Aqua Talk

A newsletter from the Safe Drinking Water Program

COLORADO
Department of Public Health & Environment

Disinfection outreach and verification effort update

Volume 9, Issue 2
Spring 2015

by Doug Camrud, engineering section

In the summer of 2014 issue of Aqua Talk, the Water Quality Control Division presented its special project titled *Disinfection Outreach and Verification Effort*. The department tackled this project due to the number of surface water treatment facilities, including those treating groundwater under the direct influence of surface water, that were discovered to have inadequate surface water treatment and disinfection inactivation capabilities. As stated in the article, beginning fall of 2014 and continuing for 18 months, the department will arrange an on-site visit to each surface water and groundwater under the direct influence of surface water treatment facility to evaluate and verify log inactivation and treatment credits. As of March 2015, the department has conducted numerous site visits and encountered several common issues that impact treatment and disinfection log inactivation treatment credits. There are several frequently encountered issues:

Incorrect treatment system classification. Direct filtration treatment facilities classified as conventional filtration.

Lack of actual temperature and pH measurements. Temperature and pH values used in a system's contact time calculation do not represent actual concurrently measured lowest temperature and highest pH values for a minimum chlorine system.

Issues with baffle factors. Historical baffling factors overestimate the capability of disinfection clearwells/storage tanks and are not supported through existing literature or a

(Continued on page 6)

Message from the Safe Drinking Water program manager

Why pursue excellence?

by Ron Falco, P.E., Safe Drinking Water Program manager

Why would a public drinking water system pursue excellence? Recognition? Awards? Perks? I don't believe that public drinking water systems should pursue excellence for any of these reasons alone. We should pursue excellence to provide the safest water possible to the public. Aside from taste tests and other competitions available at conferences public drinking water systems do not typically have to compete for customers like a traditional business. However, water systems do face similar pressures to control costs and probably much greater pressure to satisfy public demand and concerns. So who is our competition? I believe that our competition today is ourselves from yesterday. We should always strive to improve.

We know from past waterborne disease outbreaks that it only takes a little contamination to create a big problem. We need each of the multiple barriers to be in place and performing well to protect against an unforeseen circumstance that may compromise one or more barriers. Pursuing excellence can help to achieve a robust level of safety.

Distilled to its core, pursuing excellence involves setting improvement goals, planning to achieve those goals, taking steps to get there and measuring progress along the way. The safe drinking water pursuing excellence program is designed to encourage public drinking water systems who want to do exactly that. We'll help you every step of the way. And at the end you may receive recognition, awards and perks. I believe that pursuing excellence is one of the loftier aspects of the human condition and providing people with the safest drinking water possible is a worthwhile pursuit with its own, much deeper rewards.

Governor John Hickenlooper signed a proclamation declaring May 3 to 9 as Colorado Drinking Water Week, and recognizing the systems participating in the pursuing excellence awards program is an integral part of Drinking Water Week celebrations. We will present each participant with an award, and feature one of the participants on the program's webpage. In addition the department is working with Denver public libraries to offer informational brochures. Also, for anyone outside of the Denver Metro area who is interested in getting more information about drinking water, the department is running a social media campaign with different Facebook posts each day. These posts will cover a variety of topics, and will have links to articles to help people get more information on different facets of drinking water.

Learn more and join the pursuing excellence program by visiting our web page at www.colorado.gov/cdphe/wqcd and enter excellence program in the search box or contact Kaitlyn Minich at 303-691-4084 or kaitlyn.minich@state.co.us.

Thank you.

WQCD division director

by Jacki Main, local assistance unit

Patrick Pfaltzgraff joined the Water Quality Control Division as the director on Dec. 1, 2014. Pfaltzgraff holds a Bachelor of Arts and Juris Doctorate from the University of Nebraska. In addition, he received a Master of Laws in Environmental Law from George Washington University and a Master in Business Administration from the University of Denver, Daniels College of Business. Pfaltzgraff served in the United States Air Force as an aircrew member, aircraft technician and in the Judge Advocate General's Corps. He rose through the ranks from lowest enlisted rank through field grade officer, gaining upper level manager status. He was awarded numerous medals, awards and commendations for peacetime and combat operations including Iraq and Afghanistan. Pfaltzgraff had a successful record for managing complex organizations, supervising military and civilian personnel. After his 23 year military career, he joined the Colorado Attorney General's office as a legal advisor covering a broad spectrum of environmental law and policy issues. His focus was on water quality law and policy, providing counsel for the Water Quality Control and Hazardous Materials Waste Management Divisions. As division director, Pfaltzgraff will provide high level policy advice to the department's executive director, Larry Wolk, regarding major water quality policy matters. He is responsible for establishing and operating management and organizational systems and assuring integration of multi-disciplinary programs. ♦

Correction to winter Aqua Talk

by Armando Herald, local assistance unit

On Page 4, there are two corrections in the article *Long-term surface water treatment: Round 2*:

"Systems serving less than 10,000 people must sample all surface water sources for cryptosporidium, E. coli and turbidity at least monthly for 24 consecutive months. Systems serving more than 10,000 people must sample all surface water sources for E. coli at least once every two weeks for 12 consecutive months."

These sentences should read:

"Systems serving more than 10,000 people must sample all surface water sources for Cryptosporidium, E. coli and turbidity at least monthly for 24 consecutive months. Systems serving less than 10,000 people must sample all surface water sources for E. coli at least once every two weeks for 12 consecutive months.

We apologize for any confusion this may have caused. ♦

Trench safety

by Tom Valenta, local assistance unit

With winter behind us and peak construction season quickly approaching, worker safety should be a top priority. Repairing and replacing water and sewer lines often requires digging trenches. Before working around and/or entering any trenches, make sure all safety precautions are set in place and followed. A few tips to keep in mind:

- Before commencing any dig, call 811 for utility locations.
- Keep heavy equipment away from the edge and surcharge loads at a minimum of two feet away from edge.
- Trenches five feet and deeper may require a protective system.
- Test for low oxygen and toxic gases before entering.
- Conduct a trench inspection at the start of each shift and after any precipitation event.
- Always work with a partner. ♦

Baca County communities: Protecting drinking water sources

by Colleen Williams, Colorado Rural Water source water specialist

Baca County communities in southeastern Colorado are taking the lead with source water protection. During 2012-2013, I had the pleasure of working with the towns of Campo and Springfield helping them each develop a source water protection plan to protect their drinking water sources from potential contaminants. Both towns are located south of Lamar along U.S. Route 287, a major north/south truck route that extends from Texas to Wyoming.

These small rural towns are in the high plains where the climate is semi-arid. Lately they've been in a severe drought. This area was affected by drought and the dust bowl during the 1930s. Most rainfall is soaked up by the soil because of the relatively flat topography and porous soils. The evaporation rate in the high plains is high, resulting in a limited amount of recharge to the ground water aquifers.

Groundwater aquifers

Like most folks in the eastern part of the state, Campo and Springfield obtain drinking water from groundwater wells. Both towns have wells drilled into the Dakota aquifer group. Springfield also draws from the Ogallala aquifer. The Ogallala aquifer, also called the high plains aquifer, is a shallow, unconfined aquifer underlying a large part of Baca County. It is recharged from rainfall infiltrating from the ground surface. The Ogallala aquifer, which provides 30 percent of the groundwater used for irrigation in the U.S., is steadily being depleted with estimates of a drop of 30 feet per year. As groundwater levels from this aquifer drop further from increased demand, irrigators may drill wells into the deeper Dakota aquifer group for another water source to sustain their agricultural needs.

<table>
<tr><th colspan="2">GEOLOGIC FORMATION</th><th colspan="2">HYDROSTRATIGRAPHY</th></tr>
<tr><td colspan="2">Dune Sand, Loess and Alluvium</td><td colspan="2" rowspan="2">High Plains (Ogallala) and Alluvial Valley Aquifer</td></tr>
<tr><td colspan="2">Ogallala Formation</td></tr>
<tr><td colspan="2">Colorado Group</td><td colspan="2">Upper Cretaceous Aquitard</td></tr>
<tr><td colspan="2">Dakota Sandstone</td><td>Upper (Dakota)</td><td rowspan="3">Dakota Aquifer</td></tr>
<tr><td rowspan="2">Purgatoire Formation</td><td>Kiowa Shale</td><td>Kiowa Shale Aquitard</td></tr>
<tr><td>Cheyenne Sandstone</td><td>Lower (Cheyenne)</td></tr>
<tr><td colspan="2">Morrison Formation</td><td colspan="2" rowspan="2">Morrison-Dockum Aquifer</td></tr>
<tr><td colspan="2">Dockum Group</td></tr>
</table>

Source: Regional Dakota Aquifer Hydrostratigraphy, P.A. Macfarlane, 1996

The Dakota aquifer group is composed of the Dakota and Cheyenne aquifers that lie beneath the Ogallala aquifer. These aquifers are confined aquifers, meaning they are covered by an impermeable or semi-permeable layer of rock. The Dakota aquifer overlays the Kiowa shale layer, which overlays the Cheyenne sandstone aquifer in much of Baca County confining the water in the Cheyenne under artesian pressure. The hydrostratigraphy of central and eastern Baca County is illustrated above and can demonstrate how the aquifer layers underground are situated.

The groundwater aquifers in Baca County are recharged mainly by precipitation within the county or in nearby areas to the west. Once this water becomes part of the groundwater it moves in the direction of the downward slope of the water table, in a generally eastward flow.

(Continued on page 5)

Baca County communities

(Continued from page 4)

Potential contaminant sources

During the process of developing the protection plans, potential contaminant sources were identified by the planning teams within each of their source water protection areas. State and federal databases were used as well as local knowledge of the protection area. Other concerns within the protection area were added to the inventory that may cause contamination of the drinking water sources. The issues of concern to Campo and Springfield include: transportation corridor spills, leaky fuel storage tanks, stormwater runoff, residential practices, drought, future oil/gas development, private water wells, wastewater and septic systems, landfill, land use decisions and industrial sites.

Implementation phase

In order to address these concerns, the planning team developed a list of management approaches to help decrease the risk of these potential contaminants from impacting drinking water sources. Both towns are now in the implementation phase of their source water protection plans and are deciding how to use the $5,000 grant received from the Colorado Department of Public Health and Environment. Some ideas they are considering include surveillance cameras for well houses, spill response kits for small spill clean-up, outreach materials to local residents and water bottles imprinted with the source water protection message. Signage on the roadway will soon be available from the department for communities that have completed their source water protection plans. Colorado Rural Water Association specialists will be contacting the 100 communities we have assisted with developing their source water protection plan to offer signs to place in protection areas before the end of the year. It is our hope that by placing these signs on the roadways, the public will become educated on the value of protecting drinking water sources.♦

Seasonal system start up procedures

by Julia Campus, drinking water compliance assurance section

Spring is in the air! With spring comes the opening of many seasonal systems around the state that have been hibernating over the winter. We'd like to provide a few tips to properly start up your seasonal systems to serve safe drinking water to customers.

- Inspect the system (e.g., well head, storage tanks, distribution lines, etc.) and perform any necessary maintenance.
- Flush the system. Flush the well outside of your distribution system if possible, as you may see increased levels of sediment that you don't want in your distribution lines.
- Disinfect pipes by chlorinating. Dose at a higher level than usual and leave chlorinated water in the lines for 24 hours. After holding, flush the lines.
- All non-community water systems that are not open year-round must collect a total coliform sample at least 10 days before opening for the season. This is to ensure the drinking water is free from microbial contamination. Please note that the sample should be labeled as special purpose and that this sample does not satisfy the routine sampling schedule. You should plan to take a routine compliance sample within the first month of being open to the public.
- Make sure that you maintain a healthy chlorine residual throughout the distribution system.

Additional considerations:

Check your online monitoring schedule at www.wqcdcompliance.com/schedules. Does the system have different opening and/or closing dates this year? Make sure to let the department know and submit written notification so that schedules may be adjusted accordingly; otherwise, you may accrue monitoring and reporting violations. ♦

Disinfection outreach

(Continued from page 1)

tracer study. Additionally, baffling factors used in contact time calculations were often recorded to hundredths (example: 0.22). Measurement and assignment of baffling factors is relatively imprecise and should only be represented to tenths by rounding down in all cases. Historically, pipelines were assigned a baffle factor of 1.0 no matter what the length to width ratio, which actually must be 160:1 in addition to meeting other criteria such as minimum flow rate and minimum length to width ratios individual segments to receive a baffle factor of 1.0.

Issues associated with minimum clearwell/storage tank volume. Some historical contact time calculations assumed a full clearwell/tank volume and not the actual operating condition of a minimum clearwell/tank volume. Additionally, many systems do not have the capability to measure and record minimum clearwell/tank volume to demonstrate the minimum disinfection volume.

Incorrect chlorine entry point monitoring location. Many systems measure entry point chlorine residual prior to all treatment. Entry point location is defined as being after all treatment occurs including disinfection contact time.

Incomplete treatment of house water. Water supplied at a treatment facility for human consumption (e.g., drinking water, hand washing) must receive all required treatment and disinfection contact time before being served.

Unallowed bypasses of required surface water treatment. Pipes that bypass around required treatment or disinfection contact time protected by a normally closed valve are not allowed unless the system has operational control of the bypass (e.g., flow measurement and recording, removal pipe spool piece, block and bleed).

As always, the department is available to assist water systems as the disinfection outreach and verification effort site visits are being performed. Please contact the department's lead drinking water engineer, Tyson Ingels, for specific assistance with any disinfection related issues. Mr. Ingels can be reached by telephone at 303-692-3002 or by email at tyson.ingels@state.co.us. ♦

Change in electronic data submittals

by Jennifer Robinett, drinking water compliance assurance section manager

Starting June 15, 2015, the drinking water email box cdphe.drinkingwater@state.co.us will no longer accept email, including compliance submittals. Anything sent to this email address will not be received by the department.

The department's drinking water compliance assurance section is transitioning to an electronic portal submission process. We are making this change as the drinking water portal will help eliminate errors and missing information for submittals because the upload process incorporates complete and accurate system, monitoring point and analyte information. The portal also allows water systems and laboratories to see files that have been uploaded and submitted, resolving long standing issues with lost or misplaced submittals. The portal is an easy to use, online resource that has been successfully piloted for over a year. The project has moved from the pilot stage to full production. The portal will be used for submitting compliance data and other information. You will need to create an account for the online portal. The portal is located at www.colorado.gov/cdphe/wqcd, then type drinking water compliance in the search field. Once an account is created, users can login and access additional information in the help section of the portal at https://wqcdcompliance.com/help. Don't forget to bookmark this location.

Please contact Phil Stanwood phillip.stanwood@state.co.us, Kaleb Winisko kaleb.winisko@state.co.us or Whitney Walker whitney.walker@state.co.us with technical questions about the portal. For questions pertaining to monitoring requirements and other regulatory compliance questions, please contact your assigned drinking water compliance specialist at www.colorado.gov/cdphe/wqcd and type compliance contacts in the search field. ♦

Customers are so demanding!

by David Dani, local assistance unit

Customers are so demanding. In addition to wanting tap water that is safe to drink, they demand water that also tastes, smells and looks good. Although most contaminants that cause aesthetic problems in drinking water are not a human health threat, unpleasant tastes and odors are the most common cause of customer complaints. Customers are quick to assume that if their water has a disagreeable taste or odor it must be of poor quality and, therefore, unsafe to drink. This results in the phone ringing nonstop with dissatisfied customers and dollar signs lighting up the eyes of the bottled water industry.

For many utilities, public enemy number one for taste and odor is blue-green algae. These algae love stagnant reservoir water in the sunny days of summer and can produce compounds that cause earthy or musty odors at extremely low concentrations. The City of Loveland recently shared some of their proactive strategies used in identifying and mitigating taste and odor episodes:

- Train staff members on the smells and signs to look for during plant walkthroughs so that they are aware of when a taste and odor episode may be brewing.
- Monitor raw water sources for algae types and counts. According to the Water Research Foundation, Geosmin and 2-methylisoborneal are two of the best predictors of taste and odor episodes.
- Treat with powdered activated carbon and/or blend with another source.
- Put together a timely, responsive communications message to address consumer concerns and rebuild confidence if there is a taste and odor event.

Visit the Water Research Foundation website at www.waterrf.org for guidance on managing all aspects of a taste and odor episode, including identification, control and communication. ♦

Quiz Answers

Answers to winter drinking water quiz questions:

1. If your emergency source is groundwater under the direct influence of surface water and uses only a roughing filter, can it be directly connected to the distribution system? *No.*
2. To date, how many drinking water disinfection waivered systems are there in Colorado? *Eleven.*
3. When do schedule 2 systems have to begin their second round of source water monitoring as part of the long-term two enhanced surface water treatment rule? *No later than Oct. 2015.*
4. How much was an individual grant award from the small communities water and wastewater grant fund? *$950,000.*
5. Who assisted with Jamestown's drinking water system recovery? *e) all of the above.*
6. Will grant assistance be available to support state revolving fund planning costs? *Yes, small communities may be eligible for grant funding.*
7. How did Jamestown notify other drinking water systems throughout Colorado of the resources they needed to get their system back online? *b) CoWARN.* ♦

Backflow prevention assemblies on fire suppression systems

by Jorge Delgado, P.E, and Tyson Ingels, P.E., engineering section

It is widely recognized in the water supply industry that a building's potable water system must be isolated from the fire suppression system using an appropriate cross connection control assembly or method. In addition, the department requires public water systems, through their backflow prevention and cross connection control plan, to protect their own distribution system from all buildings with fire suppression systems pursuant to Regulation 11.39 promulgated March 2015 and effective May 2015. Typical industry standards for protecting building potable water systems from fire suppression systems are shown in table 1:

Table 1

Assembly or method type	Abbreviation	Typical appropriate uses (Note: see also Section 4.5 site-specific deviation criteria)
Testable assemblies		
Reduced pressure zone backflow prevention assembly	RPZ	Appropriate for any identified contaminant except direct connections to sewer or installations which may impair the integrity of the assembly to function as designed.
Reduced pressure zone fire protection backflow prevention assembly	RPF	Appropriate for cross connections to fire suppression systems.
Reduced pressure zone detector fire protection backflow prevention assembly	RPD	
Double check backflow prevention assembly	DC	Appropriate for cross connections to fire suppression systems except when upstream of a chemical other than food grade glycerin.
Double check fire protection backflow prevention assembly	DCF	
Double check detector fire protection backflow prevention assembly	DCD	

Photo Courtesy: www.Longmontcolorado.gov

Typical double check or reduced pressure zone assemblies:

When the department or a public water system identifies a fire suppression system without an appropriate backflow prevention assembly, the responsible party must install an appropriate assembly in a timely manner. However, it may not be prudent to immediately install the most protective assembly without further evaluation. Installation of certain assembly types in older systems could cause the fire suppression system to stop functioning.

There are additional evaluation requirements all parties need to be aware of. The National Fire Protection Association Code 13 (2002 edition), Section 8.16.4.6.2, states that when backflow prevention assemblies will be installed on existing systems, a thorough hydraulic analysis including revised hydraulic calculations, new fire flow data and all necessary system modifications to accommodate the additional friction loss shall be completed as a part of the installation. A certified fire suppression system contractor must perform the hydraulic analysis and make any necessary system modification(s) as part of the

(Continued on page 11)

Coach's classroom

by Kaitlin Minich, local assistance unit

Don't be caught off guard! Learn about drought planning.

While there appears to be some disagreement on the extent of the water crisis in Colorado, there is no doubt that California is in trouble. Many reports point to a need for long term planning for drought conditions, as there is little indication that this drought is ending soon.

Colorado is not in the same dire situation as California, but we do live in a drought susceptible state and the possibility of water shortages should be on everyone's mind. There are two basic strategies to drought planning: increasing supply and decreasing demand.

Increasing supply, while not always possible, allows customers to maintain their way of life and helps keep utilities finances consistent. When El Paso, Texas experienced a severe drought in 2011 and 2012, the utility was able to supplement its water supply with about 6 million gallons of reclaimed water each day. The city also invested in 100,000 acres and the water rights underneath in the surrounding areas (Kolenc, 2012). While these solutions were valuable to El Paso, increasing supply is not always an option.

The Lake Don Pedro community near Sacramento, California is working hard to decrease the demand on their water supply. The community is looking to increase supply with a pipeline that brings water from the deepest part of the lake into the community. However, the pipeline is exorbitantly expensive and doesn't provide a long term solution. Community residents

Dillon Reservoir, 2002, Denver Post

Lake Loveland, 2012, Greeley Tribune

are currently required to conserve 50 percent of their water and have been given buckets containing low flow showerheads, shut off valves for garden hoses and colored dye to detect leaks in toilets (Quinton, 2015).

Other communities in California are also looking to decrease water demand, but are finding enforcing restrictions to be very difficult (Worland, 2015). Lessons from this situation include the importance of having a framework in place to determine when voluntary and mandatory restrictions should be implemented and the importance of having an enforceable penalty system for those who don't follow the mandatory restrictions.

The Environmental Protection Agency has developed a drought planning checklist to help systems prepare for drought season, and/or respond and recover from a drought.

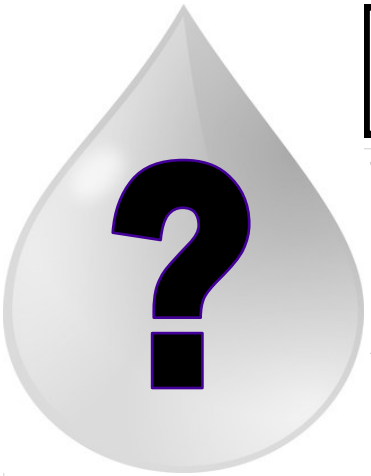
In addition, the local assistance unit is available to provide in-person drought planning assistance. To request assistance and/or see our complete listing of training topics visit www.colorado.gov/cdphe/wqcd and type drinking water training opportunities in the search box, then click on request coaching.

References:

Kolenc, V. (2012, Feb. 19). El Paso- area farmers to suffer as drought drags on. *El Paso Times*.

Quinton, A. (2015, March 13). 3,200 People Risk Running Out of Water In Drought. *Capital Public Radio*.

Worland, J. (2015, March 15). California May Crack Down Further This Week on Water-Wasters. *Time Magazine*.



Drinking Water Quiz

Think you know everything about drinking water? Prove your drinking water knowledge with our quiz. Complete all four 2015 drinking water quizzes online and you'll be entered in a drawing to receive *AWWA Water Operator Field Guide*, valued over $50. The drawing will be held in January 2016. Go to http://fs8.formsite.com/cohealth/form370/index.html to record your answers. Answers will appear in the next issue. The winter 2015 quiz answers are on page 12.

1. Name a location where a revolving fund workshop was or will be conducted.
   A) Ft. Collins.
   B) Sterling.
   C) Denver.
   D) Pueblo.
   E) Durango.
   F) Glenwood Springs.
   G) Montrose.

2. What are the most frequent customer complaints about their drinking water?
   A) Odor.
   B) Taste.
   C) Appearance.
   D) All of the above.

3. Who is the current director of the Water Quality Control Division?

4. As of June 15 will the drinking water email box accept compliance submittals.

5. Can a drinking water system have more than one certified operator in responsible charge?

6. What are issues that impact treatment and disinfection log inactivation treatment credits?
   A) Baffle factors
   B) Incorrect chlorine entry point monitoring location.
   C) Minimum clearwell/storage tank volume.
   D) Treatment system classification.
   E) All of the above.

Regulation 11 analytical requirements

by Christine Lukasik, field services section

Regulation 11, Section 46, outlines specific analytical requirements related to drinking water treatment systems. Consulting Regulation 11 regarding analytical requirements is essential to collecting samples in order to be in compliance. Approved techniques and methods, used for regulatory compliance, are compiled from well-developed scientific methodologies. Your data is as good as your participation and adherence to those required protocols. Following equipment specifications for installation and maintenance, as well as the methodologies attached to the monitoring, sampling, collection, preservation and transport of a sample for a particular analysis is essential to maintaining defensible analytical results. Records essential for retention that will be reviewed during sanitary surveys include, but are not limited to equipment calibration/drift checks, sample collection dates, times, methods, collector initials and preservation techniques. Sample transport chain of custodies, which are the means to keep sample constituents from changing under any influence and to preserve the true and instantaneous measurement of the sample are also addressed. If you have questions regarding sampling and analytical requirements please consult Regulation 11 or contact your compliance assistance specialist at www.colorado.gov/cdphe/wqcd, type water quality compliance in the search box. ♦

Particulate waiver for partnership systems

by Kaitlyn Minich, local assistance unit

Are you involved with American Water Works Association's partnership for safe water? Are you tired of taking and submitting microscopic particulate analysis samples? Good news! The department's Policy DW-004 allows surface water treatment plants that continuously participate in the partnership's safe water treatment plant optimization program and also certify their participation at Phase III or IV can be credited with outstanding operational performance. These treatment plants are given the option to avoid conducting annual particulate analyses that may be required as compliance samples. Certified treatment plants include Fort Collins, Golden, Montezuma Water Company, Ute Water Conservancy District, Aurora Water, Clifton Water District and Boulder.

In addition, participating at any level of the partnership meets the majority of criteria for the department's pursuing excellence awards program. Please contact Kaitlyn Minich at kaitlyn.minich@state.co.us or 303-691-4084 for more information. ♦

Backflow prevention assemblies

(Continued from page 8)

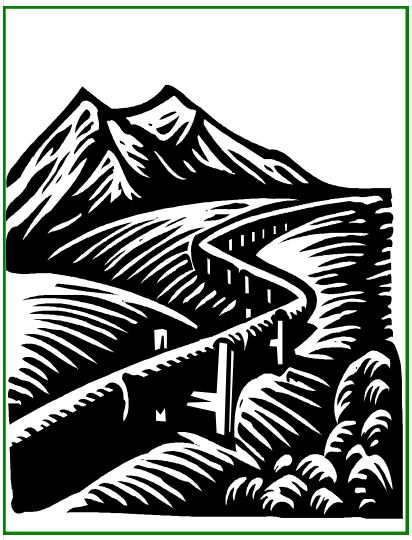
backflow prevention assembly installation. If it is determined, though the hydraulic analysis, that the installation of a backflow prevention assembly would compromise the integrity of the fire suppression system, the cross connection must addressed through a site specific deviation. (See the proposed safe drinking water Policy 7, Section 4.5 site-specific deviation criteria.) The site specific deviation would be subject to modification by the department and should be evaluated by the department's backflow prevention and cross-connection control specialist. Generally, site specific deviation conditions will include flushing provisions for the fire suppression system as well as increased water quality monitoring at the site for chlorine residual and bacteriological contaminants.

The Colorado Division of Fire Prevention and Control website maintains a list of certified fire suppression contractors. This list can be accessed at: http://dfs.state.co.us/programs-2/emergency-management/certification-programs/fire-suppression-systems. Please contact Jorge Delgado at 303.692.3511 or at jorge.a.delgado@state.co.us with any questions that you may have. ♦

Coming Down the Pipe...

State revolving fund regional workshops

by Mike Beck, grants and loans unit



On Jan. 1, 2015 Colorado's state revolving fund launched changes to the drinking water and water pollution control revolving fund programs. Beginning in February, program partners at the Water Quality Control Division, Department of Local Affairs and Colorado Water Resources and Power Development Authority traveled statewide to conduct workshops. Attendance was excellent at workshops in Ft. Collins, Sterling, Denver, Pueblo, Durango and Montrose with two more to follow in May 13 and 14 in Glenwood Springs and Steamboat Springs. The workshops covered program changes to pre-application steps, engineering reports, self certification options for design submittals and grant assistance.

At the end of each workshop participants met with staff to ask specific project questions. Attendees often had questions about the new grant structure. Grant assistance has shifted from providing principal forgiveness loans to offering planning grants that support loan application requirements as well as design and engineering grants for qualifying communities. Applicants must complete the pre-qualification form to indicate interest in grant support. Federal program requirements often raise questions. Clarification on American Iron and Steel, Davis-Bacon and upcoming wastewater requirements were discussed. The state revolving fund program expects to have a transition period with projects that straddle the former program and future state. Entities are encouraged to connect with their regional project manager early in the planning phases of the project. Project manager contact information can be found at www.colorado.gov/cdphe/wqcd then type grants and loans in the search box.

Staff enjoyed the opportunity to meet face to face with entities and engineering consultants. The final round of workshops will be in May. Registration is available at the Colorado Water Resources and Power Development Authority website http://www.cwrpda.com/futurestate

Ask Aqua Man

Dear Aqua Man,

Can a facility have more than one operator in responsible charge? If so, what are the reasons for or against?

Thanks for your time,

Oprah Rator

Dear Ms. Rator:

Yes, under the definition of certified operator in responsible charge, an owner may designate more than one ORC for a facility. Section 100.2 (4) says,

> "Certified operator in responsible charge means the certified operator who is designated by the water or wastewater facility owner to be responsible for making process control and/or system integrity decisions about water quality or quantity that may affect public health or the environment. A facility owner may designate one or more certified operators to serve in this capacity. Such an operator must be certified at a level equal to or higher than the classification of the facility he or she is operating."

The facility owner will still report the primary ORC to the department for compliance with Regulation 100. The owner must maintain records on-site that show the designation of more than one ORC.

To better understand the pros and cons of designating more than one ORC it's important to remember the decision making restrictions of Section 100.18.2, which says:

> "Each owner of a water or wastewater facility shall ensure that all process control and/or facility integrity decisions about water quality or quantity or wastewater effluent quality or quantity that may affect public health or the environment are made by either a certified operator in responsible charge or by another operator certified at a level equal to or above the classification of the facility he or she is operating in accordance with the facility's written operating plan."

Operators certified at or above the level of the classification of the facility that are **not** designated as ORCs can only make decisions or perform actions in accordance with the written operating plan.

Tasks and activities may be delegated to any operator, certified or not, but decisions about process control or facility integrity can only be made by the ORC. The ORC may delegate decision making to another certified operator, if that operator is certified at or above the classification of the facility and the delegation and extent of the decision making authority are so stipulated in the written operating plan.

In many facilities there may be multiple people the owner wants to make independent decisions for the facility, such as a shift ORC or the operator covering for weekends, holidays, vacations or illness. In those instances, it makes sense for the owner to designate more than one person as an ORC. This designation must be in writing so it is clear to all staff the specific people who have this independent decision making authority for the operation of the facility. ♦

Facility operator program

by Jackie Whelan, local assistance unit

Operator Certification Program Office: The Water and Wastewater Facility Operators Certification Board contracts with a nonprofit group made up of volunteers who are subject matter experts to administer the certification process. A management company handles the day to day operations. Together they are the Operator Certification Program Office.

Regulation 100, the water and wastewater facility operators certification requirements, is the regulation governing the certification requirements. Passing the appropriate level exam is required for certification. Exams are taken sequentially starting at Level D treatment or Level 1 collection or distribution. Exams are offered three times each year.

The deadlines to submit applications to take the exams are March 1, July 1 and Nov. 1; there are multiple exam dates and locations in each exam cycle, for an additional charge, electronic testing at the program office is also available. Information regarding certification exams is available by contacting the program office at 303-394-8994 or www.ocpoweb.com.

Applications, fees, submission deadlines and other exam information are available through the program office. Colorado specific need to know study topics are also listed on their website.

Training: Basic training is available at no charge by downloading the operator basics training course available at Montana University System Water Center www.watercenter.montana.edu. Completing this training course is often sufficient preparation to pass the entry level exams, both water and wastewater. Additional training is available from many sources. Board approved courses can be found on the program website.

Each certificate is valid for three years. Requirements for professional development must completed within the three years to qualify for renewing the certificate. There are many training opportunities offered that are free or with a minimal charge to facilitate the ongoing education requirements for certified operators. A list of board approved courses for training units is available on the program website.

Additional information is available on the department's website at www.colorado.gov/cdphe/wqcd under facility operator certification.

Assistance developing your system's written operating plan is offered by the department. This assistance is provided free of charge by submitting a request for assistance online.

Water and Wastewater Facility Operators Certification Board: The board meets six times per year. Upcoming meetings will be held on the last Tuesday of the month at 9 a.m. in June and August. At the June meeting, the board will be holding a rulemaking hearing for proposed changes to Regulation 100.

If you would like to provide comments at the meeting, you should contact Nancy Horan at 303-692-3463. Specific agenda information can be found online by going to the department's website at www.colorado.gov/cdphe/wqcd and clicking on boards & commissions at the top of the page.

ORC changes: Please submit the appropriate water or wastewater contact update form to the department within 30 days of the change. Forms can be found at www.colorado.gov/cdphe/wqcd.

To all readers:

Have some time saving helpful hints or tips to share with fellow operators? Can Aqua Man answer your question? Is there a topic you would like discussed? Contact Jacki Main by

- email: jacklyn.main@state.co.us
- phone: 303-692-3665
- fax: 303-782-0390
- mail: WQCD, 4300 Cherry Creek Drive South, Denver, CO 80247

Visit us on the web

Follow safe drinking water program on Twitter! @WQCD_Colorado

Water Quality Control Division home page

https://www.colorado.gov/pacific/cdphe/water-quality-control-division-topics

Water operator training opportunities

https://www.colorado.gov/pacific/cdphe/drinking-water-training-opportunities

Aqua Talk online

https://www.colorado.gov/pacific/cdphe/search/site/aqua%20talk

Inspection services

https://www.colorado.gov/pacific/cdphe/drinking-water-inspection-services

Contact list for drinking water regulations

https://www.colorado.gov/pacific/cdphe/wq-regulations

Colorado
Safe Drinking
Water Program
Aqua Talk

Aqua Talk Newsletter Information

Editorial team: Ron Falco, Jacki Main, Armando Herald, Nicole Graziano, Kelly Jacques, Kaitlin Minich, Corrina Quintana, Doug Camrud, Jackie Whelan.

We welcome comments, questions, story ideas, articles and photographs submitted for publication. Please address correspondence to Jacki Main, Aqua Talk Newsletter, Water Quality Control Division, 4300 Cherry Creek Dr. S., B2, Denver, CO 80246,1530 or email comments.wqcd@state.co.us. Enter *Safe Drinking Water Newsletter* as the subject. Past issues are available by contacting the editor or visiting the website at: www.colorado.gov/cdphe/wqcd and enter Aqua Talk in the search box.

Colorado Department
of Public Health
and Environment

Safe Drinking Water Program
Water Quality Control Division
4300 Cherry Creek Drive South
Denver, CO 80246,1530
WQCD DRINKING WATER PROG, 2030

Colorado
Safe Drinking
Water Program
Aqua Talk

A quarterly newsletter published by the Drinking Water Program, Water Quality Control Division, Colorado Department of Public Health and Environment

303-692-3500

4300 Cherry Creek Dr. S., Denver, CO 80246,1530

Internet address www.colorado.gov/cdphe/wqcd

Spring 2015

Editor: Jacki Main

Purpose: To communicate division drinking water-related issues to stakeholders in a fun and informative format.