



**STATE OF HAWAII**  
**DEPARTMENT OF HEALTH**  
**KA 'OIHANA OLAKINO**  
P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File: SDWB  
Minutes 5-23-2023

**BOARD OF CERTIFICATION OF PUBLIC WATER SYSTEM OPERATORS**  
**MINUTES OF THE MEETING**

DATE: May 23, 2023

TIME: 10:00 a.m.

MEMBERS PRESENT: Glenn Ah Yat (2nd term expires 6/30/23)  
Jodi Yamami (2<sup>nd</sup> term expires 6/30/24)  
Mark Prescott (2<sup>nd</sup> term expires 6/30/24)  
James Landgraf (1<sup>st</sup> term expires 6/30/25)

A. Call to Order

- The meeting began at 10:00 a.m.

B. Old Business

- The Board unanimously approved the February 28, 2023 meeting minutes.

C. New Business

- DSO Certification Applications

The Board unanimously approved the following applications for certification:

	<b>Name</b>	<b>Grade Requested</b>	<b>Grade Approved</b>
1	Ewen, Daniel	1	1
2	Hadama, Kelly	1	1
3	Namakaeha, Brennan	1	1
4	Bitancor, Romel	2	2
5	Oguma, Garrett	2	2
6	Hendershot, Kalei	3	3
7	Oducado, Justin	3	3
8	Nikaido, Jason	4	4
9	Huchel, James	4 Reciprocity	3 Reciprocity, 4 Regular

For detailed information on the DSO applications, please refer to Attachment 1.

- WTPO Certification Applications

The Board unanimously approved the following applications for certification:

	<b>Name</b>	<b>Grade Requested</b>	<b>Grade Approved</b>
1	Ano, James	1	1
2	Kawamura, Justin	1	1
3	Parker, Wilder	1	1
4	Ynigues, Morgan	1	1
5	Copeland, Michael	2	2
6	Kranchick, Ronald	2	2
7	Evans, Troy	3	3
8	Morton, Tiffany	3 Reciprocity	4 Reciprocity
9	Huchel, James	4 Reciprocity	3 Reciprocity, 4 Regular

For detailed information on the WTPO applications, please refer to Attachment 2.

- CEU Requests

The Board unanimously approved the following CEU requests:

	<b>Course</b>	<b>Date</b>	<b>Sponsor</b>	<b>CEUs Approved</b>
1	Mariana Islands Water Operator Association Presentations	9/20/22	Mariana Islands Water Operator Association	0.3
2	Preparing Water Utilities for the Future of Energy Management Part 1	3/1/23	AWWA	0.15
3	Benefits from the Application of Hydraulic Modeling for Small Water Systems Webinar	3/8/23	AWWA	0.15
4	Operator Certification Series: NPDES Permit Regulations and Discharge Limitations	3/8/23	EFCN	0.1

5	Preparing Water Utilities for the Future of Energy Management Part 2	3/13/23	AWWA	0.15
6	Lead and Copper	3/28/23	US EPA	0.1
7	Manganese	4/25/23	US EPA	0.1
8	2023 DLNR Dam Safety Workshop	4/3-4/23	DLNR	1.7
9	Right Sizing Your Service Line Inventory for LCRR Compliance	4/27/23	NRWA	0.1
10	From Variance to Best Practice: How Denver Water's Innovative Lead Reduction Program Became a Model	4/25/23	AWWA	0.1
11	Data Rich and Now Insight Rich, How Digital Platforms are Helping Utilities Solve Water	5/4/23	AWWA	0.1
12	2023 HRWA Pre-Conference	5/23/23	HRWA	0.6
13	2023 HRWA Conference	5/24-25/23	HRWA	21 sessions @ 0.075 each 1 session @ 0.3 0.825 max
14	Harmful Algal Blooms and Algal Toxins	5/30/23	US EPA	0.1
15	Steps for Helping Utilities Validate Their Lead Service Line Inventory	6/1/23	AWWA	0.1
16	Asset Management for Small Water System Operator: In the Field and Beyond	6/13/23	CSUS	0.2
17	702A Small Water Systems: Wells 2023	Corr.	CSUS	1.8
18	702B Small Water Systems: Treatment Plants 2023	Corr.	CSUS	1.8
19	702C Small Water Systems: Disinfection 2023	Corr.	CSUS	1.8

20	702D Small Water Systems: Safety and Introduction to Small System Management 2023	Corr.	CSUS	1.8
21	702E Small Water Systems: Laboratory Procedures 2023	Corr.	CSUS	1.8
22	703B Water Distribution System Facilities 2023	Corr.	CSUS	1.8
23	703C Water Distribution System: Disinfection 2023	Corr.	CSUS	1.8
24	703D Water Distribution System: Operation and Maintenance 2023	Corr.	CSUS	1.8
25	703E Water Distribution System: Management 2023	Corr.	CSUS	1.8
26	Utility Management 3 <sup>rd</sup> Edition	Corr.	CSUS	1.6
27	Basic Hydraulics	Corr.	RoyCEU	0.5
28	Lime Softening Process	Corr.	RoyCEU	1.0
29	Reverse Osmosis	Corr.	RoyCEU	1.0
30	Advanced Leadership Skills for Utility Operators	Online	CEU Plan	0.1
31	Atomic Bonding	Online	CEU Plan	0.3
32	Atomic Theory	Online	CEU Plan	0.2
33	Basic Leadership Skills for Utility Supervisors	Online	CEU Plan	0.1
34	Developing and Implementing a Utility Security Plan	Online	CEU Plan	0.1
35	Ethics in the Utility Workplace	Online	CEU Plan	0.1
36	Math Applications for Chemistry	Online	CEU Plan	0.2
37	Confined Space Awareness	Online	Safety Consult. and Training	0.3
38	Operator Math 101	Online	RCAC	0.2
39	Operator Math 201	Online	RCAC	0.2
40	Treatment Operator Prep 3-Part Series Part 1	Online	RCAC	0.2
41	Treatment Operator Prep 3-Part Series Part 2	Online	RCAC	0.2
42	Treatment Operator Prep 3-Part Series Part 3	Online	RCAC	0.2

43	Distribution Operator Prep 3-Part Series Part 1	Online	RCAC	0.2
44	Distribution Operator Prep 3-Part Series Part 2	Online	RCAC	0.2
45	Distribution Operator Prep 3-Part Series Part 3	Online	RCAC	0.2
46	Consumer Confidence Reports	Online	RCAC	0.2

For detailed information on the CEU requests, please refer to Attachment 3.

- DSO Certification Exam Results

The Board was notified of the following results of the DSO certification exam administered in April 2023. Paper-based exams were administered on Oahu, Maui, Molokai, and the Big Island. Ten out of 27 operators passed for an overall passing rate of 37%.

	<b>Examinee</b>	<b>Grade</b>	<b>Certification</b>
1	Akana, Nelson	1	None
2	Augustiro, Franklin	1	None
3	Bitancor, Romel	1	D1-535
4	Ching, Joshua	1	None
5	Corbin, Seth	1	D1-536
6	Echallas, Roland	1	None
7	Gago, S'mon	1	None
8	Greenleaf, Ricky	1	None
9	Keanini, Noah	1	D1-537
10	McNulty, Patrick	1	D1-538
11	Nishihira, Kasey	1	None
12	Oguma, Garrett	1	None
13	Poepoe, Myron	1	None
14	Sanchez, Brian	1	None
15	Tabangcura, Wilfred	1	D1-539
16	Ancheta, Garrett	2	D2-325
17	Kauhane, Dean	2	None
18	Owensbey, Reese	2	D2-326
19	Pa-Kala, Namakana	2	None
20	Parker, Wilder	2	D2-327

21	Belanio, Rory	3	None
22	Bush, David	3	None
23	Hale, Devin	3	D3-163
24	Camara, Ransen	4	D4-298
25	Hooks, Ash	4	None
26	Purdy, Byron	4	None
27	Pantastico, Jacob	4	None

<b>DSO Exam Results</b>			
<b>Grade</b>	<b>Passed</b>	<b>Examinees</b>	<b>Passing Rate</b>
<b>DSO 1</b>	<b>5</b>	<b>15</b>	<b>33%</b>
<b>DSO 2</b>	<b>3</b>	<b>5</b>	<b>60%</b>
<b>DSO 3</b>	<b>1</b>	<b>3</b>	<b>33%</b>
<b>DSO 4</b>	<b>1</b>	<b>4</b>	<b>25%</b>
<b>Total</b>	<b>10</b>	<b>27</b>	<b>37%</b>

- WTPO Certification Exam Results

The Board was notified of the following results of the WTPO certification exam administered in April 2023. Paper-based exams were administered on Oahu, Maui, Molokai, and the Big Island. Three out of 12 operators passed for an overall passing rate of 25%.

	<b>Examinee</b>	<b>Grade</b>	<b>Certification</b>
1	Arengo, Jarreth	1	None
2	Bueno, Wayne	1	None
3	Gameros-Campos, Raul	1	T1-251
4	Haleamau, Thomas	1	None
5	Neizman, Davis	1	None
6	Uehara, Kamalani	1	T1-252
7	Vasquez, Quinton	1	None
8	De Luz, Tanya	2	None
9	Tom, Kawena	2	T2-244
10	Hannon, Patrick	4	None

11	Martin, Francis	4	None
12	Paman, Daniel	4	None

<b>WTPO Exam Results</b>			
<b>Grade</b>	<b>Passed</b>	<b>Examinees</b>	<b>Passing Rate</b>
<b>WTPO 1</b>	<b>2</b>	<b>7</b>	<b>29%</b>
<b>WTPO 2</b>	<b>1</b>	<b>2</b>	<b>50%</b>
<b>WTPO 3</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>WTPO 4</b>	<b>0</b>	<b>3</b>	<b>0%</b>
<b>Total</b>	<b>3</b>	<b>12</b>	<b>25%</b>

D. Announcements

- This was Glenn Ah Yat’s last board meeting. His second consecutive 4-year term ends on June 30, 2023. Thank you, Glenn, for your 8 years of service.
- William Whaley has applied for the board member position from Oahu.
- With Guy Moriguchi’s passing, a new board member will be solicited from the island of Kauai. Thank you, Guy, for your 13+ years of service.
- EPA has recommended the State to consider strengthening the current classification scheme for water treatment plants and distribution systems. In future meetings, the Board will explore a point-based classification scheme that customizes the classification of each facility based on a range of values for each of the multiple indicators selected for evaluation.
- The next board meeting is scheduled for August 22, 2023.

E. Adjournment

- The meeting was adjourned at 11:00 a.m.

Minutes of the 5/23/2023 meeting  
May 23, 2023  
Page 8

Respectfully Submitted,



Jodi Yamami  
Board of Certification of  
Public Water System Operators

JY:sw

c: Anna Yen, U.S. EPA Region IX [via [yen.anna@epa.gov](mailto:yen.anna@epa.gov) only]  
Stephanie Hung, U.S. EPA Region IX [via [hung.stephanie@epa.gov](mailto:hung.stephanie@epa.gov) only]  
Glenn Ah Yat, Board Member [via [gahyat@hbws.org](mailto:gahyat@hbws.org) only]  
James Landgraf, Board Member [via [jlandgraf@hawaiiantel.net](mailto:jlandgraf@hawaiiantel.net) only]  
Mark Prescott, Board Member [via [mprescott90@gmail.com](mailto:mprescott90@gmail.com) only]



ATTACHMENT 1  
DSO DECISIONS  
5-23-2023

- |   |   |                               |
|---|---|-------------------------------|
| <p>1    <b>Ewen, Daniel E. Grade 1</b><br/>345 Schofield<br/>Supervisor Will Whaley<br/>Plumber, Fire Extinguishing<br/>Mechanic<br/>4 yrs./10 mos.</p>       | <p>Emergency repairs to water main systems and service lines, line taps for new service connections, installation, maintenance and repair of service valves, ARV, PRV, fire hydrants, installation, testing, maintenance and repair of backflow prevention and cross connection devices, perform flow testing of water mains, fire hydrants and troubleshoot and repair discrepancies</p>   | <p><b>Approve Grade 1</b></p> |
| <p>2    <b>Hadama, Kelly C. Grade 1</b><br/>422 Kahili Mountain Park<br/>423 Kealia<br/>Supervisor Ann Sokei<br/>Water Operator<br/>1 yr.</p>                 | <p>Routine checks of well tank, chlorine pump, residual reading and recording, equipment readings, record flow totals, usage to determine proper equipment operations, checks in distribution system, hydrant and valve maintenance, flushing, troubleshooting and responding, documenting repairs and maintenance, inspecting and maintaining equipment routinely to ensure longevity and reliability, maintain proper chlorine residual, routine water quality monitoring, sampling and documentation, monitor and adjust pressure, adjust and maintain Cla-Vals</p>  | <p><b>Approve Grade 1</b></p> |
| <p>3    <b>Namakaeha, Brennan K. Grade 1</b><br/>400 Lihue-Kapa'a<br/>Supervisor Dan Kittredge<br/>Assistant Water Plant Operator<br/>1 yr.</p>               | <p>Control of liquid sodium hypochlorite systems for disinfection, maintain pumps and control valves, maintain back pressure and CRD control valves, mix soda ash, check pumps, distribution, and transmission lines</p>  | <p><b>Approve Grade 1</b></p> |
| <p>4    <b>Bitancor, Romel F. Grade 2</b><br/>146 Hawaii Volcanoes National<br/>Park<br/>Supervisor Danial Drake<br/>Maintenance Worker<br/>2 yrs./5 mos.</p> | <p>Assist in mixing and charging soda ash and chlorine feed tanks, changing chemical injection pumps and injector nozzles and rebuilding, changing main raw and potable water pipes, pumps and components, change house filters and roughing filters as needed, harrowing and backwashing slow sand filters, check rain gauges, water temperatures, basin levels, and other system reads, check and record pressure gauges and equipment, assist in valve exercising, hydrant flushing and testing, read meters and cross checks, water sampling, distribution daily and weekly chlorine reads</p> <ul style="list-style-type: none"><li>• DSO 1 and WTPO Grade 1 certified</li></ul> | <p><b>Approve Grade 2</b></p> |
| <p>5    <b>Oguma, Garrett S. Grade 2</b><br/>312 Queen's Medical Center<br/>Supervisor Hubert Biete<br/>Utility Plant Supervisor<br/>3 yrs./4 mos.</p>        | <p>Oversee the operation of hospital water well and testing program for the water management program, responsible for day-to-day operation of the water system, monitors the water system, maintain and operate the water distribution to the hospital, make sure that the proper testing of the water is done, works with vendor such as Nalco to monitor the quality of the water, oversee staff that maintain and repair water system equipment like Pural to keep system in operational condition</p>   | <p><b>Approve Grade 2</b></p> |

ATTACHMENT 1  
DSO DECISIONS  
5-23-2023

- 6 **Hendershot, Kalei W. Grade 3** **Approve Grade 3**  
205 Kaanapali  
Supervisor Efren Ugalino  
Utility Operator  
4 yrs./3 mos.  
Complete daily checks and troubleshoot, ensure tank levels are normal and wells are operating properly, check chlorine residuals to make sure its's in appropriate range and adjust the rate of injection if needed, conduct yearly hydrant maintenance which includes operating both hydrant valves and street valves to ensure they operate correctly and ensure the pressure is in the appropriate range, respond to basic leak checks, meter reading, and installing meters, perform routine sampling for total coliform, EFB/DBCP, water quality samples from well sites and GAC filters, perform maintenance on sample stations, tank y-filter maintenance
- DSO 2 and WTPO 1 certified
- 7 **Oducado, Justin Grade 3** **Approve Grade 3**  
355 Barber's Point  
Supervisor Roy Shull  
Technician  
5 yrs./4 mos.  
Manage water systems, inspect pumps, take chlorine residuals, adjust chlorine pump in accordance with standard practices, repair leaks and mechanical issues, take water samples and deliver to DOH, maintain well site with proper cleaning and maintenance, inspect storage tanks, install new connections, and live taps
- DSO 2 and WTPO 1 certified
- 8 **Nikaido, Jason Y. Grade 4** **Approve Grade 4**  
331 Honolulu-Windward-Pearl Harbor  
Supervisor Ernest Lau/Erwin Kawata  
Program Administrator, Assistant Program Administrator  
3 yrs./8 mos.  
Assist and direct the operations and maintenance of BWS potable water distribution system, including hydrants, valves, reservoirs, and meters, develop and implement policies and procedures relating to the quantity and quality of the water distribution system through the following programs: sanitary survey; hydrant repair and maintenance; valve repair and maintenance, leak detection and repair; main break repair; meter installation, repair and maintenance; new service installation; reservoir chlorination; hydrant and main flushing, valve closure; temporary meter installation; emergency water connections and tankers, turbidity and residual chlorine testing
- Applicant has a qualifying bachelor's degree which reduces the required years of experience for Grade 4 down to 2 years

ATTACHMENT 1  
DSO DECISIONS  
5-23-2023

- 9 **Huchel, James L. Grade 4 Reciprocity** **Approve Grade 3 Reciprocity, Grade 4 Regular**  
City of Flagstaff  
Supervisor Gary Miller  
Operations Director  
7 yrs./7 mos.
- Run water distribution system including working on main breaks, sampling for fecal and chlorine residuals, assist in well production, sampling monthly reporting and operation and maintenance of facilities
- Current Arizona Grade 4 Water Distribution System Operator #OP033375 #107552 expires 1/31/2024
  - Arizona Grade 4 Distribution Operator is the highest level out of 4 distribution certifications
  - Arizona Grade 4 distribution requires
    - high school diploma
    - 3 years of qualified experience in distribution
    - passing of a Grade 4 exam
  - Arizona 3 years of experience matches Hawaii's Grade 3 DSO
  - Arizona utilizes ABC exams
  - Arizona Grade 4 exam is equivalent to Hawaii Grade 4 DSO exam
  - Recommend approving Grade 3 reciprocity because of the Arizona 3-year experience requirement and Grade 4 via examination because applicant has more than 4 years of distribution system operational experience

ATTACHMENT 2  
WTPO DECISIONS  
5-23-2023

- 1    **Ano, James K. Grade 1** **Approve Grade 1**  
314 St. Stephens Diocesan Center Chlorination  
Supervisor Steve Asselin  
3 yrs.    Input and analyze data, troubleshoot, repair, and maintain as needed, set up and adjust chlorination equipment, assist with water sampling, inspect overall operational condition of system, and make recommendations

  - DSO Grade 2 certified
  
- 2    **Kawamura, Justin M. Grade 1** **Approve Grade 1**  
165 Kona Water Service RO  
Supervisor David Kadowaki  
4 yrs./9 mos.    Operation and maintenance of pre-filters, changing seals, re-building chemical feed pumps, adjusting chemical feeds, testing EC, pH and chlorine

  - DSO Grade 2 certified
  
- 3    **Parker, Wilder A. Grade 1** **Approve Grade 1**  
314 St. Stephens Diocesan Center Chlorination  
Supervisor James Ano  
7 yrs.    Adjust Speed and stroke of chemical feed pump, clean lines, check injector coil, purchase chlorine, re-fill chlorine tanks

  - DSO Grade 1 certified
  
- 4    **Ynigues, Morgan L.H. Grade 1** **Approve Grade 1**  
163 Kaupulehu  
RO  
Supervisor Charles Dawrs  
1 yr./3 mos.    Assist Aqua Engineer operators in daily tasks such as collecting samples and conducting labs, conducting field inspections and repairs on Cla-Vals, telemetry and electronic components, water line chlorination, and RO membrane replacements, inspect RO skid and chemical pump performance and assist in troubleshooting, and review operational data
  
- 5    **Copeland, Michael J. Grade 2** **Approve Grade 2**  
214 Lahaina  
Direct Filtration  
Supervisor Christopher Retuta  
2 yrs.    Operate Mahinahina and Lahaina water treatment plants by monitoring disinfectant chemical (chlorine), UV dosage, coagulants 8809 and ACH levels due to fluctuating conditions from the raw intake, report daily numbers and input data for record management, perform backwashes on membranes and multimedia filters, take daily grab samples of each process of water treatment to verify meeting standards
  
- 6    **Kranchick, Ronald M. Grade 2** **Approve Grade 2**  
214 Lahaina  
Direct Filtration  
Supervisor Christopher Retuta  
2 yrs.    Daily duties include observing and taking readings of all pumps and sensors, lab testing grab samples from raw water, filtrate, and finish water, take readings on turbidity, pH, temperature, chlorine, color, and alkalinity, enter data, check chlorine on site generator and add salt to day tank for softening of water, check dosing chemicals for levels, check intake and remove debris, clean screens, check pre-sed and streaming current detector, pull and pin modules as they wear or lose pressure, replace CMF machines, r4eplace and overhaul internals, calibration of lab equipment, monitor dosing of chemicals with jar tests and streaming current detectors, operation and maintenance of valves, pumps, filters, tanks, and generators

ATTACHMENT 2  
WTPO DECISIONS  
5-23-2023

- 7 **Evans, Troy P. Grade 3** **Approve Grade 3**  
247 Lower Kula  
Direct Filtration  
Supervisor Marvin Ignacio  
3 yrs./8 mos.
- Assist and operate multiple water treatment plants, service and repair filtration modules, service and repair automatic and manual valves, use laboratory equipment to test water quality, keep records of maintenance and water quality, troubleshoot issues with plants, prepare monthly reports for DOH, order replacement parts for plants, transport, handle, and store chemicals for treatment process, service and repair filtration modules and automatic/manual valves
- WTPO Grade 2 certified
- 8 **Morton, Tiffany M. Grade 3 Reciprocity** **Approve Grade 4 Reciprocity**  
Quantico Marine Base Water  
Treatment Plant  
Conventional Treatment  
Supervisor David Raines  
5 yrs.
- Monitor equipment, instruments, meters, gauges, motor pumps, feeders recording and controlling devices according to a prescribed schedule and perform routine operator maintenance, adjust valves, controllers, programs and pumps, maintain records, perform water treatment tests to monitor levels of chlorine, total dissolved solids, fluoride, hardness, turbidity, and microbiological organisms
- Current Virginia Waterworks Operator Class 1 #1955007991 expires 2/28/2025
  - Virginia Waterworks Operator Class 1 is the highest level out of 6 combined (water treatment and distribution) certifications
  - Virginia Waterworks Operator Class 1 requires
    - high school diploma
    - 4 years of qualified experience in conventional treatment
    - passing of a Class 1 exam
  - Virginia utilizes ABC exams
  - Virginia Waterworks operator Class 1 exam is equivalent to Hawaii WTPO 4 exam

ATTACHMENT 2  
WTPO DECISIONS  
5-23-2023

- 9 **Huchel, James L. Grade 4 Reciprocity** **Approve Grade 3 Reciprocity, Grade 4 Regular**  
City of Flagstaff  
Conventional Treatment  
Supervisor Gary Miller  
Operations Director  
7 yrs./7 mos.
- Run ion exchange and green sand filters, assisted in zeolite exchanges, sampling monthly reporting and operation and maintenance of surface water facilities: add chlorine dioxide for organics control then flocculation and settling tanks, followed by sand filtration, UV disinfection and chlorination
- Current Arizona Grade 4 Water Treatment System Operator #OP033375 #100206 expires 1/31/2024
  - Arizona Grade 4 Water Treatment System Operator is the highest level out of 4 water treatment certifications
  - Arizona Grade 4 Water Treatment requires
    - high school diploma
    - 3 years of qualified experience in water treatment
    - passing of a Grade 4 exam
  - Arizona 3 years of experience matches Hawaii's Grade 3 WTPO
  - Arizona utilizes ABC exams
  - Arizona Grade 4 exam is equivalent to Hawaii Grade 4 WTPO exam
  - Recommend approving Grade 3 reciprocity because of the Arizona 3-year experience requirement and Grade 4 via examination because applicant has more than 4 years of conventional treatment experience

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

**Hawaii Courses**

- 1 **Mariana Islands Water Operator Association Presentations**  
9/20/22 Topics include:  
Mariana Islands Water Operator Association  
3.0 Contact Hours
  - Lead and Copper Rule Revisions
  - Water Infrastructure Improvements for the Nation
  - EPA Water and Wastewater Infrastructure Funding
  - Jackson, MS Water Crisis**0.3 CEUs**
  
- 2 **Preparing Water Utilities for the Future of Energy Management Part 1**  
3/1/23 Topics include:  
AWWA Webinar  
1.5 Contact Hours
  - How to determine your energy provider's drivers and design incentive schemes which benefit both parties
  - Long-term strategies to mitigate the upcoming energy transition
  - How to stay ahead of potential price hikes
  
  - Course content helps operator in communicating with owner of the drinking water system in making decisions on strategies of energy management**0.15 CEUs**
  
- 3 **Benefits from the Application of Hydraulic Modeling for Small Water Systems Webinar**  
3/8/23 This webinar will teach attendees how to use hydraulic modeling to optimize the use of capital funds, enhance emergency response, and reduce operations and maintenance costs.  
AWWA Webinar  
1.5 Contact Hours
  - Course content helps operator in communicating with owner of the drinking water system in making decisions on operational strategies**0.15 CEUs**
  
- 4 **Operator Certification Series: NPDES Permit Regulations and Discharge Limitations**  
3/8/23 This session will provide a general overview of NPDES as it applies to municipal wastewater treatment operations. We will cover regulatory definitions, EFCN permitting basics, monitoring and testing requirements, and enforcement.  
1.0 Contact Hour  
**0.1 CEUs**
  
- 5 **Preparing Water Utilities for the Future of Energy Management Part 2**  
3/13/23 This webinar aims to raise awareness of energy consumption and shed light on future challenges utilities will face.  
AWWA Webinar  
1.5 Contact Hours
  - Course content helps operator in communicating with owner of the drinking water system in making decisions on strategies of energy management**0.15 CEUs**
  
- 6 **Lead and Copper**  
3/28/23 Topics include:  
US EPA  
1.0 Contact Hours
  - EPA's Lead Service Line Inventory Guidance
  - Corrosion Test Methods**0.1 CEUs**

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

- 7 **Manganese**  
4/25/23  
US EPA  
1.0 Contact Hours  
**0.1 CEUs**
- This presentation will provide a summary of manganese occurrence in public water systems and describe its potential interference with commonly used methods to measure disinfectant residual.
- 8 **2023 DLNR Dam Safety Workshop**  
4/3-4/23  
DLNR  
17.0 Contact Hours  
**1.7 CEUs**
- Topics include:
- History of Dam Safety
  - Dam Safety 101 - Dam Fundamentals
  - Why Do Dams Fail
  - Regulations, Permits, Dam Owner Responsibilities & Liability, Hazard Creep
  - Dam Failure Case Studies
  - Preparing for and Conduction Dam Inspections
  - Inspecting Embankment Dams
  - Inspecting Spillways and Outlets
  - Results from Phase I Investigations
  - Operations & Maintenance Plans and Emergency Action Plans
  - Screening Level Risk Assessment
  - Conference Training Recap
  - Horner Reservoir Owners
- 9 **Right Sizing Your Service Line Inventory for LCRR Compliance**  
4/24/23  
NRWA Webinar  
1.0 Contact Hours  
**0.1 CEUs**
- Topics include:
- Building a GIS-based inventory
  - Building an Excel-based inventory
  - Building a custom inventory system
  - Buying an all-in-one LCRR solution
- 10 **From Variance to Best Practice: How Denver Water's Innovative Lead Reduction Program Became a Model**  
4/25/23  
AWWA Webinar  
1.0 Contact Hour  
**0.1 CEUs**
- Topics include:
- Denver Water System Overview and History
  - Decision Point: Lead Reduction Program
  - Lead Reduction Program Overview
  - Lead Reduction Program Results to Date
- 11 **Data Rich and Now Insight Rich, How Digital Platforms are Helping Utilities Solve Water**  
5/4/23  
AWWA Webinar  
1.0 Contact Hours  
**0.1 CEUs**
- Topics include:
- How to implement product and solutions into your network to build out a digitally charged utility
  - How specific customers implemented digitally forward products and solutions for advanced understanding of their entire utility
  - How a digital approach can help your utility unify operations and save time, money, and water



ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

12 **2023 HRWA Pre-Conference**

5/23/23

HRWA

6 Contact Hours

**0.6 CEUs**

Topics include:

- Why are PFAS compounds used
- US EPA actions
- UCMR
- Items containing PFAS
- What can we do to protect ourselves
- Other contaminants

13 **2023 HRWA Conference**

5/24-25/23

HRWA

**21 sessions at 45 minutes**

**each for 0.075 CEUs each**

**1 session at 3 hours for 0.3**

**CEUs**

**0.825 CEUs max**

45-minute drinking water sessions for full credit:

- EPA Drinking Water Regulatory Update
- Invasive Species & Their Impacts on a Water System
- Building a More Seismically Resilient Water System
- Shoring Up Your Organization for the Silver Tsunami with a Robust Operator Training Program
- Optimal Application of Pipe Bursting & Trenchless Methods
- Lead Service Line Inventory Requirements of the LCRR
- Onsite Sodium Hypochlorite Generation: A Safe & Reliable Disinfection Alternative to Bulk Sodium Hypochlorite & Gas Chlorine
- UCMR5: What is it and How the Regulation Affects a Public Water System
- Design, Commissioning & Operation of a Regenerable Ion Exchange System
- Yorba Linda Water District Installs Largest Ion Exchange PFAS Removal Water Treatment Plant in US
- Advantages of Polymer Concrete vs Concrete
- Development of an Effective Rural Utility GIS Program with Limited Resources
- Corrosion and Its Control for Ductile Iron Pipe
- Chlorination Options: What's Best for You
- iHydrant Works Together with Utilities to Reduce Non-Revenue Water
- PFAS Treatment for a Moving Target
- DWSRF & BIL - Funding for Water Infrastructure, Lead Service Lines, & Emerging Contaminants
- Aging Infrastructure? VFD's a Perfect Fit
- Updates on the Lead & Copper Rule
- ABC's of VFD's
- Pump Vibration

3-hour drinking water session for full credit:

- Tools and Techniques for e-Governance

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

14 **Harmful Algal Blooms and Algal Toxins**

5/30/23

US EPA

1.0 Contact Hours

**0.1 CEUs**

This presentation will provide an overview of technical assistance provided due to a harmful algal bloom (HAB) that caused widespread taste and odor complaints. It will also focus on the detection and quantification of cyanobacterial groups and cyanotoxin genes implicated in HABs

15 **Steps for Helping Utilities Validate Their Lead Service Line Inventory**

6/1/23

AWWA Webinar

1.0 Contact Hours

**0.1 CEUs**

Topics covered:

- Find out why it is crucial to identify lead service lines in our current water industry.
- Review water system requirements to prepare and maintain an inventory of service line materials.
- Discover lead detection solutions that are currently available and which of them may be the best fit for their utility.

16 **Asset Management for Small Water System Operators: In the Field and Beyond**

6/13/23

CSUS

2.0 Contact Hours

**0.2 CEUs**

This training will show how asset management best practices come into play in the day-to-day operations and maintenance of a water utility and teach more about utility finance, how to track and benchmark financial performance, how rates and level of service go together, and how decisions in the field are a part of a greater asset management strategy. You will learn about these topics through examples from real small systems. This workshop will provide the tools and knowledge to improve the fiscal health of your utility without compromising service or deferring maintenance.

**Correspondence/Online Courses**

17 **702A Small Water Systems: Wells 2023**

CSUS Online

18 Contact Hours

**1.8 CEUs**

Topics include:

- Groundwater - Critical Link to Wells
- Well Site Selection
- Structure and Components
- Testing and Evaluation
- Maintenance and Rehabilitation
- Well Pumps and Service Guidelines
- Disinfection of Wells and Pumps
- Electrical Supply and controls
- Troubleshooting
- Abandoning and Plugging Wells
- Operator Responsibility and Recordkeeping
- Math

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

18 **702B Small Water Systems: Treatment Plants 2023**

CSUS Online

18 Contact Hours

**1.8 CEUs**

Topics include:

- Importance of Small Water Treatment Plants
- Coagulation
- Flocculation
- Settling (Sedimentation)
- Filtration
- Disinfection
- Corrosion Control
- Solids Contact Clarification
- Slow Sand filtration
- Iron and Manganese Control
- Softening
- Operation
- Maintenance
- Safety

19 **702C Small Water Systems: Disinfection 2023**

CSUS Online

18 Contact Hours

**1.8 CEUs**

Topics include:

- Water as a Limited Resource
- The Water Supply system
- Selection of a Water Source
- The Safe Drinking Water Act
- Small Water system Operators
- Drinking Water Safety
- Factors Influencing Disinfection
- Ultraviolet Systems
- Mixed-Oxidants (MIOX) Systems
- Math
- Disinfection Process
- Points of Chlorine Application
- Operation of Chlorination Equipment
- Maintenance
- Chlorine Dioxide Facilities
- Measurement of Chlorine Residual
- Chlorine Safety Program
- Ozone Systems
- Typical Chlorination Math

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

20 **702D Small Water Systems: Safety and Introduction to Small System Management 2023**

CSUS Online

18 Contact Hours

**1.8 CEUs**

Topics include:

- Safety Program
- Vehicle Safety
- Personal Safety
- Safety Around Wells
- Pump Safety
- Working in Streets
- Working Near Noise
- Safety Inspections
- Developing Water Rates
- Revenue Requirements
- Cost Allocation Methods
- Distributing Costs to Customers
- Rate Design
- Administration of Rates and Charges
- Planning for Financial Stability
- Emergency Response

21 **702E Small Water Systems: Laboratory Procedures 2023**

CSUS Online

18 Contact Hours

**1.8 CEUs**

Topics include:

- Water as a Limited Resource
- The Water Supply System
- Selection of a Water Source
- The Safe Drinking Water Act
- Small Water System Operators
- Math
- Basic Laboratory Concepts
- Laboratory Equipment and Techniques
- Laboratory Safety
- Water Quality Tests
- Sampling

22 **703B Water Distribution System: Distribution Facilities 2023**

CSUS Online

18 Contact Hours

**1.8 CEUs**

This course teaches operators how to identify different types of storage facilities, pipes, joints, meters, and backflow prevention devices. Operators learn how to identify suitable locations for facilities, inspect storage facilities, and take a storage facility out of service and return it to service. Operators learn about collecting samples, protecting equipment from corrosion, and maintaining records.

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

- 23 **703C Water Distribution System: Disinfection 2023**  
CSUS Online  
18 Contact Hours  
**1.8 CEUs**  
Operators taking this course will learn to identify various types of contaminants and contamination sources, and to identify and correct causes of water quality degradation in water mains and storage facilities. Operators will also study how to disinfect new and existing wells, pumps mains, and storage facilities; calculate chlorine dosage; operate and maintain hypo chlorinators and chlorinators; troubleshoot chlorination systems; and conduct a chlorine safety program.
- 24 **703D Water Distribution System: Operation and Maintenance 2023**  
CSUS Online  
18 Contact Hours  
**1.8 CEUs**  
This course teaches operators to develop and conduct a water distribution system surveillance program, a water quality monitoring program, and a cross-connection control program. Operators will learn how to locate and repair buried pipes and leaks, make pipe connections, flush and clean pipes, thaw frozen pipes and hydrants, test and read meters, disinfect mains and storage facilities, and conduct effective recordkeeping.
- 25 **703E Water Distribution System: Management 2023**  
CSUS Online  
18 Contact Hours  
**1.8 CEUs**  
Upon completion of this course, operators should be able to perform the following administration functions: emergency planning, construct and organizational chart, write a job description and interview questions, and conduct employee evaluations. Operators will learn how to provide equal and fair treatment to all employees, conduct effective communication within the organization, assess and plan for financial strength of the distribution system, set up a safety program, and maintain effective distribution system record management.
- 26 **Utility Management 3<sup>rd</sup> Edition**  
CSUS Online  
16 Contact Hours  
**1.6 CEUs**  
This course introduces water sector utility managers to the major areas of responsibility for effective management including planning, organization, workforce development and staffing, information management and record keeping, communication and public outreach, security, cyber security, risk and resilience assessments, emergency response plans, utility finance and funding, asset management, and managing change and challenges.

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

27 **Basic Hydraulics**

RoyCEU

5 Contact Hours

**0.5 CEUs**

Topics include:

- What is Hydraulics
- Concepts of Hydraulics
- Liquids in Motion
- Net Positive Suction Head
- Affinity Laws
- Water Hammer
- Cavitation
- Types of Pumps
- Modes of Operation for Pumps
- Operation of a Centrifugal Pump
- Pump Troubleshooting
- Types of Valves
- 

28 **Lime Softening Process**

RoyCEU

10 Contact Hours

**1.0 CEUs**

Topics include:

- Hard Water
- Relationship of Carbonate Non-Carbonate and Alkalinity
- Alkalinity Testing
- Utilizing Alkalinity Tests to Determine CaCO
- Lime Dosages using Conversion Method
- Chemical Precipitation and Hardness Levels
- Types of Lime
- Lime Feed Systems
- Lime Slaker
- Lime Handling and Storage
- Straight Treatment
- Re-carbonation
- Carbon Dioxide and Lime Dosage
- The Langelier Index
- Split Lime treatment
- Soda Ash
- Solids Contact Clarifier
- Sedimentation
- Sludge Removal and Disposal
- Monitoring/Troubleshooting
- Additional Benefits
- Disadvantages of Softening

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

- 29 **Reverse Osmosis**  
RoyCEU  
10 Contact Hours  
**1.0 CEUs**
- Topics include:
- Overview of Membrane Treatment
  - Microfiltration
  - Ultrafiltration
  - Nanofiltration
  - Reverse Osmosis
- 30 **Advanced Leadership Skills for Utility Operators**  
CEU Plan  
1 Contact Hour  
**0.1 CEUs**
- This one-hour short course focuses on acquiring advanced leadership skills to better motivate and lead utility professionals; meeting their expectations, creating accountability, understanding and leading Millennial workers; using situational leadership techniques to meet specific challenges; reaffirming leadership principles and suggestions and tips on leading in the post-COVID 19 environment and in emergency response planning.
- 31 **Atomic Bonding**  
CEU Plan  
3 Contact Hours  
**0.3 CEUs**
- Atomic Bonding is a three-hour course which follows the Atomic Theory course in the basic chemistry series: Chemistry Made Easy for Operators. In this course, the bonding of atoms along with illustrating the Lewis Dot concept will be explored.
- 32 **Atomic Theory**  
CEU Plan  
2 Contact Hours  
**0.2 CEUs**
- By the end of this training course, participants will have the ability to: describe an atom, compare protons to electrons, illustrate the variable and fixed charges of each group on the Periodic Table, highlight the difference when electrons are far away versus close, define the chemical symbol located on the Periodic Table, locate chlorine on the Periodic Table, describe the Periodic Table, describe the atom math associated with protons, neutrons, and electrons
- 33 **Basic Leadership Skills for Utility Supervisors**  
CEU Plan  
1 Contact Hour  
**0.1 CEUs**
- By the end of this training course, participants will have the ability to: distinguish between leadership and management of utility operators, list the leadership attributes and describe how they are shown in the leader, state the 3 general principles of leadership and how they relate between the leader and followers, define and provide examples of insider threats in the workplace, implement solutions to the leadership issues identified as practical leadership comments, from the case studies, identify the leadership attributes on display or their lack

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

- 34 **Developing and Implementing a Utility Security Plan**  
CEU Plan  
1 Contact Hour  
**0.1 CEUs**  
By the end of this training course, participants will have the ability to: compare your current Security Plan with the ISO 31000 Standard, describe the on-site systematic master assessment of your current security measures, identify various methods used to control and reduce loss and theft of assets, list components of your Security Plan detailing Information Security, describe the controls used to assess operational and communication security aspects, identify the three elements of Organizational Security, identify the Vulnerabilities to asset infrastructure
- 35 **Ethics in the Utility Workplace**  
CEU Plan  
1 Contact Hour  
**0.1 CEUs**  
By the end of this training course, participants will understand ethical principles, personal integrity, and professionalism. Participants will be able to apply these principles to their career as a utility professional through an in-depth study of real-life cases and practical examples which demonstrate ethical conduct, the application of personal integrity and the importance of developing a sense of professionalism in the workplace.
- 36 **Math Applications for Chemistry**  
CEU Plan  
2 Contact Hours  
**0.2 CEUs**  
This is a two-hour course that follows the Atomic Theory- Bonding and the Safety-Chemical Basics courses in the basic chemistry series: Chemistry Made Easy for Operators. In this course, the mathematics and calculations of density, units of conversion and how these calculations are made in the laboratory (lab) will be explored.
- 37 **Confined Space Awareness**  
Safety Consultation and Training  
3 Contact Hours  
**0.3 CEUs**  
Topics included:
  - Confined space Evaluation
  - Non-Permit and Permit Required Confined Spaces
  - Potential Hazards
  - OSHA Requirements
  - Components of an Entry Permit Program
  - Emergency Response
- 38 **Operator Math 101**  
RCAC  
2 Contact Hours  
**0.2 CEUs**  
Topics included:
  - Convert water units
  - Convert distance
  - Convert areas
  - Convert volumes



ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

- 39 **Operator Math 201**  
RCAC  
2 Contact Hours  
**0.2 CEUs**
- Topics included:
- Pressure and head problems
  - Dosage problems
  - Well calculations
  - Flow Calculations
- 40 **Treatment Operator Prep 3-Part Series Part 1**  
RCAC  
2 Contact Hours  
**0.2 CEUs**
- Topics included:
- Treatment system overview
  - Treatment equipment
  - Minimal basic math
- 41 **Treatment Operator Prep 3-Part Series Part 2**  
RCAC  
2 Contact Hours  
**0.2 CEUs**
- Topics included:
- Testing tips and tricks
  - Filtration
  - Repairing components
- 42 **Treatment Operator Prep 3-Part Series Part 3**  
RCAC  
2 Contact Hours  
**0.2 CEUs**
- Topics included:
- Chemicals
  - Lab samples
  - Safety
- 43 **Distribution Operator Prep 3-Part Series Part 1**  
RCAC  
2 Contact Hours  
**0.2 CEUs**
- Topics included:
- Distribution system overview
  - Distribution equipment
  - Minimal basic math
- 44 **Distribution Operator Prep 3-Part Series Part 2**  
RCAC  
2 Contact Hours  
**0.2 CEUs**
- Topics included:
- Testing tips and tricks
  - Cross connection control basics
  - Repairing components
- 45 **Distribution Operator Prep 3-Part Series Part 3**  
RCAC  
2 Contact Hours  
**0.2 CEUs**
- Topics included:
- Chemicals
  - Lab samples
  - Safety

ATTACHMENT 3  
CEU DECISIONS  
5-23-2023

46 **Consumer Confidence Reports**

RCAC

2 Contact Hours

**0.2 CEUs**

This course will guide you through the requirements of the CCR & will provide you with the tools & resources you need to meet the requirements of the SDWA.