THE WATER SPOT

HAWAII STATE DEPARTMENT OF HEALTH ♦ SAFE DRINKING WATER BRANCH

EMERGENCY RESPONSE PLANNING NOW, MORE THAN EVER

The back-to-back Kauai flood event in April and Big Island volcanic activity starting in May have underscored the importance of emergency preparedness for water systems across the state of Hawaii. Water systems should seriously consider looking at their vulnerabilities and begin planning for various worst-case scenarios, as scientists warn of more frequent and intense natural events in the coming years. An emergency response plan, or ERP, achieves this objective.

Emergency response plans typically include:

1. An inventory of affected infrastructure

Typical assets	Often overlooked assets
♦ finished water storage tanks	♦ vehicles
♦ wells/shafts/tunnels	♦ emergency generators
♦ transmission & distribution pipelines	♦ emergency connections to other systems
♦ booster pump stations	♦ computers/servers/maps
♦ water treatment plants	♦ SCADA systems
♦ raw water reservoirs	♦ access roads
♦ rain catchment surfaces	
♦ chemicals	

2. Emergency contacts

Maintain an up-to-date contact list of your water system personnel, board members, first responders and support agencies/contractors, i.e., plumbers, electricians, approved water haulers, chemical suppliers, backup operator personnel, and neighboring water systems. This part of the plan must be more than a list of phone numbers and generic agency names. *It is imperative that the listed contacts have a working knowledge of your water system's infrastructure and operations, and a familiarity with your critical personnel, so that they can effectively perform their role for your system in an emergency.* For example, the County fire department should be able to find the water system's administrative office or main contact's address and know that its vehicles can safely access all of the critical infrastructure via the water system's roadways, including locked access gates.

3. System-specific response plans

Develop responses for the following events as applicable:

- ♦ heavy rains/flooding
- ♦ high wind events
- ♦ earthquakes
- ♦ brush fires
- ♦ nuclear threat
- ♦ volcanic events (lava, air quality)
- ♦ power outages
- ♦ major well or waterline disruptions
- ♦ sudden unavailability of water system personnel

See Emergency Response, Page 2

VOLUME 22, ISSUE 3 JULY 2018

In this issue:

EMERGENCY RESPONSE

CONTINUED FROM PAGE 1

Such responses should include pre-event planning, ERP activation during an event, and post-event response, both short-term and long-term.

Response phase	Examples
Pre-event planning	♦ update your ERP annually ♦ perform emergency exercises ♦ check the working operation of all facilities ♦ keep adequate chemical supplies nearby ♦ top off storage reservoirs (for an imminent event) ♦ clear brush and trees around access roads ♦ test emergency sources every 5 years for the full suite of drinking water contaminants (ask SDWB) ♦ touch base with first responders and support agencies/contractors
Upon ERP activation	♦ follow communication protocols ♦ assess and react to priority needs ♦ send out conservation or boil water notices ♦ coordinate with first responders and support agencies/contractors ♦ sample water quality of sources and distribution system to complete repairs and bring them back on line
Post-event response	♦ maintain conservation, as necessary ♦ continue to communicate status to system users and emergency response agencies ♦ assess actions and outcomes during the ERP activation (long-term)

4. Communication protocols

Communicating timely and accurate information to the water system's administrative and operations personnel, system users, emergency response agencies and the media is of utmost importance. ERP communication protocols should include:

- A communications chain of command with identified responsibilities for each person or position
- Communications protocols between first responders and emergency response agencies
- A system of user notifications for evacuations, boil water notices, conservation, or any other emergency related communications
- Water system administration protocols for handling media requests

5. Mutual aid agreement opportunities

The SDWB encourages mutual aid agreements between water systems or government agencies to identify and share resources like water (e.g., emergency connection), personnel, generators, construction equipment, water hauling equipment, chemicals, small pumps, piping and repair parts. Such agreements can be formal written documents or of the informal "handshake" variety. More formalized agreements should include procedures for requesting assets, providing reimbursement, transportation costs and housing of personnel.

SEE EMERGENCY RESPONSE, PAGE 3

ERP

EMERGENCY RESPONSE

CONTINUED FROM PAGE 2

Water system ERPs should be initially reviewed by the SDWB to maintain Statewide consistency. A system's ERP should be updated, as a minimum, every year, and after every activation to assess the plan's effectiveness.

Resources for assessing a water system's vulnerabilities and starting emergency response planning are available from local circuit riders – Rural Community Assistance Corporation (RCAC), Hawaii Rural Water Association (HRWA), and United States Environmental Protection Agency websites. Of course, you may contact the SDWB at any time to talk about emergency response planning for your specific system.

Stay safe and vigilant out there!

TRAINING & RESOURCES

Online Training

HRWA now offers
5 approved, online operator training courses
powered by

SunCoast Learning Systems

Go to www.suncoastlearning.com & click on the State of Hawaii

SMALL WATER SYSTEM OPERATOR RESOURCES

The United States Environmental Protection Agency (US EPA) has created tools and templates for small water system operators to utilize in their mission to safeguard public health and provide safe drinking water. These resources are free to use and available on the US EPA website:

www.epa.gov/dwcapacity/resources-small-public-water-system-operators

The ***Knowledge Retention Tool*** is an excel spreadsheet that incorporates all of your system information into one location. This tool can be used to capture valuable knowledge and expertise from the current operators in order to pass it on to new hires for a smooth transition.

The ***Electronic Preventive Maintenance Logs*** include fillable pdf logs which assist operators in planning and documenting their daily, weekly, monthly and annual operation and maintenance tasks.

Download these interactive tools today to assist you in maintaining Safe Drinking Water Act compliance.

DSO PASS RATE OF 24% FOR NEW EXAM

The first group of examinees to take the new standardized exams from the Association of Boards of Certification (ABC) sat for the Distribution System Operator (DSO) exam in April. The exam was held on all islands including Molokai and Lanai. The overall pass rate was 24%. Details can be found in the table.

Grade	Passed	Examinees	Passing Rate
1	7	21	**33%**
2	3	16	**19%**
3	3	11	**27%**
4	2	14	**14%**
Total	15	62	**24%**

Congratulations to those who passed! Thank you to those who took the time to study the new Need-to-Know Criteria and training material that was created for exam preparation.

For those who would like to re-take the exam in October, please submit your exam registration form and applicable fee by July 24, 2018 to our Pearl City office at 2385 Waimano Home Rd., Suite 110, Pearl City, HI 96782.

EQUIPPING OPERATORS WITH SKILLS TO MANAGE AND OVERCOME TESTING ANXIETY

TOM HEALY, PROGRAM MANAGER
ASSOCIATION OF BOARDS OF CERTIFICATION

We have all experienced it, that feeling of dread and foreboding before taking an exam; a myriad of scenarios running through your head outlining the worst possible outcomes.

These feelings of testing anxiety are very real and can have detrimental effects on an operator's exam performance. In fact, a recent survey of operators conducted by the Ohio Water Environment Association found that nearly 30 percent of respondents cited testing anxiety as a main cause for not passing the exam.

To examine why testing anxiety is such a prevalent phenomenon, especially in high stakes vocational testing such as an operator certification exam, I spoke with Dr. Ian MacFarlane of Elizabethtown College. Dr. MacFarlane is an Assistant Professor of Psychology, as well as a clinical psychologist. With more than 1,000 hours of therapy work with college students and adults, he has helped countless individuals recognize and overcome testing anxiety.

Why do operators worry?

Taking a certification exam is different from a high school biology or chemistry final: the stakes are exponentially higher. Psychologically, operators may feel that taking an exam related to their everyday job duties raises a question about their professional competence. This spark of anxiety will be fanned further if a passing score on the exam is mandated for their current job or required for promotion potential.

When asked how test anxiety manifests, Dr. MacFarlane pointed to both cognitive and physical (or somatic) symptoms stating, "The most detrimental effects of anxiety are cognitive. The human brain is lim-

SEE TESTING ANXIETY, PAGE 5

TESTING ANXIETY

CONTINUED FROM PAGE 4

ited to a certain amount of processing power at one time. The more your brain is occupied with the anxiety of the exam, the less ability it has to process the exam content. It would be akin to going into a wrestling match with one hand tied behind your back. Anxiety is a 'mental suck' or leech draining your brain power and limiting your ability to recall information or facts that might be as familiar to you as the names of your parents."

One particularly common manifestation of testing anxiety Dr. MacFarlane cited is detachment–an operator is likely to avoid the discomfort of test anxiety by simply not thinking about the exam. He noted, "This can be quite detrimental as this avoidance loop can cause you to disengage from exam preparatory practices which can seriously hinder performance on the exam."

Other effects of anxiety can be seen as physiological symptoms such as nausea, stomach cramps, or lightheadedness. To explain this, Dr. MacFarlane offered, "Our bodies lack the ability to differentiate between real life and mental simulations. So if we are extremely worried or anxious about something, our minds can create physiological manifestations that are directly associated with the negative mental simulations."

Why do operators who excel in their jobs perform poorly on the exam?

Even though the exam is measuring the knowledge and application of tasks that an operator performs daily, while in the testing environment, they lose the contextual cues that would normally assist them in everyday operations. Without those additional sources of information, operators must work harder to draw parallels between the tasks on the exam and the tasks they perform in their job. In other words, because an operator is not being tested in the environment in which he/she normally performs a task (a water or wastewater system), it can be difficult to recognize and solve the same problem in a test environment.

What can operators do to help with testing anxiety?

Practice, Practice, Practice

There is no better way of reducing test anxiety than to spend an adequate amount of time preparing and practicing. Test-taking is a skill—one that must be practiced and honed. Dr. MacFarlane noted that in many cases, due to inefficient study techniques, people have a tendency to work on areas in which they are already proficient and to avoid areas that could use improvement. Operators should make better use of their study time by taking periodic practice tests to help gauge the areas they need to work on. As an added benefit, the practice tests will train them to work under the pressure of a time constraint. Because the time limit on most certification exams can create a state of panic, it is important that operators learn to perform under these stressors and to control the feelings of unease.

Don't "cram"…

Countless studies have been done over the years on the ineffectiveness of "cramming," or waiting until the last available opportunity to study for an exam. Say an operator spends the last six hours before the exam reviewing material. It is easy for them to think that they have eve-

SEE TESTING ANXIETY, PAGE 6

TESTING ANXIETY

CONTINUED FROM PAGE 5

rything committed to memory; the material is "fresh" in their mind. The reality is that nothing could be further from the truth. Reviewing this way gives an operator a familiarity with the material, meaning he/she will be able to recognize it when they see it on paper. Unfortunately, the ability to recognize concepts is not the same as being able to recall it. The ability to recall or reconstruct information accurately when an operator needs it requires exposure to the information over a long period of time.

The best course of action is to build a study plan that spans the course of several weeks prior to the exam. The more time an operator spends reorganizing the material so it has a structure, the more likely they are to commit the information to long term memory. Operators should aim for 45-60 minutes per day with their study material for at least six weeks prior to the exam.

How can an operator cope with anxiety on test day?

Even the most prepared test takers can feel anxiety on test day, but there are proven methods to counteract the effects. Operators should start with getting adequate sleep the night before. Studies have shown that people perform better on memory tasks when they are well rested. Some people will suffer from interrupted sleep when particularly worried about something. To help with this, operators can try exercising for 30 minutes before bed. Doing so will help their bodies release excess cortisol (stress hormone) in their systems caused by anxiety and will allow them to sleep better.

An operator should ensure their body is well nourished the day of the exam. This means: do not skip breakfast and eating healthy foods such as grains or fruit, and avoiding foods with high fat content. The goal here is to eliminate as many distractors as possible so an operator can dedicate all of their attention to the exam. If an operator is tired or his/her body does not have enough fuel, it can drastically hinder their performance.

Breathing – The 5-5-7 Method

During the exam, it can be extremely beneficial to stop at regular intervals (perhaps every five questions) and take deep breaths. The 5-5-7 is a breathing exercise performed by inhaling for five seconds, holding your breath for another five seconds, then exhaling for seven seconds.

Dr. MacFarlane suggested that completing this exercise at regular intervals during a test session can physiologically stimulate the central nervous system, which can heighten an operator's awareness and push anxiety from their mind. He also stressed the importance of practicing this technique for several weeks prior to the exam during their preparation, saying "The more practiced you are in this technique, the more effective it will be during exam time. Your body and mind will have a Pavlovian response to the exercise which increases its effectiveness."

Muscle Relaxation

Another proven technique outlined during our discussion was progressive muscle relaxation, or PMR. This is done by deliberately applying tension (by clenching) to certain muscle groups and then releasing the induced tension. During this pro-

SEE TESTING ANXIETY, PAGE 7

TESTING ANXIETY

CONTINUED FROM PAGE 6

cess, all of an operator's attention should be focused on how their muscles feel as the tension is released. As operators learn to distinguish the feelings of a tense muscle as compared to a completely relaxed one, they are able to recognize the physical effects anxiety has on their bodies and can quickly alleviate it with this technique. Operators should be encouraged to practice PMR both when preparing for the exam and on the day of testing. They should spend 15-20 minutes at a time performing this technique on their major muscle groups (feet, legs, hands, arms, neck, and shoulders) and it will help mitigate anxiety.

The Bottom Line

While these methods have been shown to help with anxiety, they may not work for everyone. There are many more techniques that may offer relief, and operators can use these tips as a starting point to find what works best for them. Above all, operators should make sure they spend adequate time studying and reviewing the material. The better command they have of the content, the less anxious they will be about the exam, and the better they will perform.

Healy, T. (2018). Equipping operators with skills to manage and overcome testing anxiety. *The Certifier*, Spring 2018, 6-7.

THANK YOU, GALEN

Galen Shigeta served as a member on the Board of Certification of Public Water System Operators since November 2015. His last meeting was on May 22, completing his service for a single term.

Galen has over twenty years of experience in the water industry and is currently the Water Plant Operator for the County of Kauai, Department of Water. His knowledge about operations brought valuable insight to the Board and his willingness to serve demonstrated his commitment to his profession and the certification of drinking water system operators.

Thank you, Galen!

Galen Shigeta

AUGUST 28, 2018
10:00 A.M.

MEETING

Board of Certification
of
Public Water System Operators

LOCATION

2385 Waimano Home Road
Uluakupu Building 4
Pearl City, Oahu

BOARD MEMBERS

Glenn Ah Yat
Mark Prescott
Jodi Yamami

Quarterly Calendar

- **7/10 CT Report Due**
  Surface Water Systems
- **7/10 MRDL Report Due**
  Disinfection Systems who complete their own tests
- **7/10 TCR Report Due**
  Systems who complete their own tests
- **7/10 Enhanced Coagulation Report Due**
  Conventional Treatment Systems
- **7/10 Chemical Quarterly Monitoring Report Due**
  Systems with quarterly monitoring requirements
- **7/23-24 WTPO Exam**
  Kona, Maui, Oahu, & Hilo
- **7/23 DSO Applications Due**
  October Examinees
- **8/10 CT Report Due**
  Surface Water Systems
- **8/10 TCR Report Due**
  Systems who complete their own tests
- **8/23 DSO Exam Registrations Due**
  October Examinees
- **8/28 Board of Certification Meeting**
  SDWB Pearl City, 10:00 am
- **9/10 CT Report Due**
  Surface Water Systems
- **9/10 TCR Report Due**
  Systems who complete their own tests
- **9/30 Lead & Copper Monitoring Period Ends**
  Systems on annual sample collection schedules

July 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	*2*	*3*	*4* HOLIDAY	*5*	*6*	*7*
8	*9*	*10* CT Report Due, MRDL Report Due, TCR Report Due, Enhanced Coagulation Report Due, Chemical Quarterly Monitoring Report Due	*11*	*12*	*13*	*14*
15	*16*	*17*	*18*	*19*	*20*	*21*
22	*23* Kona & Maui WTPO Exam, DSO Applications Due	*24* Oahu & Hilo WTPO Exam	*25*	*26*	*27*	*28*
29	*30*	*31*				

August 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	*2*	*3*	*4*
5	*6*	*7*	*8*	*9*	*10* CT Report Due, TCR Report Due	*11*
12	*13*	*14*	*15*	*16*	*17* HOLIDAY	*18*
19	*20*	*21*	*22*	*23* DSO Exam Registrations Due	*24*	*25*
26	*27*	*28* Board of Certification Meeting	*29*	*30*	*31*	

September 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	*3* HOLIDAY	*4*	*5*	*6*	*7*	*8*
9	*10* CT Report Due, TCR Report Due	*11*	*12*	*13*	*14*	*15*
16	*17*	*18*	*19*	*20*	*21*	*22*
23	*24*	*25*	*26*	*27*	*28*	*29*
30 Lead & Copper Monitoring Period Ends						

HAWAII STATE DEPARTMENT OF HEALTH SAFE DRINKING WATER BRANCH

Uluakupu Bldg. 4
2385 Waimano Home Rd., Suite 110
Pearl City, HI
96782-1400

Tel: 808 586-4258
Fax: 808 586-4351
E-mail: SDWB@doh.hawaii.gov

The mission of the Safe Drinking Water Branch of the Department of Health is to safeguard public health by protecting Hawaii's drinking water sources (surface water and groundwater) from contamination and assure that owners and operators of public water systems provide safe drinking water to the community. This mission is accomplished through the administration of the Safe Drinking Water Program, Underground Injection Control Program (UIC), Groundwater Protection Program (GWPP), and the Drinking Water State Revolving Fund (DWSRF).

We're on the Web!

http://health.hawaii.gov/sdwb/

We provide access to our activities without regard to race, color, national origin (including language), age, sex, religion, or disability. Write or call our Affirmative Action Officer at Box 3378, Honolulu, HI 96801-3378 or at 808 586-4616 (voice) within 180 days of a problem.

STEVEN MATSUDA RETIRES

Steven Matsuda walks out the door for the last time.

In the blink of an eye, literally, Steven Matsuda of the Monitoring Section retired from the State of Hawaii on May 31. During his 30 years with the State, Steven worked at the Department of Agriculture before joining the SDWB. When asked what he was going to do in retirement he said, "I'll watch TV and do nothing!"

Steven, you are very appreciated and will be deeply missed. Thank you for everything you have done in making our jobs at the SDWB more efficient. Congratulations on your retirement!

SDWB'S MAILING ADDRESS CHANGE

The United States Postal Service (USPS) has officially changed the mailing address for the Safe Drinking Water Branch Pearl City office. Please immediately address all correspondence to the following address:

Department of Health/Safe Drinking Water Branch
Uluakupu Bldg. 4
2385 Waimano Home Road, Suite 110
Pearl City, HI 96782-1400

USPS has stated that mail received without this above address will be returned as "Insufficient Address". We are sorry for any inconvenience this may have caused.