1674 W Twin Buttes Rd.
Sahuarita, AZ 85629
United States
www.jacobs.com

July 31, 2023

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

Subject: Request for Approval of Level 1 Water Operator Course for CEU's

Dear Judy,

Thank you for your recent correspondence with our team. We appreciate your consideration towards awarding accreditation CEU hours for the 17-Module *Level 1* Water Operator Course.

This course is not intended to mimic other institutional correspondence courses. This course emphasizes the unique challenges and needs encountered by the facilities we are contracted to operate. This course defines Operator operations and maintenance field best practices and expectations while in the field.

By our estimation, this self-paced course and final exam will take an operator approximately 20 hours to complete. The module narrative is complimented with graphic field images so the operator can more effectively comprehend and relate to the material presented. Jacobs will provide project and regional resources to help those who enroll for this course. Program accountability will be documented by a signed attendance sheet and the module quiz scores will be tracked.

As the course author, I bring over 40 years of industry experience to the development of this material and have worked with State Exam Review Boards across the nation. The Jacobs' QAQC Review Team for this Course includes 7 members totaling over 270 collective years of industry experience.

We hope your state will award this course with the CEU equivalency of 2.0 CEUs. If you require any additional information, please feel free to call.

Sincerely,

John W. Dunty, III
Jacobs Senior Technical Consultant
352.308.4090
John.Dunty@jacobs.com

Attachments:

Level 1 Water Course Syllabus
John W. Dunty, III, Curriculum Vitae

thank you

This is your receipt for:

Water Level 1 Operator Course

Course ID: 10946

Fees Charged: $175.00

date paid: 07/31/2023

Next steps:

Your course application will be reviewed and the administrator will contact you with any concerns.
Accurate course applications will be forwarded to the CEU committee for approval.
Until moderator ok's your course you will see your course in the "Waiting for Moderator's OK"

Jacobs

Level 1 Water Operator Course

OMFS Training Series
2023 Syllabus Course Description
Operations Group

Revision	Date	Description	Author	Checked	Reviewed	Approved

Contents

Executive Summary

The OMFS Technical Services Group, in conjunction with the Operations Group, approved an initiative to gather historical and institutional training materials to reconstruct and reconfigure our Operations and Management (O&M) Training Program. This Program was mandated to be convenient and practical for busy Projects and Operators. In addition to providing institutional materials, this Program will create new formats and content flow, coupled with innovative approaches and coaching delivery.

Program accountability will provide training participant tracking, signature attendance and quiz/test scores.

Our Training Program is intended to be accredited by all Regulatory Authorities within the States in which Jacobs operates facilities. The ABC accreditation program has been retired. As a result, specific accreditation requirements are defined State-by-State. Training course materials will be delivered in the format requested by each State. Participating States will assign CEU values or equivalent. Jacobs will utilize an internal framework to enroll participants, file training materials, confirm participant attendance signatures and validate completed quiz/test scores.

1. Course Syllabus Description

The *Level 1 Water Operator Course* was developed with the Operator who has been in the field for more than a year. This course is not intended to compete with industry recognized technical training courses (i.e., *Water Otter*, or *University of California Sacramento Ken Kerri Courses),* nor is it intended to compete with group learning tools like (*Jacobs Operator Bookshelf*).

The *Level 1 Water Operator Course* is instead intended to provide the individual Operator with State recognized CEU valued Modules, containing foundational water information and practices that are applied and relatable to the unique Projects we serve, with active, visual examples. In this course the Operator will be introduced to:

a) Water Characteristics

b) Basic Water Math

c) Water Treatment Design Overview

d) Water Treatment Detail

e) Proven Operator Industry Standard Field Practices

f) Industry Standard Record Keeping and Reporting Practices

g) Compliment and Support other Jacobs Training Programs

The *Level 1 Water Operator Course* consists of 17 Modules designed to take approximately 1 hour per Module to review and complete at the Operator's convenience. Each Module will include:

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

Each Module encourages and provides examples of technical materials that can be practiced until confidence and material is understood and retained. Course retention is critical. Technical Coaches will be provided to help Operators understand and practice/apply what they have learned.

Each Module will require the Operator to fill out an attendance sheet that includes Course title, Module title, date, printed name, certification number, and signature. The Project Manager (or designee) will be required to ensure Operators are utilizing the course material appropriately and successfully applying what they have learned in the field.

The Course content and brief description is provided in the Appendix.

2. Module Lesson Plan

The *Level 1 Water Operator Course* is a self-paced series of *PowerPoint* presentations designed to allow the participant the opportunity to read course materials and then observe or experience examples of the content. The *PowerPoint* presentations will provide pop up answers to questions and provide math exercises encouraging repetitive practice. Each Course Module will have a Module ending Quiz that will be scored and tracked.

The learning environment will be in a quiet area, furnished with a desktop, or laptop computer loaded with the assigned Module files. The Project Manager will be responsible for providing the Operator with a computer, assigned Modules, Sign-In Sheet, and other materials (calculator, scratch paper for notes and computations) and will collect the quiz after completion.

Upon completing all 17 Modules, the Operator will be given a Project Leadership proctored 100 question Final Exam. The Final Exam will serve to confirm Operator retention of the Modules and may be utilized as part of the Operator Performance Program internally known as e3.

3. Program Tracking and Accountability

The Training Administrator, or corporate software framework will score and store the Module Quizzes. Scores will be made available to the participants, as well as to Project Manager and Regional Leadership. A qualified subject matter Coach will be assigned to those participants showing a need for specific Course help, which can be defined within the tracked Quiz scores, or Final Exam score. Operators will be given the Course material objectives as part of their annual performance objectives.

Appendix A. Course Module Descriptions

The following Modules are offered in the recommended progression:

Module	Description	Duration
Module 1 – Introduction to Water Treatment	This Module describes why we Treat Water, Limited Water Resources and Operator Expectations	1 Hour
Module 2 – Groundwater vs Surface Water	This Module describes Groundwater, Surface Water, Water Storage, Water Location & Quality	1 Hour
Module 3 – Surface Water Treatment Management	This Module describes Reservoir Storage, Advantages and Disadvantages, Reservoir & River Sensitivities, Organisms that Reside in Raw Water, Reservoir Water Management	1 Hour
Module 4 – Water Wells	This Modules describes the detailed the parts of a well, the Interface with Groundwater, Well Operation and Maintenance	1 Hour
Module 5 – Level 1 Basic Math	This Module provides a review of basic math, principles critical to our water treatment profession. Rules of Equation Solving, Complex Equations, Significant Figures and Rounding	1 Hour
Module 6 – Water Treatment Overview	This Module describes Describe Common Water Treatment Plant Processes, how each Process Performs its Functions and Exotic Water Treatment Systems	1 Hour
Module 7 – Raw Water Pretreatment	This Module describes what needs to first be removed from raw water, Pretreatment mechanics and Chemical additives.	1 Hour
Module 8 – Sedimentation	This Module will Review upstream coagulation and its association with sedimentation, Basic principles of water sedimentation, Sedimentations role in water treatment, methods utilizing chemicals	1 Hour

Cont. on next page

Module	Description	Duration
Module 9 – Filtration	This Module will review the purpose of water filtration, Examine the different types of filtration designs and Learn of the types of filtration media	1 Hour
Module 10 – Disinfection Basics	This Module will describe microorganisms found in raw water, Waterborne diseases Understand Community Health & Risk Description of Chlorine and its application to Treat Water, Chlorine By-Products, Sample Collection, Evaluating Results, Reporting	1 Hour
Module 11 – Fluoridation	This Module will explain Fluoride use and public water supply application, the 3 Standard Forms of Fluoride, the Potential Community Impact of Fluoride, How Fluoride is fed into the water flow	1 Hour
Module 12 – Water Treatment Process Control	This Module describes Proactive Process Management, Process Control Methods and Tools. Examples of Data Trending and Reporting	1 Hour
Module 13 – Recordkeeping	Understand Recordkeeping Responsibilities The importance of documentation. Provide an Easy-to-Write/Read Logbook Standard Separate Fact from Speculation/Commentary Provide Effective Status Exchange	1 Hour
Module 14 – Pumps	This Module describes Common Pump Types Used to Move Water and Solids, Basic Pump Descriptions & Care, Pump Horsepower Math	1 Hour
Module 15 – Proactive Predictive Maintenance	This Module describes Asset Reactive & Proactive Maintenance, Asset Break In Care, Manufacturer Resources, Asset Senior Years Care	1 Hour
Module 16 – Electrical and Instrumentation	This Module describes basic electrical power supplies and transformer step down to field voltages. The Module also covers electrical safety features and applications.	1 Hour
Module 17 – Operator Rounds	This Module Defines What a Round is and the Purpose. Provides Examples of Rounds Observations and Duties	1 Hour
Final Exam	100 question final exam.	3 Hours
Total		**20 Hours**

Appendix B. Course Completion Sign Off Sheet

Upon completion of each Module, the Operator must legibly print their name and provide a valid signature, certification number and date to receive credit. The Project Manager 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.

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Learning & Talent Management

Course Completion Sign-Off Sheet

State: ____ **Course #** _____

Operator Name _____

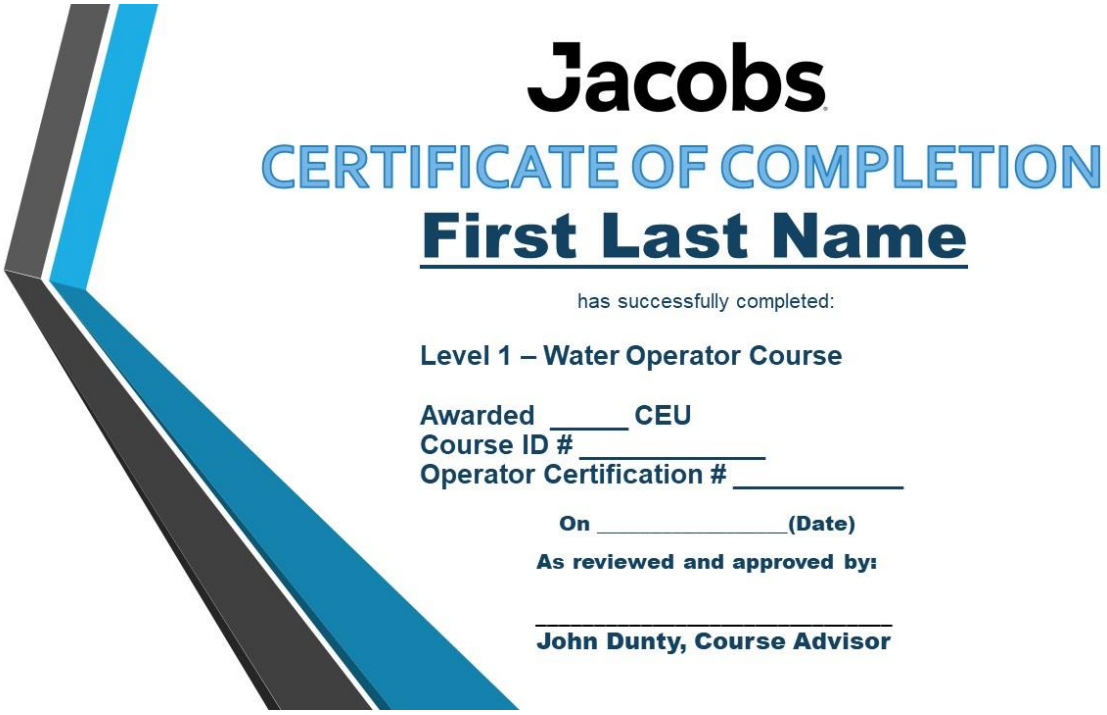
Level 1 Drinking Water Operator Course	Start Date	Completion Date	Hours to Complete	Supervisor Signature
Module 1 – Introduction to Water Treatment			1.0	
Module 2 – Groundwater vs Surface Water			1.0	
Module 3 – Surface Water Treatment Management			1.0	
Module 4 – Water Wells			1.0	
Module 5 – Level 1 Basic Math			1.0	
Module 6 – Water Treatment Overview			1.0	
Module 7 – Raw Water Pretreatment			1.0	
Module 8 – Sedimentation			1.0	
Module 9 – Filtration			1.0	
Module 10 – Disinfection Basics			1.0	
Module 11 – Fluoridation			1.0	
Module 12 - Water Treatment Process Control			1.0	
Module 13 – Recordkeeping			1.0	
Module 14 – Pumps			1.0	
Module 15 – Proactive Predictive Maintenance			1.0	
Module 16 – Electrical and Instrumentation			1.0	
Module 17 – Operator Rounds			1.0	
Level 1 Drinking water Final Exam			3.0	
Total CEU Credit Hours Awarded			20.0 TCH	2.0 CEU

I understand that it is encumbant 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.

Operator Signature	Date (DD/MM/20YY)	Operator License #
		#

Appendix C. Water Certificate of Completion

Upon completion of the Course, the Project Administrator will complete this Certificate and will provide a copy to the Operator for their records. The Operator is responsible for submitting this Certificate to the State. The Program Administrator can assist, if needed. When required, this form will be customized to include State specific information.



John W. Dunty, III, Senior Consultant

OBJECTIVE OVERVIEW

Apply 42 years of public-private sector business experiences, towards understanding the water and wastewater skillset needs, providing innovative learning approaches towards practical applied understanding and long-term retention.

Education | Qualifications	B.S. Environmental Science, May 1979, Frostburg State College, Frostburg, MD
Registrations | Certifications	ABC Class 4 Wastewater (highest available certification) ABC Class 1 Laboratory Connecticut Class 4 (highest available certification) Maryland Class 5SA Wastewater (highest available certification) Massachusetts Grade 7 (highest available certification) Oregon Grade 4 (highest available certification) Utah Grade 4 (highest available certification) Virginia Class 4 (highest available certification)
Memberships | Affiliations	Member of the Florida Water Environment Association Member of New England Water Pollution Control Association Member of the Oregon Association of Water Resources Member of Utah WEAU Member of Utility Management Committee Member of VWEA Member of Water Environment Federation
Publications	Florida WEF Conference 2003 Delivered Paper "How to Select Equipment Guaranteed to be Popular with the Operator" AWWA-WEF Virginia Conference 2004 Delivered Paper "Are You Developing People for Optimum Performance or Just Providing Skills Training?" WEF Journal (November 2004) "The Evolving Utility Organization" AWWA-WEF Virginia Conference 2005 "Effective Recruiting for the X Generation"

RELEVANT PROJECT EXPERIENCE

Jacobs Engineering – Senior Consultant - January 2018 to present
9191 South Jamaica Street, Englewood, CO 80112

Providing O&M process control practices, troubleshooting, best practice procedure writing, practices training/coaching programs for utility services. Received Jacobs 2019 performance award from the Global Leadership Team for improvements made at Coos Bay & Sandy WWTP's.

Salt Lake City Public Utilities – Deputy WRF Manager 1/2016 – 1/2018
1365 West 2300 North Salt Lake City 84116
Provided daily program leadership including O&M activities, pretreatment, laboratory services, capital project planning, regulatory reporting, and budgeting. Developed learning programs incorporating classroom and supportive field coaching. Restructured traditional organization into a career ladder structure. Established leadership succession. Established project planning & scheduling workflow increasing labor accountability/productivity. Achieved a 70% exam passing rate (as compared to 12% State passing rate).

CH2MHill - Senior Consultant - 2/2012 to 12/2015
9191 South Jamaica Street, Englewood CO 80112
O&M leadership for water treatment, water distribution, metering, reclaim and non-potable irrigation, wastewater collection, wastewater treatment, solid waste sanitation and commercial chiller services including 120 personnel.

Empathic Solutions – Private Consultant – 2/2010 to 2/2012
25542 Lido Ave, Mt. Plymouth, Florida 32776
Best practice training program development, NPDES permit renewals and business development services for public and private sector utilities. Clients also included oil & gas well assessment & stimulation service and environmental and stormwater troubleshooting.

American Water-Acciona Agua – General Manager – 2/2009 to 2/2010
13051 Wyandotte Road, Gibsonton, Florida 33574
Leadership and facilitation to the American Water Acciona Agua joint venture, operating the largest sea water desalination facility in the western hemisphere with an annual operating budget of $19.7 million, including significant rehabilitation programs achieving final performance milestones.

Severn Trent Environmental Services – Senior Area Manager – 8/2007 to 2/2009
601 Country Club Road, Kissimmee, Florida 34742
Managed Toho Water Authority owned Poinciana Utility Water and Sewer System serving 75,000, representing the largest contract operation project in STES' North American portfolio including a $6 million annual budget, 56 employees, stormwater treatment, distribution and billing, wastewater treatment and collection. Provided operation services for the City of Longwood, the town of Celebration and the Barefoot Bay Gas Utility in total, serving more than 35,000 residents.

Government Services Group Inc. – Operations Manager – 7/2005 to 8/ 2007
280 Wekiva Springs Road, Longwood Florida, 32779
Managed 26 water, wastewater, and stormwater systems operated by 110 contracted employees. Executed $300 million in capital projects including: water, water distribution, wastewater treatment, wastewater collection, lift stations, storm water and other related infrastructures. Project management included all aspects of budgeting, design and project development, coordination, contract facilitation, legal notices, pre-construction planning, construction phase inspections, management and work site protocol and safety.

Personal Performance Development – Vice President – 5/2003 to 7/2005
25542 Lido Avenue, Mt. Plymouth Florida, 32776
Organizational and training program development consulting for a variety of public and private sector clients including, winning a $1.6 million contract designing a unique practical examination tool to re-certify water and water distribution operators for the Province of Ontario Canada.

EMA Inc. – Senior Consultant II – 4/2001 to 5/2003
2180 West SR 434 Suite 6100, Longwood Florida, 32779
Applied O&M consulting services for public and private clients within the water and wastewater industry, including organizational optimization and change programs, facility, and skill assessments, as well as training program development.
City of Ocala Florida – Deputy Director – 4/2000 to 4/2001
Provided leadership for 3 Divisions: Water, Wastewater, Storm Water, Laboratory, and Industrial Monitoring. Responsibilities included administration, budget development, and capital planning for a 24 MGD water plant and 2 wastewater reclamation facilities. Administered a new FOG program producing over $1 million in annual revenues. Oversaw expansion of the Environmental Services including a $19.5-million construction of an 8.5 MGD wastewater facility. Reduced staff of 83 to 65 through attrition and improved work practices.

Hazen & Sawyer PC - Operations Consultant – 8/1999 to 4/2000
Provided municipalities with development of best internal practices. Projects varied from small town facilities of less than 30 personnel to large regional facilities more than 750 personnel including Broward County Florida water, wastewater, engineering, and billing, WASA Blue Plains Wastewater Treatment Facility and Ocala Florida Environmental Services.

Arlington County WPCD - Superintendent – 8/1994 to 8/1999
3402 S. Glebe Road, Arlington Virginia 22202
Provided leadership to 45 Operators and coordination-support for 150 employees serving a 57 MGD advanced wastewater facility. Improved plant BNR capabilities to 4 seasons, initiated an internal operator competency and training program, increased operator certification to over 85%, structured a business-process tracking system, assisted in reducing FY 97 budget by over $1 million and reduced operations staff by 19 FTE's over 2 years.

Wheelabrator EOS, Hampton, NH – Project Manager – 8/1985 to 8/1994
Provided contracted services to wastewater facilities, collection systems and stormwater systems. Brought West Haven CT facility back to NPDES compliance within 1 month of contract startup. Reduced sewer rates by $5.00/household in the 4.5 MGD North Haven CT facility. Trained and obtained licensure for all North Haven CT employees in 1 year. Created a non-profit environmental community group. Assisted in writing/presenting a series of technical manuals for the 370 MGD Blue Plains Washington DC wastewater facility.

Little Patuxent Wastewater Treatment Plant - Operator I/II/III – 9/1980 to 8/1985
Howard County DPW – Savage, MD
Learned/applied fundamental field operations, laboratory, maintenance, and supervisory skills at the 15 MGD advance tertiary facility. Obtained Class A wastewater certification in 18 months.