

May 30, 2023

Judy Grycko  
OESAC CEU Committee  
PO Box 577  
Canby, OR 97013-0577

Subject: Request for Approval of Module 6 Operator Course Application for CEU's

Good afternoon Judy,

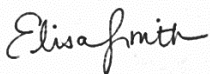
Thank you for your recent correspondence with our team. We are following the submission of the Operator Course Module 5 asking for accreditation CEU's of 3 hours for the 9 Section – Operator Course **Module 6: Water Compliance**.

Module 6 will give Operators a deeper understanding of operational issues surrounding water compliance, including some historically problematic areas in which we may need to pay particular attention. Producing safe drinking water is one of the most important services the company provides to clients and communities because the final product is consumed by the public. For this reason, we must be in compliance with all legal requirements at all times. Operators are on the front line of protecting public health, so it is important to be attentive to every detail of the work conducted and be mindful of the crucial importance of performing at the highest level.

This training highlights compliance issues that are specific to water compliance. It addresses source water, treatment processes, and how those elements influence the amount of sampling each facility is required to perform. This training will help you be more aware of the resources available to help interpret your legal requirements and troubleshoot concerns before they become problems. As a result of attending this training, Operators will have a deeper understanding of the legal requirements for water compliance and how important our associates' actions are.

As the course author, I have 23 years of wastewater experience as a compliance inspector, manager and trainer. I hold an active Grade 1 Environmental Compliance Inspector license in California, and work with a group of 15 members in the C&R group who contribute to our courses and collectively have over 300 years of wastewater and water utility experience.

Sincerely,



**Elisabeth A. Smith**  
Companywide Compliance Trainer  
[elisabeth.smith@jacobs.com](mailto:elisabeth.smith@jacobs.com)

Attachments:

Module 6 Operator Course Syllabus  
Elisabeth A. Smith, Curriculum Vitae



**Module 6: Water Compliance**

**OMFS Training Series for Jacobs (formerly CH2M)**

**2023 Syllabus Course Description**

**Operations Management Group**

**Document history and status**

Revision	Date	Description	Author	Checked	Reviewed	Approved

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## Executive Summary

Producing safe drinking water is one of the most important services the company provides to clients and communities because the final product is consumed by the public. For this reason, we must be in compliance with all legal requirements at all times.

Operators are on the front line of protecting public health, so we must be attentive to every detail of work conducted and be mindful of the crucial importance of performing at the highest level. This course will give Operators a deeper understanding of operational issues surrounding water compliance, including some historically problematic areas in which we may need to pay particular attention. Associates are also reminded of the resources available to interpret legal requirements and troubleshoot concerns before they become non-compliant.

Not only will Compliance help decrease our environmental footprint, but it is also particularly important since many environmental laws carry severe civil and criminal penalties.

Also addressed within this training module are:

- Know the legal requirements for the facility monitoring plan and special considerations surrounding the use of chlorine for disinfection (including dosage and contact time).
- Understand that failure to monitor is the most common type of violation in our business. This can sometimes occur if there is no written monitoring plan to provide guidance for follow up actions to non-compliant events.
- Identify documentation that is unique to the water system and how to document all samples collected in the distribution system. Since these samples are taken to demonstrate Compliance with federal and state standards, we are required to provide specific information about how the sample is collected and analyzed.
- Recognize when operating a water system our responsibilities include all requirements of the safe drinking water act of 1974 along with its amendments.
- Understand the company has summarized and condensed these legal requirements into the Water Checklist, to ensure we meet all requirements.
- For guidance where or when to sample a particular contaminant, review the Monitoring Plan which will tell you.
- When continuous monitoring is required, Compliance is determined by the results from an analyzer and recorded on a chart recorder or in SCADA. To determine if Compliance has been maintained, we must examine the records every day to ensure that all points fall within the legal limit.

As a result of attending this training, Operators will have a deeper understanding of the legal requirements for water handling and how important our associates' actions are.

## 1. Course Syllabus Description

The Module 6 Operator Course was developed with all levels of Operators in mind regardless of their length of service. Because performing sampling activity / collection is essential to Operators and they are required to understand the legal requirements involved, this training is applicable to all positions.

The operator course ***Module 6: Water Compliance*** consists of a 9 Section course for each Operator to watch, participate in class enactment of real life scenarios, review and complete a Final Exam. Each Module will include:

- Simple Text (designed for ease of reading and comprehension)
- Content Examples
- Content Diagrams
- Module Quiz

Each Section encourages personal accountability, provides examples of the evolving requirements, communication and due diligence required in Compliance & Reporting. The course provides guidance, direction and confidence for the goal of “Perfect Compliance and Perfect Reporting of Non-Compliance” to be achieved. Course retention is critical for Clients’ / Customers’ satisfaction and maintaining perfect compliance with all laws and regulations. Jacobs Companywide Compliance Trainer and Program Administrator will be available to help Operators understand, practice and apply what they have learned.

Each Section will require the Operator to complete an attendance sheet that includes Course Title with Approval ID, Date, Printed Name, and Signature. The Project Manager (or designee) is also required to provide their signature ensuring Operators are utilizing the course material appropriately, for the duration noted and following up with Operators’ performance in the field, confirming the Operators are successfully applying what they have learned.

The course content, duration and brief description of each section is provided within the Appendix.

## 2. Module Lesson Plan

The Operator course *Module 6: Water Compliance* is a video and class presentation designed to allow participants the opportunity to read course materials and then observe, interact and experience examples of the content. The video presentation accompanied by questions and answers will encourage understanding and learned knowledge through course completion. Module 6 will have a Final Exam at the end of the course that will be scored, recorded and tracked.

The learning environment will be in a quiet area (the training room for example), furnished with overhead projection of a desktop, or laptop computer loaded with the assigned course files. The Project Manager will be responsible for providing the Employee with the video presentation, assigned courses, Sign-In Sheet, along with other materials (calculator, scratch paper for notes and computations) and will collect the Final Exam after course completion.

The Final Exam will serve to confirm the associate's retention of the Module and may be utilized as part of the Employee Performance Program internally known as e3.

### **3. Program Tracking and Accountability**

The Companywide Compliance Trainer, or e3 corporate software framework, will score and file the Final Course Exams. A score of 70% is required to Pass. Results will be made available to the site Supervisor. If the Employee does not achieve the minimum score of 70%, the Employee will repeat the course.

The Companywide Compliance Trainer and Program Administrator will be available to those participants showing a need for specific course assistance. Employees will be given the course material objectives as part of their quarterly performance evaluation.

## Appendix A. Course Module Descriptions

The following Modules are offered in the recommended progression:

Section	Description	Duration
Course Learning Objectives	Discuss Course Learning Objectives and Expectations.	15 min.
Section 1 – Course Objectives DVD Presentation	DVD Presentation of Course Objectives describing why safe drinking water is one of the most important services our company provides to our clients and communities.	2.28 min.
Section 2 – Legal Requirements	This section highlights common compliance issues, addresses elements that influence the amount of sampling each water facility is required to perform and covers reasons all water systems are required to monitor for contaminants in their drinking water.	3.05 min.
Operator Group 1 Classroom	Class participation with true to life examples / enactment digging deeper into expanding Operator knowledge base.	15 min.
Section 3 – Water Checklist	This section covers when operating a water system our responsibilities include all requirements of the safe drinking water act, a large piece of legislation passed in 1974 which has been amended several times, and additional requirements are often adopted by the states we operate in. To ensure we meet all requirements our company has summarized and condensed these legal requirements into the Water Checklist.	3.53 min.
Section – 4 Monitoring Plan	This section specifies how each facility is required to have a site specific monitoring plan written precisely for the processes at your facility. If you need to know where or when to sample a particular contaminant, the monitoring plan will tell you. If you have a non-compliant result and need to know the next action to take, the monitoring plan will tell you. If you need to know how to determine or calculate if your system is in compliance, the monitoring plan will tell you. It is an essential compliance tool to prevent and reduce non-compliance. A copy of the plan is required to be maintained at each facility in a central location where it is available immediately for reference and must be available at all times for inspection.	2.50 min.



## Module 6: Water Compliance

Section	Description	Duration
Operator Group 2 Classroom	Class participation with true to life examples / enactment digging deeper into expanding Operator knowledge base.	15 min.
Section – 5 Issues Involving Chlorine	Disinfection is a vital part of water treatment because it eliminates bacteria and controls other microorganisms. Various methods and chemicals are used for disinfection, and when chlorine is used careful attn is required – both in terms of safety and dosage. In this section we cover the different application points in the disinfection process: Pre-chlorination, Post-chlorination and Re-chlorination and the primary application point for most water systems and the most effective for controlling microorganisms.	2.24 min.
Section – 6 Contact Time	This Module describes how water systems must demonstrate, by calculating contact time, that they have inactivated the pathogens and viruses that potentially existed in their raw water. This section provides the calculation for contact time as well as, the understanding if your system purchases water from another system, the seller is the one responsible for demonstrating inactivation has been achieved.	1.40 min.
Operator Group 3 Classroom	Class participation with true to life examples / enactment digging deeper into expanding Operator knowledge base.	15 min.
Section 6 – Contact Time Cont. Driving the Point Home	Testing class retention and knowledge base with real life examples prompting Operator responses / enactment. Q&A Compliance is your job, compliance is my job, compliance is individually and collectively each of our jobs.	4.44 min.
Section 7 – Continuous Monitoring	This Module covers how many water systems are required to monitor certain parameters continuously. When continuous monitoring is required, compliance is determined by the results from an analyzer and recorded on a chart recorder or in SCADA. Where continuous monitoring is not required, bench meters are often used to analyze for compliance.	2.48 min.
Section 8 – Recordkeeping	Recordkeeping is an essential part of water treatment. In previous training modules, we have covered the concept of due diligence and that keeping good records is one way we show that we have fulfilled our legal obligations.	Cont. on next page -

## Module 6: Water Compliance

Section	Description	Duration
Section 8 – Recordkeeping	Our records must demonstrate that we have performed both of the required monitoring for all parameters and used our monitoring plan as a guide to accomplish this. Because these samples are taken to demonstrate compliance with federal and state standards, we are required to provide specific information about how the sample is collected and analyzed. Record retention timeframes are given with additional specifics regarding water related records, inspections and chemical analysis records, in addition to copies of monthly operating reports.	4.03 min.
Operator Group 4 Classroom	Class participation with true to life examples / enactment digging deeper into expanding Operator knowledge base.	15 min.
Section 8 – Recordkeeping Cont.	Testing Operator retention and knowledge base, prompting Operator enactment responses. DVD guidance regarding: Compliance is your job, compliance is my job, compliance is individually, collectively and equally each of our jobs.	2.42 min.
Section 9 – Little Ways to get in Big Trouble	<p>In a previous training module, we discussed little ways to get in big trouble. Remember, those were small decisions or actions that let to big consequences even when unintentional.</p> <p>Failure to monitor is the most common type of violation in our business. Sometimes this occurs if there is no written monitoring plan to provide guidance for follow up actions to non-compliant events. Without guidance, some procedures may be overlooked.</p> <p>A lack of labeling has the potential to lead to non-compliant or disqualified samples. Label sample points throughout the treatment plant and the well sites, good labeling helps people take consistent samples from the right locations. It is important to ensure success in these circumstances, we must make is clear what sampling is to be done and designate the proper sampling points.</p>	5.16 min.
Operator Group 5 Classroom	Class participation with true to life examples / enactment digging deeper into expanding Operator knowledge base.	15 min.


## Module 6: Water Compliance

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Section	Description	Duration
Driving the Point Home Classroom	Testing class retention and knowledge base with real life examples prompting Operator responses / enactment. Recap highlighting course points. Q&A	15 min.
Module 6 – Final Exam	Final exam requiring 70% or higher score to pass.	30 min.
Evaluation Report	Provide Operator Course Evaluation.	15 min.
Total	All Hours Listed are Firm Estimates	3.00 Hours

## Appendix B. Course Completion Sign Off Sheet

Upon completion of each Section, the Operator will legibly print their name and provide a valid signature and date to receive credit. The Companywide Compliance Trainer (or designee) is responsible for Attendee enrollment. The Attendee must commit to full participation, and application of acquired knowledge towards individual professional growth. The Program Administrator will file the signature sheets with the Companywide Trainer into a secure filing network.

		<b>Course Completion Sign-Off Sheet</b> State: _____ Course # _____ Employee Name _____		
Module 6: Water Compliance	Start Date	Completion Date	Minutes to Complete	Supervisor Signature
<b>Course Learning Objectives</b>			15.00	
<b>Section 1 –</b> Course Objectives DVD Presentation			2.28	
<b>Section 2 –</b> Legal Requirements			3.05	
<b>Operator Group 1 –</b> Class participation with real life exemplar digging deeper expanding Operator knowledge base			15.00	
<b>Section 3 –</b> Water Checklist			3.53	
<b>Section 4 –</b> Monitoring Plan			2.50	
<b>Operator Group 2 –</b> Class participation with real life exemplar digging deeper expanding Operator knowledge base			15.00	
<b>Section 5 –</b> Issues Involving Chlorine			2.24	
<b>Section 6 –</b> Contact Time			1.40	
<b>Operator Group 3 –</b> Class participation with real life exemplar digging deeper expanding Operator knowledge base			15.00	
<b>Section 6 Cont. –</b> Contact Time, Driving the Point Home			4.44	
<b>Section 7 –</b> Continuous Monitoring			2.48	
<b>Section 8 –</b> Recordkeeping			4.03	
<b>Operator Group 4 –</b> Class participation with real life exemplar digging deeper expanding Operator knowledge base			15.00	
<b>Section 8 Cont. –</b> Recordkeeping / Compliance is your, my, our job			2.42	
<b>Section 9 –</b> Little Ways to get in Big Trouble			5.16	
<b>Operator Group 5 –</b> Class participation with real life exemplar digging deeper expanding Operator knowledge base			15.00	
<b>Driving the Point Home</b> Testing class retention and knowledge base with real life exemplar prompting Operator responses / enactment. Recap highlighting course points. Q&A			15.00	
<b>Module 6 Final Exam</b> Requires 70% or higher score to pass			30.00	
<b>Evaluation Report –</b> Provide Operator Evaluation			15.00	
<b>Total Hours Awarded for CEU Credit</b>			<b>3.00 TCH</b>	<b>0.30 CEU</b>
I understand that it is incumbent upon me to complete all modules in this Course and that Jacobs verifies and audits the completion of training by employees. My signature indicates that I personally reviewed and completed all portions of this Course and no one has completed any portion of this course on my behalf.				
DD/MM/20YY				
Employee Signature _____		Date _____		License/Certification# _____

## Appendix C. Water Certificate of Completion

Upon completion of the Module, the Program Administrator will complete the below Completion Certificate and provide a copy to the Operator for their records. At the site level, the Operator is responsible for submitting their Certificate to the State and paying any applicable state CEU fees. The Program Administrator may assist, as needed. When required, this form will be customized to include necessary State specific information.



The certificate is enclosed in a rectangular frame with a decorative graphic on the left side consisting of overlapping diagonal bands in shades of green and grey. The text is centered and right-aligned.

**Jacobs**  
**CERTIFICATE OF COMPLETION**  
**First Last Name**

has successfully completed:

**Module 6: *Water Compliance***

**State** Drinking water Operators  
**Awarded:** 0.30 CEU, 3.00 TCH  
**Course ID #:** n/a  
**License / Certification #:** \_\_\_\_\_

**On** \_\_\_\_\_ **(Date)**  
**As reviewed and approved by:**

\_\_\_\_\_  
**Elisabeth Smith, Companywide Compliance Trainer**

### EDUCATION

- Awarded Air Force ROTC college scholarship
- University of California, Riverside, California
- Harvey Mudd College, Claremont, California
- University of California, Sacramento, California, Office of Water Programs:
  - Industrial Pretreatment Inspections
  - Water Treatment Plant Operation, Volumes 1 and 2
  - Operation of Wastewater Treatment Plants Volumes 1 and 2

### CERTIFICATIONS

- California Water Environmental Association (CWEA) Grade I Environmental Compliance Inspector

### PROFESSIONAL AFFILIATIONS

- American Water Works Association (Emergency Preparedness & Security committee member)
- CWEA (member)

### AWARDS

- Rocky Mountain Water Environment Association Industrial Pretreatment Coordinator of the Year, 2004
- CWEA Safety Award, Santa Ana River Basin Section, 2002

### Summary/Profile

Ms. Smith is skilled in all aspects of compliance training, managing industrial pretreatment programs, and treatment facility security. She has conducted environmental auditing, prepared legal framework to support local industrial pretreatment, and supported investigative teams working under attorney privilege. Ms. Smith is a certified California Grade 1 Environmental Compliance Inspector.

### Project Experience

#### *Companywide Compliance Trainer*

*Jacobs*

*Colorado Springs, Colorado*

Ms. Smith provides regulatory compliance training to O&M staff for Jacobs. She provides training to project management staff on company tools to facilitate understanding, tracking, and improving permit compliance. Ms. Smith works closely with the Compliance and Reporting Group to update compliance training as new regulatory changes and issues arise.

Ms. Smith has been instrumental in developing and producing a series of multimedia training on a variety of topics that are delivered to all eligible associates and then become part of required onboarding training for new hires. An external review of systems by a nationally recognized authority described the program as “far and away the leader in the environmental field.”

She regularly delivers webinars on a variety of topics to project workers in the field. Previous topics include cybersecurity, active shooter, data handling, workplace security, sampling protocols, and spill reporting.

Ms. Smith has studied security issues related to O&M facilities – cybersecurity and physical security. She sits on the AWWA Emergency Preparedness & Security committee, which works to shape and influence regulations and industry guidance. She monitors security warnings and communicates them to company personnel.

### ***Industrial Pretreatment Coordinator***

**CH2M HILL**

***Rio Rancho, New Mexico***

Ms. Smith served as the Industrial Pretreatment Inspector, developing a pretreatment program under a compliance order from the U.S. Environmental Protection Agency. She conducted an industrial waste survey, developed the monitoring and reporting program, identified and categorized significant industrial users, developed the implementation manual, developed local limits, drafted the sewer use ordinance, and drafted the enforcement response plan. During this process, Ms. Smith met regularly with the Utility Director, City Attorney, City Clerk, and other city departments to coordinate program elements. In addition, she made several presentations to the Utility Commission and the City Council regarding pretreatment program implementation. For her work in Rio Rancho, Ms. Smith received the 2004 Industrial Pretreatment Coordinator of the Year Award from the Rocky Mountain Water Environment Association.

### ***Industrial Pretreatment Inspector***

**CH2M HILL**

***Rialto, California***

As Industrial Pretreatment Inspector, Ms. Smith managed the pretreatment program and served as the program inspector. She conducted inspections, performed grab and composite sampling, and documented results. She prepared monthly client reports and quarterly and annual regulatory reports. Ms. Smith also surveyed and inspected new businesses in the City to determine if they needed regulation under the pretreatment program. She interfaced with regulatory agencies, industrial users, and the City of Rialto, preparing documents for permitting and enforcement activities.

Ms. Smith also served as Project Safety Team Leader. She implemented a comprehensive training program to comply with Occupational Safety and Health Administration (OSHA) requirements as well as California OSHA requirements. She coordinated weekly staff safety training topics, monthly plant inspections by the safety team, and annual plant inspections by the company. She presented Rialto project's training system during the Project Safety Team Leader Summit 2000 as a model for other projects. Under her leadership, the Rialto project earned the 2002 Safety Program of the Year Award from the Santa Ana River Basin Section of the CWEA.

### ***Legal Secretary***

***Bonne, Bridges, Mueller, O'Keefe and Nichols***

***Riverside, California***

As a legal secretary in a medical malpractice defense firm, Ms. Smith worked with an attorney responsible for 10 to 20 cases. Familiar with each local district's rules for court and filing, she managed the attorney's calendar and filed motions and documents in court on a wide variety of alleged medical malpractice cases. She established cooperative relationships with insurance carrier representatives, doctors, attorneys, courtroom clerks, and attorney service personnel.