



STATE OF HAWAII
DEPARTMENT OF HEALTH
SAFE DRINKING WATER BRANCH
ULUAKUPU BLDG. 4
2385 WAIMANO HOME ROAD, SUITE 110
PEARL CITY, HI 96782-1400

In reply, please refer to:
File: SDWB
Minutes 11-23-2021

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

DATE: November 23, 2021

TIME: 10:00 a.m. to 10:45 a.m.

MEMBERS PRESENT: Guy Moriguchi (1st term expires 6/30/22)
Mark Prescott (2nd term expires 6/30/24)
Jodi Yamami (2nd term expires 6/30/24)
James Landgraf (1st term expires 6/30/25)

This meeting was conducted via interactive conference technology in accordance with the Emergency Proclamation Related to the State's COVID-19 Delta Response.

A. Call to Order

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

B. Old Business

- The Board unanimously approved the August 30, 2021 meeting minutes.

C. New Business

- DSO Certification Applications

The Board unanimously approved the following applications for certification:

	Name	Grade Requested	Grade Approved
1	Gaspar, Matthew	OIT	OIT
2	Haleamau, Thomas	OIT	OIT
3	Lungay, Micah	OIT	OIT
4	Florendo, Benjamin	1	1
5	Hassel, Ian	1	1
6	Kauhane, Dean	1	1
7	Narimatsu, Christopher	1	1

8	Pa-Kala, Namakana	1	1
9	Ramos, Briceson	1	1
10	Hale, Devin	2	2
11	Hendershot, Kalei	2	2
12	Humphrey, Kevin	4	4
13	Clark, Ronald	4 Reciprocity	4 Reciprocity

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

- WTPO Certification Applications

The Board unanimously approved the following applications for certification:

	Name	Grade Requested	Grade Approved
1	Bush, Cody	1	1
2	De Luz, Tanya	1	1
3	Hassel, Ian	1	1

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

- CEU Requests

The Board unanimously approved the following CEU requests:

	Course	Date	Sponsor	CEUs Approved
1	AHERA Asbestos Contractor/Supervisor Initial Training Course	8/2-6/21	Globeteck	3.5
2	Community Water System Emergency Response Plan Workshop Session 1	11/8/21	US EPA	0.3
3	Community Water System Emergency Response Plan Workshop Session 2	11/9/21	US EPA	0.3
4	Water Laboratory Alliance (WLA) Security Summit 2021	11/16-18/21	US EPA	1.35
5	Tips to Mitigate Supply Chain Challenges	11/18/21	US EPA	0.1
6	Groundwater Treatment	2/1/22	RCAC	0.2

Technologies Part 1				
7	Groundwater Treatment Technologies Part 2	2/1/22	RCAC	0.2
8	Groundwater Treatment Technologies Single Session	2/1/22	RCAC	0.2
9	Nitrates	2/1/22	RCAC	0.2
10	Regulations Basics: Water Quality Sampling	TBD	RCAC	0.2
11	2022 Pacific Water Annual Conference	2/1-3/22	AWWA Hi/HWEA	28 sessions at 0.05 each
12	Chlorine Analysis for Drinking Water (Proficiency Test)	Various	HRWA	0.4
13	Causes of Taste and Odor	Various	HRWA	0.4
14	Source Water Treatment, Reservoir Management and Intake Structures	Various	HRWA	0.6
15	Comprehensive Review of Drinking Water Regulations, Rules, Standards, and Procedures	Various	HRWA	0.6
16	Advanced Water Treatment Training	Various	HRWA	0.6
17	4004 Water Loss Control	Online	Water Otter	0.2
18	Basic Water Works	Online	HRWA/Suncoast	1.0
19	Chemical Feed Systems & Pump Calibrations	Online	HRWA/Suncoast	0.5
20	Chlorinator Systems & Chemical Handling	Online	HRWA/Suncoast	1.0
21	Customer Service Inspection and Cross-Connection Control	Online	HRWA/Suncoast	0.5
22	Drinking Water Filtration, A-Z	Online	HRWA/Suncoast	1.5
23	Maintaining Water Quality in Distribution Systems	Online	HRWA/Suncoast	1.6
24	Practical Personnel Management	Online	HRWA/Suncoast	0.7
25	Pump and Motor Maintenance	Online	HRWA/Suncoast	1.6
26	Small Water Systems 1	Online	HRWA/Suncoast	1.2

27	Small Water Systems 2	Online	HRWA/ Suncoast	1.0
28	Surface Water Production 1	Online	HRWA/ Suncoast	1.0
29	Surface Water Production 2	Online	HRWA/ Suncoast	1.0
30	Surface Water Treatment	Online	HRWA/ Suncoast	1.0
31	Understanding the Stage 2 Disinfection By-Product Rule for Small & Medium and NTNC Systems	Online	HRWA/ Suncoast	1.0
32	Understanding the Revised Total Coliform Rule and the Groundwater Rule	Online	HRWA/ Suncoast	1.4
33	Water Disinfection	Online	HRWA/ Suncoast	0.6
34	Water Transmission and Distribution	Online	HRWA/ Suncoast	0.6
35	Achieve & Maintain Compliance with SDWA CA Sanitary Surveys	Online	AWWA CA- NV	0.2
36	Achieve & Maintain Compliance with SDWB Total Coliform Rule	Online	AWWA CA- NV	0.2
37	WTT: Distillation	Online	CEU Plan	0.2
38	2021 AWWOA Water Week Conference	Canada	AWWOA	0.917

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 from August 15, 2021 thru November 13, 2021. Computer-based exams were given on Oahu and Maui. Paper-based exams were given on Molokai, Kauai, and the Big Island. Eight out of 25 operators passed for an overall passing rate of 32%.

	Examinee	Grade	Certification
1	Augustiro, Franklin	1	None
2	Costales, Jimmy	1	None
3	Neaves, Adam	1	D1-514
4	Niemann, Jace	1	D1-511

5	Nishihara, Kasey	1	None
6	Ogata, Michael	1	D1-513
7	Purdy, Wesley	1	D1-512
8	Aki, Harry	2	D2-313
9	Bartlett, Sean	2	None
10	Bush, Cody	2	D2-314
11	Christian, Kevin	2	None
12	Horner, Darren	2	None
13	Mendes, Zachary-Scott	2	None
14	Victorino, Matthew	2	None
15	Yoshioka, Wiley	2	None
16	Belanio, Rory	3	None
17	Pascua, Joseph	3	None
18	Silva, Jeffery	3	None
19	Hooks, Ash	4	None
20	Keakealani, Mahana	4	D4-292
21	Pang Kee, Adrian	4	None
22	Paulino, Alfred	4	None
23	Purdy, Byron	4	None
24	Uehara, Kamalani	4	D4-293
25	Waikiki, Neal	4	None

DSO Exam Results

Grade	Passed	Examinees	Passing Rate
DSO 1	4	7	57%
DSO 2	2	8	25%
DSO 3	0	3	0%
DSO 4	2	7	29%
Total	8	25	32%

- **WTPO Certification Exam Results**

The Board was notified of the following results of the WTPO certification exam administered from August 15, 2021 thru November 13, 2021. Computer-based exams were given on Oahu and Maui. Paper-based exams were given on Molokai, Kauai, and the Big Island. Five out of 8 operators

passed for an overall passing rate of 63%.

	Examinee	Grade	Certification
1	Amano, Leonore	1	T1-238
2	Melchor, Florendo	1	T1-241
3	Nagoshi, Ryan	1	T1-239
4	Perreira, Gary	1	T1-240
5	Starkey, Nathan	1	None
6	Burns, Keska	3	T3-048
7	Hannon, Patrick	4	None
8	Mukai, Miki	4	None

WTPO Exam Results			
Grade	Passed	Examinees	Passing Rate
WTPO 1	4	5	80%
WTPO 2	-	-	-
WTPO 3	1	1	100%
WTPO 4	0	2	0%
Total	5	8	63%

D. Announcements

- The next board meeting is scheduled for February 22, 2022.

E. Adjournment

- The meeting adjourned at 10:45 a.m.

Respectfully Submitted,



Jodi Yamami
 Board of Certification of
 Public Water System Operators

JY:sa

- c: Anna Yen, U.S. EPA Region IX [via yen.anna@epa.gov only]
Adam Ramos, U.S. EPA Region IX [via ramos.adam@epa.gov only]
Glenn Ah Yat, Board Member [via gahyat@hbws.org only]
James Landgraf, Board Member [via jlandgraf@hawaiiantel.net only]
Guy Moriguchi, Board Member [via guy@aquaengineers.com only]
Mark Prescott, Board Member [via mprescott90@gmail.com only]

ATTACHMENT 1
DSO DECISIONS
11-23-2021

- | | | |
|--|--|-------------------------------|
| <p>1 Gaspar, Matthew OIT
331 Honolulu-Windward-Pearl Harbor
Supervisor Bert Kawamura
Assistant Water Treatment
4 mos</p> | <p>Check for chlorine residual at source stations, check the operation and maintenance of chlorinators, upkeep of stations, perform minor repairs, check chlorine residual at entry point to distribution, record keeping</p> <ul style="list-style-type: none">• Employed at HBWS• Working under certified operator Bert Kawamura | <p>Approve OIT</p> |
| <p>2 Haleamau, Thomas OIT
335 Waipahu-Ewa-Waianae
Supervisor Pekelo Martin
Assistant Water Treatment
4 mos</p> | <p>Testing chlorine residual and minor repairs of chlorination systems, delivery of chlorine to each system, fill holding tanks with correct ratio of chlorine and water, assist with larger repairs of chlorine monitoring systems and injector pumps for chlorine, assist in sanitary survey</p> <ul style="list-style-type: none">• Employed at HBWS• Working under certified operator Pekelo Martin | <p>Approve OIT</p> |
| <p>3 Lungay, Micah OIT
331 Honolulu-Windward-Pearl Harbor
Supervisor Bert Kawamura
Assistant Water Treatment
11 mos</p> | <p>Check for chlorine residual at entry point to distribution for various well sources, record residual, refill holding tanks for chlorinators, assist with repairs to the chlorinators and minor repairs around pumping stations, assist with repairs on horizontal booster pumping units</p> <ul style="list-style-type: none">• Employed at HBWS• Working under certified operator Bert Kawamura | <p>Approve OIT</p> |
| <p>4 Floendo, Benjamin S.K. Grade 1
230 Hoolehua
Supervisor Elroy Mollena
General Laborer
1 yr/10 mos</p> | <p>Replace laterals on water system, replace/repair clamps, maintain water lines and roadways to system, maintain holding tanks and well sites</p> | <p>Approve Grade 1</p> |
| <p>5 Hassel, Ian Grade 1
135 Waikoloa
Supervisor Gary Shiroyama
Water Operator
10 mos</p> | <p>Maintain, operate and repair all water system parts such as pumps, meters, water mains, valves, and services, inspect service and maintain hydrants, maintain reservoirs and ARV and PRV systems</p> | <p>Approve Grade 1</p> |
| <p>City of Sierra Madre
Supervisor Steven McGee
Water Ops Tech
1 yr/4 mos</p> | <p>Treat water with chlorination units using sodium hypochlorite, maintain and operate sodium hypochlorite boosting stations, collect samples and complete various lab work such as total coliforms, chlorine residuals</p> | |

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|----|--|--|------------------------|
| 6 | Kauhane, Dean Grade 1
261 Maui Business Park
Supervisor Christian Rosenthal
Technician
1 yr/1 mos | | Approve Grade 1 |
| | | Responsible for monitoring/inspecting: well above ground piping, electrical components, potable transmission, distribution waterlines, chlorination, storage tank, pumping system, hydrants, maintain chlorinating system including testing of chlorine residual, adjusting chlorine feeder, checking the sodium hypochlorite levels in the storage tanks and replenishing, monitor condition/operational status, reading well out flow meter and log, checking well pump status, checking pressure readings, storage tank levels, collect bac-t samples | |
| 7 | Narimatsu, Christopher Y. Grade 1
360 Pearl Harbor
Supervisor Alfred Paulino
Industrial Equipment Mechanic
1 yr | | Approve Grade 1 |
| | | Check the different pumping stations for proper chlorination and fluoride injection levels, cleanliness and any repairs needed on the equipment and/or piping. Learn about the different methods of how we chlorinate our system at the different pumping stations. | |
| 8 | Pa-Kala, Namakana Grade 1
230 Hoolehua
Supervisor Elroy Mollena
General Laborer
1 yr/10 mos | | Approve Grade 1 |
| | | Maintenance of well sites, pumps, treatment center, holding tanks, water ways, hydrants, and meter boxes: assist in water main and lateral breaks, valve exercising, water pumping, trenching, sign waving, water tampering, water tool and part inventory, cleaning of meter boxes, replacing old waterlines, hydrants, valves, meters and community reminders. | |
| 9 | Ramos, Briceson M. Grade 1
230 Hoolehua
Supervisor Elroy Mollena
General Laborer
1 yr | | Approve Grade 1 |
| | | Operate SCADA systems, maintain tank levels, residual, refill hypochlorite, run and maintain generator, maintain generator, change oil, coolant, belts, etc., change oil in booster pumps, fix water main breaks, replace laterals, fix fire hydrant breaks, flushing of fire hydrants, meter reads, change out or install new meters, locate and exercise valves | |
| 10 | Hale, Devin C. Grade 2
135 Waikoloa
Supervisor Henry Giltner
Cross Connection Specialist
2 yrs | | Approve Grade 2 |
| | | Service and repair water lines, install and read meters, flush and repair hydrants, take chlorine readings, adjust flows, repair chlorine valves, exchange chlorine tanks, troubleshoot, locate leaks, repair CLA valves, install curb stops, build and manage cross connection control program, survey and inspect system, identify potential risks of cross connection <ul style="list-style-type: none">• DSO Grade 1 and WTPO Grade 1 certified | |
| 11 | Hendershot, Kalei W. Grade 2
205 Kaanapali
Supervisor Efren Ugalino
Utility Operator
2 yrs/9 mos | | Approve Grade 2 |
| | | Complete daily checks and troubleshooting on system, ensure tank levels are normal, wells are operating properly and chlorine residuals are in the appropriate range, adjust rate of injection at chlorination stations, conduct yearly hydrant maintenance including operating hydrant valves and street valves to ensure pressure is in the appropriate range, respond to leak checks, meter reading, and installing meters, routine sampling <ul style="list-style-type: none">• DSO Grade 1 and WTPO Grade 1 certified | |

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- 12 **Humphrey, Kevin L. Grade 4** **Approve Grade 4**
237 Lanai Water Company
Supervisor John Bowman
Meter Reader
4 yrs/9 mos
Conduct water quality testing and sampling required by State, perform meter installations, change outs and repairs, monitor meter and water usage, resolve customer service issues
- DSO Grade 3 certified
- 13 **Clark, Ronald K. Grade 4 Reciprocity** **Approve Grade 4 Reciprocity**
Colorado Springs Utilities
Supervisor Jennifer Sullivan
Pipefitter
7 yrs
Maintenance of water distribution and service lines. Valve maintenance, repair, and replacement. Installation and fusing HDPE water lines. Rebuild, repair, replace and install fire hydrants. Thrust block installation. Pipeline corrosion control. Install tees and crosses on mains. Leak detection.
- Current Colorado Water Distribution System Operator Class 4 #CWP-D4-00420-0210 expires 2/7/2023
 - Colorado Water Distribution System Operator Class 4 is the highest out of 4 water distribution certifications
 - Colorado Water Distribution System Operator Class 4 requires
 - High school diploma
 - 4 years of qualified experience
 - Passing of a Class 4 distribution exam
 - Colorado utilizes ABC exams which are equivalent to Hawaii's exams

ATTACHMENT 2
WTPO DECISIONS
11-23-2021

- | | | |
|--|--|-------------------------------|
| <p>1 Bush, Cody I. Grade 1
248 Kawela Plantation
Chlorination
Supervisor Mervin Dudoit
2 yrs/ 7 mos</p> | <p>Daily rounds include checking chlorine residual at the injection site and at the end of the water system, check sodium hypochlorite inventory and check that order is placed when necessary, work with Responsible charge to identify potency of sodium hypochlorite when received and again when adding to the water system, to identify solution strength, adjust chlorine pump to ensure correct dosage is added to water system</p> <ul style="list-style-type: none">• DSO Grade 2 certified | <p>Approve Grade 1</p> |
| <p>2 De Luz, Tanya M.M. Grade 1
130 South Kohala
Membrane Filtration,
Conventional Treatment
Supervisor Anthony Tanodra
1 yr</p> | <p>Assist in monitoring of grade 4 conventional treatment plant including addition of polymer/coagulation, flocculation and sedimentation before going into the microfiltration plant, assist in the operation of the grade 2 microfiltration plant including maintenance and cleaning on system membranes as well as the maintenance of valves, blowers, compressors, and chemical pumps, assist in adding, filling, and changing chemicals, assist in collecting system water samples and taking laboratory readings including color, turbidity, chlorine and orthophosphate residuals</p> | <p>Approve Grade 1</p> |
| <p>3 Hassel, Ian Grade 1
City of Sierra Madre
GAC, Chlorination
Supervisor Steven McGee
Water Ops Tech
1 yr/4 mos</p> | <p>Maintain surface water basins and treatment yard, adjust flow and volume within each basin, operate and maintain GACs, allow basins to settle out before moving into GAC units, actuate and exercise pumps valves, and gates, treat water with chlorination units using sodium hypochlorite, maintain and operate sodium hypochlorite boosting stations, collect samples and complete various lab work such as total coliforms, chlorine residuals</p> | <p>Approve Grade 1</p> |

ATTACHMENT 3
CEU DECISIONS
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Hawaii Courses

1 AHERA Asbestos Contractor/Supervisor Initial Training Course

8/2-6/2021

Globetek

35.0 Contact Hours

3.5 CEUs

Topics included:

- Background Information on Asbestos
- Health Effects of Asbestos Exposure
- Hands-On Respirator Workshop
- Potential Health Effects Related to Asbestos Exposure
- Employee Personal Protective Equipment
- Respiratory Protection Program and Medical Surveillance Programs
- Control Options
- State-of-the-art Work Practices
- Personal Hygiene
- Clean-up and Disposal
- Maintenance Related Removal
- Hazards Encountered During Abatement Activities
- Relevant Federal, State, and Local Regulatory Requirements
- Insurance and Liability Issues
- Recordkeeping for Asbestos Abatement Projects
- Supervisory Techniques for Asbestos Abatement Activities
- Contract Specifications
- Waste Disposal Requirement
- Post Removal Lockdown Procedures & Asbestos Substitutes
- Regulatory Review
- Glovebag Techniques for Removal of Pipe Insulation

2 Community Water System Emergency Response Plan Workshop Session 1

11/8/2021

US EPA

3.0 Contact Hours

0.3 CEUs

Topics include:

- AWIA Section 2013 Overview and Emergency Response Planning Requirements
- Using your Risk and Resilience Assessment to Complete an ERP
- CWS Emergency Planning Requirements in Comparison to AWIA Requirements

3 Community Water System Emergency Response Plan Workshop Session 2

11/9/2021

US EPA

3.0 Contact Hours

0.3 CEUs

Topics include:

- Cybersecurity Overview for Water and Wastewater Utilities
- CWS Emergency Planning Requirements
- ERP Development Concerns
- CWS Lessons Learned: Mutual Aid Benefits

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4 **Water Laboratory Alliance (WLA) Security Summit 2021**

11/16-18/2021

US EPA

13.5 Contact Hours

1.35 CEUs

Topics include:

- EPA Environmental Response Laboratory Network and Water Laboratory Alliance Overview
- Climate Change & Water Sector Resilience
- Cybersecurity
- Technology Innovation
- Resilience, Environmental Justice, and the Water Sector
- Water Resilience in Indian Country
- EPA Emergency Response Planning and the Water Sector
- Tabletop Exercise on Utility Identification of Laboratories and Methods
- Tabletop Exercise on Utility Communication with Laboratories and Other Response Partners
- Tabletop Exercise on Coordination of Shipping, Analyses and Data Reporting

5 **Tips to Mitigate Supply Chain Challenges**

11/18/2021

US EPA

1.0 Contact Hours

0.1 CEUs

This webinar will provide lessons learned from experience using the SDWA Section 1441 program: who is eligible for SDWA Section 1441, how to apply, what to expect after submitting an application, and key takeaways from recent supply chain disruptions. SDWA Section 1441 allows water agencies to obtain priority access to supplies in a nation-wide shortage.

6 **Groundwater Treatment Technologies Part 1**

2/1/2022

RCAC

2.0 Contact Hours

0.2 CEUs

Topics include:

- Membranes
- Sorption
- Ion exchange
- Precipitation
- Chemical addition

7 **Groundwater Treatment Technologies Part 2**

2/1/2022

RCAC

2.0 Contact Hours

0.2 CEUs

Topics include:

- Microbial contaminants
- Iron and manganese
- Arsenic
- Nitrate
- Uranium
- Organics
- Hydrogen sulfide

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8 **Groundwater Treatment Technologies Single Session**

2/1/2022

RCAC

2.0 Contact Hours

0.2 CEUs

Topics include:

- Microbial contaminants
- Iron and manganese
- Arsenic
- Nitrate
- Uranium
- Organics
- Hydrogen sulfide

9 **Nitrates**

2/1/2022

RCAC

2.0 Contact Hours

0.2 CEUs

Topics include:

- Nitrates basics
- Nitrates regulations
- Alternatives to nitrate removal treatment
- Health effects
- Environmental impacts
- Nitrates occurrence

10 **Regulations Basics: Water Quality Sampling**

TBD

RCAC

2.0 Contact Hours

0.2 CEUs

Topics include:

- Importance of water quality sampling
- Sampling & SDWA compliance
- System sampling plan
- Sampling required by each Rule
- Reporting sample results

11 **2022 Pacific Water Annual Conference**

2/1-3/2022

AWWA Hi/HWEA

**28 Drinking Water Topics
with full credit @ 30
minutes each or 0.05 CEUs
each individual registration**

Drinking Water Topics (full credit) include:

- City & County of Honolulu SCADA Guidelines
- Mechanical Fittings and Repairs on High Density Polyethylene Pipe
- Adventures in Regulating
- Lead in Drinking Water Testing in Hawaii Schools and Childcare Facilities
- Data Life Cycle – Road Map for Enterprise Decision Making
- UV/Chlorine AOP in Water Treatment
- Insights from 25 Years of Pilot Testing
- Filter Forensics, A Guide to Filter Surveillance Techniques
- EPA Drinking Water Regulatory Update
- Design of AWWA Ring Flanges
- Optimize Water Distribution Pipes and Water Loss with Digital Solutions
- Lead & Copper Rule Revisions: A Framework for Inventory Development
- The Story of Mahinahina's Little UV Disinfection System that Could
- Chemical Metering Pumps Systems and Accessories
- Pumps 101
- Organics Monitoring

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Drinking Water Topics (full credit) include:

- PFAS: Case Studies on Operating a Treatment Plant
- Using Statistics and Machine Learning to Inventory and Locate Lead Service Lines
- Team Communications Makes the World Go 'Round
- Preparing for the LCRR Part I
- Preparing for the LCRR Part II
- Mining for Lead: Lead and Copper Rule Revision Inventory
- Locating Abandoned Wells in Waianae Using Geophysics
- Addressing PFAS Through Source Water Assessments and Advanced Treatment
- Microplastics – Regulations, Toxicology & Testing for a New Emerging Contaminant
- Municipal Water Supply Well Design
- Nitrate Groundwater Treatment for Small Communities
- How a Centuries Old Product Still Serves Our Most Basic Needs: Ductile Iron Pipe Manufacturing

Financial Capacity Topics (no credit) include:

- Smart Benchmarking
- Building Your Bond Funding Team

Wastewater Topics (no credit) include:

- Rehabilitating Sewer Collection Assets
- Adaptive Mixing and Better Biological Nutrient Removal
- Implementing Temperature-Phased Anaerobic Digestion
- Nutrient Recovery and Struvite Mitigation
- Wastewater Cluster Systems: Circular Economy
- Cesspool Replacement Pilot
- Research and Recommendations for Source Separated Food Waste and Co-Digestion
- Leveraging Existing Facilities for Improved Biosolids Management
- The Lure of Depth-Only Measurements for I&I Assessment
- The Ubiquitous Nature and Treatment of Microplastics in Wastewater Facilities
- Operations Team Engagement, Teaching, and Empowerment
- Investigating the Source of Coastal Water Quality Impairment
- Method to Evaluate Cluster Wastewater Systems for Cesspool Replacement
- Extracellular Polymeric Substances Composition Effects on Biosorption
- Biomethane Production from Single-Use Biodegradable Food Containers
- Phytoremediation Assessment of Two Native Hawaiian Plants Under Brackish Water Conditions
- Advanced Approaches to UV System Design and Equipment Selection
- Guam Waterworks Authority NDWWTP Effluent Outfall Diffuser

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Wastewater Topics (no credit) include:

- Big Savings Through Water Reclamation Plant Optimization
- Predictive Life Cycle Analysis in Large Diameter Sewers
- Stress Testing of a Variable Clarifier Inlet
- Impact of Water Conservation on Utilities

Stormwater Topics (no credit) include:

- Development of an Approach to Better Plan for Stormwater Capture and Use
- When a Tire Additive and Ozone Mix, Unexpected Stormwater Runoff Concerns May Emerge
- Overcoming the Challenges of Microplastics in Stormwater
- Stormwater Utility for Honolulu
- Funding the Future: Treatment and Conservation of a Precious Resource
- Westminster City: Meeting Sustainability Goals through Their Stormwater Program
- Reimagining Parks as Stormwater Infrastructure

Water Resource Topics (no credit) include:

- Optimization of CIP for Enhanced Climate Resiliency

Repeating Courses

12 Chlorine Analysis for Drinking Water (Proficiency Test)

HRWA

4.0 Contact Hours

0.4 CEUs

Topics include:

- Requirements for Chlorine Residual Testing
- Mechanism for Chlorine Residual Testing
- Conducting Chlorine Residual Testing Using DPD Colorimetric and KI/Sulfamic Acid Titration
- Chlorine Proficiency Test

13 Causes of Taste and Odor

HRWA

4.0 Contact Hours

0.4 CEUs

Topics include:

- Importance of Taste and Odor Control
- Causes of Taste and Odors
- Locating Taste and Odor Sources
- Prevention of Taste and Odors
- Taste and Odor Treatment
- Identifying a Taste and Odor Problem
- Developing a Taste and Odor Control Strategy

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14 **Source Water Treatment, Reservoir Management and Intake Structures**

HRWA

6.0 Contact Hours

0.6 CEUs

Topics include:

- Importance of Water
- Sources of Water
- Selection of a Water Source
- The Safe Drinking Water Act
- Water Treatment
- Importance of Reservoir Water Quality Management
- Causes of Water Quality Problems
- Purposes of Reservoir Management Programs
- Methods of Reservoir Management

15 **Comprehensive Review of Drinking Water Regulations, Rules, Standards, and Procedures**

HRWA

6.0 Contact Hours

0.6 CEUs

Topics include:

- History of Drinking Water Regulations
- How EPA Develops Drinking Water Standards
- Primary Drinking Water Standards
- Secondary Drinking Water Standards
- Sampling Procedures
- Reporting Procedures
- Notification Requirements
- Recordkeeping
- Consumer Confidence Reports

16 **Advanced Water Treatment Training**

HRWA

6.0 Contact Hours

0.6 CEUs

Topics include:

- Water Treatment
- Reliability & Sustainable Water Supply
- Advanced Water Treatment
- Instrumentation and Controls
- Advanced Water Treatment Processes
- Water Treatment
- Ancillary Processes Associated with Advanced Water Treatment
- Multiple Barriers

Correspondence/Online Courses

17 **4004 Water Loss Control**

Water Otter

2.0 Contact Hours

0.2 CEUs

Topics include:

- Utilities and Leaks
- Leak Detection Equipment
- Waves and Other Methods
- Controlling Apparent Water Losses

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18 **Basic Water Works**

HRWA/Suncoast
10.0 Contact Hours
1.0 CEUs

Topics include:

- Operation of a Water Utility
- Water Characteristics
- Water Quality Standards
- Disinfection
- Ground Water and Wells
- Surface Water Production
- Distribution
- Safety

19 **Chemical Feed Systems & Pump Calibrations**

HRWA/Suncoast
5.0 Contact Hours
0.5 CEUs

Topics include:

- Chemical Feed System Designs
- Gas Feed Calibrations
- Dry or Powder Feed Pump Calibrations
- Liquid Feed Calibrations
- Liquid Feed Calibrations II – Diaphragm Pumps

20 **Chlorinator Systems & Chemical Handling**

HRWA/Suncoast
10.0 Contact Hours
1.0 CEUs

Topics include:

- History of Chlorination
- Chemical Handling and Safety
- Physical and Chemical Properties of Disinfectants
- Process Applications
- System Types
- Injectors/Ejectors
- Containers and Connections
- Gas Chlorinators and Switchovers
- Maintenance and Troubleshooting
- Chlorination Math

21 **Customer Service Inspection & Cross-Connection Control**

HRWA/Suncoast
5.0 Contact Hours
0.5 CEUs

Topics include:

- Cross-Connections and Their Regulation
- Cross-Connection Identification
- Cross-Connection Control Measures
- Lead Control Measures
- Program Implementation

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22 **Drinking Water Filtration, A-Z**

HRWA/Suncoast
15.0 Contact Hours
1.5 CEUs

Topics include:

- Introduction to Filtration
- Theories of Flocculation, Coagulation and Sedimentation
- Jar Testing
- Calculating Stock Solutions for Jar Testing
- Creating Liquid Stock Solutions
- Basic Flocculation & Sedimentation Design and Operations
- Advanced Flocculation and Sedimentation Design and Operations
- Filtration Design
- Filtration Operations

23 **Maintaining Water Quality in Distribution Systems**

HRWA/Suncoast
16.0 Contact Hours
1.6 CEUs

Topics include:

- Distribution System Components
- Distribution Pipe Integrity
- Reservoirs and Storage Tanks
- Distribution Design and Operations
- Routine Distribution Maintenance
- Assessing Distribution Quality
- Water Quality in Commercial Building Troubleshooting Water Quality Complaints

24 **Practical Personnel Management (Water Board Bible)**

HRWA/Suncoast
7.0 Contact Hours
0.7 CEUs

Topics include:

- Personnel Management Overview
- Team Culture
- Coping with Employee Laws
- Customers and the Law
- First You Have to Hire-em
- Supervision, the Toughest Job of All
- Handling Conflict on the Job
- Keeping Employees Skills Sharp
- The two Great Flavors of Compensation
- The Pros and Cons of Contracting
- Customer Relations and the Future

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25 **Pump and Motor Maintenance**

HRWA/Suncoast
16.0 Contact Hours
1.6 CEUs

Topics include:

- Developing a Maintenance Program
- Prime Movers; Electric Motors and Motor Controls
- Centrifugal Pump Mechanics
- Centrifugal Pump Hydraulics
- Lubrication
- Bearings
- Compression Packing
- Mechanical Seals
- Positive Displacement Pumps
- Special Pumping Units
- Water Utilities Safety

26 **Small Water Systems 1**

HRWA/Suncoast
12.0 Contact Hours
1.2 CEUs

Topics include:

- Small Water Systems
- Drinking Water Sources
- Safe Water Drinking Act
- Well Requirements
- Water Storage Systems
- Chlorination and Disinfection

27 **Small Water Systems 2**

HRWA/Suncoast
10.0 Contact Hours
1.0 CEUs

Topics include:

- Small Water Systems
- Demineralization
- Coagulation and Flocculation
- Sedimentation
- Aeration
- Stabilization
- Softening
- Compliance and Disinfectant Byproduct Rule
- Centrifugal Pump Maintenance
- Cross-Connection and Backflow Prevention
- Water Plant and Basic Chemistry
- Water Plant Operators Math

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28 **Surface Water Production 1**

HRWA/Suncoast
10.0 Contact Hours
1.0 CEUs

Topics include:

- Public Health Protection
- Source Water Management
- Steps to Complete Treatment
- Evaluation of Raw Water Quality
- Physical and Chemical pretreatment
- Coagulation
- Flocculation
- Sedimentation
- Filtration
- Filter Operation
- Disinfection
- Storage

29 **Surface Water Production 2**

HRWA/Suncoast
10.0 Contact Hours
1.0 CEUs

Topics include:

- Source Water Management
- Elements of Optimization
- Optimization Techniques for Treatment Units and Alternative Disinfectants
- Alternative Filtration Methods
- Disinfection Byproduct Control
- Taste and Odor Control
- Enhancing Water Quality by Special Treatment Processes
- Supervisory Control and Data Acquisition
- Surface Water Treatment
- Laboratory Methods
- Plant Records

30 **Surface Water Treatment**

HRWA/Suncoast
10.0 Contact Hours
1.0 CEUs

Topics include:

- Surface Water Sources
- Treatment of Surface Water
- Coagulation and Flocculation
- Alkalinity and pH Adjustment
- Filtration
- Disinfection

31 **Understanding the Stage 2 Disinfection By-Product Rule for Small & Medium and NTNC Systems**

HRWA/Suncoast
10.0 Contact Hours
1.0 CEUs

Topics include:

- Disinfection By-Product Formation and Treatment
- Stage 2 Disinfection By-Product Regulations
- Stage 2 Disinfection By-Product Rule Calculations & Reporting

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- 32 **Understanding the Revised Total Coliform Rule and the Groundwater Rule**
HRWA/Suncoast
14.0 Contact Hours
1.4 CEUs
- Topics include:
- Intent of the Total Coliform Rule
 - Understanding the Revised Total Coliform Rule
 - Developing and Monitoring a Sample Siting Plan
 - Minimizing Coliform Activity
 - Repairing and Disinfecting Main breaks
 - Disinfecting Storage Tanks
 - Conducting Total Coliform Assessments
 - Assessment Investigation Tools
 - Understanding the Groundwater Rule
- 33 **Water Disinfection**
HRWA/Suncoast
6.0 Contact Hours
0.6 CEUs
- Topics include:
- Understanding Disinfection
 - Chlorine Disinfection Process
 - Chlorine Disinfection Facilities and Operation
 - Records Reporting and Safety
 - Chlorine Alternatives
- 34 **Water Transmission and Distribution**
HRWA/Suncoast
6.0 Contact Hours
0.6 CEUs
- Topics include:
- Problem Considerations in Pipes Used
 - Pipe Installation, Maintenance and Repair Requirements
 - Valves and Fire Hydrants in Water Distribution Systems
 - Water Storage, Tank Maintenance & Repairing Mains
 - Service Lines, Water Meters, and Basic Hydraulics
- 35 **Achieve & Maintain Compliance with SDWA CA Sanitary Surveys**
AWWA CA-NV
2.0 Contact Hours
0.2 CEUs
- This session includes: the importance of the microbial contaminants in drinking water, the primary pathways of how microbial contamination can enter the water system, and what actions a water system can take to prevent microbial contamination.
- 36 **Achieve & Maintain Compliance with SDWA Total Coliform Rule**
AWWA CA-NV
2.0 Contact Hours
0.2 CEUs
- This session includes: a basic understanding of the source of microbial contaminants in drinking water, how to monitor a water system for microbial contaminants, and what actions are required if microbial contamination is found.
- 37 **WTT: Distillation**
CEU Plan
2.0 Contact Hours
0.2 CEUs
- This course will review one of the oldest techniques for actually purifying water, distillation. Distillation includes any water purification technique in which the physical state of the water is changed allowing it to be physically separated from its dissolve contaminants.

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Mainland Courses

38 **2021 AWWOA Water Week Conference**

11/1-3/2021

AWWOA

9.17 Contact Hours

0.917 CEUs

Topics included:

- Introduction to Electrical/Instrumentation Drawings
- Where and When of Water Treatment Processes
- Influent Flow and Its Impact on Granular Media Filters
- Understanding Control System Documentation
- Filtralite - Expanded Clay Media
- Jar Testing Methodology
- Cloud Based SCADA
- Journey from Design to Commissioning
- Incident Safety Awareness