the correct answer. Once you have answered all of the questions, click the link at the bottom to submit your answers. Your quiz will be automatically graded and you will be given a chance to review your graded quiz. You can take the quiz 3 times. The highest grade among the three attempts will be recorded. A grade of 70% is considered a passing grade.

Insert questions, answers and score here

Summary of WSLH Experience

- ◆ Technology can be used to produce training for water utility operators
- ◆ Training can be designed to meet needs of water utilities and regulators
- ◆ Can provide a supplement to classroom based training
- ◆ An effective training tool to reach those than cannot easily attend classes

Next Steps

-  ◆ Meet with the DNR OpCert program coordinator; open a dialog regarding distance learning.
- ◆ Encourage WI DNR to develop guidelines that will allow CEUs for distance learning
- ◆ Seek input from stakeholders to determine training needs (*water utilities, DNR, EPA, and professional organizations*)
-  ◆ Continue to seek funding to expand distance learning opportunities for Wisconsin water utilities



Acknowledgments



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**Karl Patzer
Jeremy Olstad**

Merci