AQUA TALK

Colorado Department of Public Health and Environment

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Winter 2011

A newsletter from the Safe Drinking Water Program of the Water Quality Control Division

Inside this issue

Drinking Water Needs Survey

by Tyson Ingels, Ron Falco, John Payne

A select number of Colorado's Public Water Systems, with help from the Colorado Department of Public Health and Environment (CDPHE), will be participating in the United States Environmental Protection Agency's (USEPA) Drinking Water Infrastructure Needs Survey and Assessment (DWINSA) for 2011.

Ultimately, the amount of State Revolving Fund dollars that are available to Public Water Systems in the form of financial assistance and loans on an annual basis is determined by the outcome of the survey.

Each state is required to represent their total need as accurately as possible in order to be awarded an appropriate amount of funding from the total annual set aside funds. The following excerpt is from the USEPAs website (http://www.epa.gov/):

"The Safe Drinking Water Act requires that EPA conduct an assessment of the national public water system capital improvement needs every four years. The purpose of the survey is to document the 20-year capital investment needs of public water systems that are eligible to receive Drinking Water State Revolving Fund (DWSRF) monies — approximately 52,000 community water systems and 21,400 not-for-profit non-community water systems. The survey reports infrastructure needs that are required to protect public health, such as projects to ensure compliance with the Safe Drinking Water Act (SDWA)."

Table 1, taken from the 2007 DWINSA, shows the four-year cycle results for U.S. drinking water infrastructure costs, reported in billions of January 2007 dollars. The structure of the survey, which types of needs are allowable and the QA/QC processes have all been adjusted over the four cycles to more accurately represent total need throughout the country.

While the total need did not significantly change between 2003 and 2007, Table 2 shows a selection of four state's needs from that time period. As you can see, Colorado's need did not change significantly due primarily to the participation of Public Water Systems in the survey and dedication from the staff at the CDPHE. However, between 2003 and 2007, the state of California's need increased by $6 billion (20 percent) while Oregon and Florida's needs both decreased by 45 percent and 33 percent respectively.

Table 1: Total infrastructure need reported to the EPA during previous four cycles.

Year	1995	1999	2003	2007
National Need	$200.4	$198.2	$331.4	$334.8

The national 20-year need estimate is reported in billions of January 2007 dollars.

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Message From the Safe Drinking Water Program Manager

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

Challenging Times for All of Us

by Ron Falco

In these challenging times government programs are sometimes curtailed or cut. Water utilities everywhere also experience the squeeze. Budgets that were tight already have often been cut further, yet public expectations regarding safe drinking water do not diminish. Every public drinking water system I have spoken with in recent months seems distressed by the current state of affairs, and expressed concern about ensuring their ability to adequately provide services into the future.

Every person in Colorado, resident and tourist alike, drinks water from sources protected by the Water Quality Control Division, but funding for utilities and the state program is being stretched very tight. With furlough days and pay cuts, state employees also feel the pinch, but we are thankful that we have jobs contributing to public health protection and supporting the water infrastructure critical for economic development. We're all doing our best to meet public expectations while doing our part in the national belt tightening.

The stakes are high. There were four waterborne disease outbreaks related to drinking water in Colorado during the 2000s. The drinking water outbreak of salmonella at Alamosa in 2008 sickened 1,300, killed one and shut down the economy in a town of almost 10,000 for three weeks likely costing millions of dollars.

Typically, the Division responds to public health threats at public drinking water systems before outbreaks occur. Our staff is on call every day of the year, ready to respond in the event there is a public water system failure that puts public health at risk. Since 2005, we have issued about 40 to 60 boiled water or bottled water orders per year to protect thousands of Coloradans from disease. The Division is also involved with every drinking water and wastewater infrastructure project in the state. These projects are vital for the economy, public health and the environment.

We approve hundreds of millions of dollars worth of new and replacement infrastructure projects that are creating jobs. Additionally, our programs provide special benefits to rural Colorado. The disadvantaged community loan program benefits low income, mostly rural areas with low interest loans, no-interest loans or grants.

Adding to today's challenges is the fact that the Division has been significantly short-staffed for well over a decade. This is well-documented in legislative reports, EPA audits and the Alamosa investigation report. Curtailing our programs further will raise the risk of waterborne disease outbreaks, threaten public drinking water supplies, cause further deterioration of water quality and worsen the state's water infrastructure problems. This could also lead to a future where we are no longer able to offer free or low-cost technical and compliance assistance or operator training. With more resource reductions, we could also see the EPA taking over enforcement and penalty decisions.

I believe that the Safe Drinking Water Program does represent cost-effective government because the cost is low, and the effect is great. While Colorado's population is about 5 million people, our total program cost is about $8.3 MM per year, with 82 percent coming from federal sources. With regard to effectiveness, Colorado exceeds two key national safe drinking water goals. About 98 percent of the population served by community water systems receives drinking water that meets all health-based standards, compared to the national goal of 90 percent; and 91 percent of the communities in Colorado meet all health-based drinking water standards, compared to the national goal of 85 percent. We provide a wide range of services to our performance partners that own and operate public drinking water systems, so that they can always provide safe drinking water to our shared customers the public.

We're all in this together, and I sincerely hope that all public drinking water systems can maintain adequate budgets and staffing to meet the public expectations of always providing safe drinking water. By working together we will get through these tough times, and hopefully be better able to efficiently serve the public into the future.

Thank you.

(Continued from page 1)

State	1995	1999	2003	2007
Colorado	$2,821.8	$3,323.3	$6,374.3	$6,400.1
Oregon	$3,110.0	$3,557.9	$5,110.0	$2,785.3
California	$27,237.6	$22,969.0	$33,372.9	$39,046.3
Florida	$6,276.3	$4,891.3	$18,009.5	$12,823.1

Table 2: Total reported need for Colorado, Oregon, California and Florida in millions of 2007 dollars

Given the continued need for public water systems to utilize State Revolving Fund monies to improve and sustain infrastructure, the EPA is asking that all states involved in the DWINSA double their efforts with regard to accurately representing their own state's need. Therefore, it is critical in the 2011 DWINSA that Colorado Public Water Systems continue to provide such excellent information. The department is committed to assisting the water utilities in completing their surveys accurately and in a timely fashion. Water systems will be assisting other water systems by ensuring Colorado receives an appropriate share of federal funding.

Fourmile Canyon Fire

by Melissa McClain and John Duggan

The Fourmile Canyon Fire in Boulder County burned from Sept. 6, 2010, until it was contained on Sept. 13, 2010. The fire destroyed 6,179 acres and 166 homes making this the most destructive fire in Colorado history in terms of damage to personal property with an estimated $217 million in losses. Land ownership in the burn area included Boulder County, the Bureau of Land Management, the U.S. Forest Service, and land owned by private individuals.

A team of scientific experts, the Fourmile Emergency Stabilization (FES) Team, assessed the extent of damage to soils, vegetation, hydrologic functions, trees and transportation infrastructure. The watersheds that were affected by the fire include Fourmile Creek, Boulder Creek and Fourmile Canyon Creek.

The FES team identified that a watershed emergency exists due to the increased threat of flooding and debris flows, as well as water quality impacts to downstream community water providers. Source waters within the burn area are likely to be impacted with increases in total organic carbon, iron, manganese, fire retardant chemicals (nitrate, phosphorous, ammonia), heavy metals and changes in pH and alkalinity.

The FES team recommended that aerial mulching be implemented in order to reduce runoff and the occurrence of debris flows/sediment impacts, and provide some replacement ground cover. Additionally, seeding was recommended as a means of providing erosion control once the grasses are established. Aside from these effects to source water and watershed areas, the FES team identified threats to human life and safety, natural resources and cultural resources. To access the full report, please visit http://www.bouldercounty.org/fourmilefire/pdf/FEST_Fourmile_Burned_Area_Report.pdf.

Photo Credit: ThorntonWeather.com

A behind-the-scenes look at fighting Fourmile Canyon Fire.

On Sept. 16, 2010, Governor Ritter signed an executive order making Water Quality Improvement funds available for fire impacted areas in Boulder and Larimer counties. This amendment authorized $900,000 to the Fire Impacted Watershed Disaster Emergency Fund. Grant funds were made available for projects related to repairing public water system infrastructure that was damaged or destroyed by the fire and assisting public water systems that may experience operational challenges. The funds were also made available for watershed restoration and protection proposed projects. Heavy rain events in the spring will shed light on the long-term adverse effects the fire had on the impacted watersheds.

Dave Rogers Retires After 29 Years!

by Dave Rogers

The time has finally come to move onto new adventures in life. As of Nov. 30, 2010, I will no longer be working full time for the Water Quality Control Division. I leave being very thankful for all the opportunities I have had to work with so many great people in this department, the EPA, the local health departments, the laboratories and the operators running our state's drinking water systems. I have always tried to be the helpful bureaucrat who took the time to help others understand their compliance issues.

I began working in this department in December 1981. I started out in our Laboratory Division performing a wide range of duties in the microbiology laboratory including the testing of the total coliform drinking water samples. In May 1984, I accepted a position in the Water Quality Control Division as one of three compliance staff implementing all of the Colorado Primary Drinking Water Regulations. In 1987, I left the drinking water program to work on the "Domestic Sewage Sludge Program," which now has a much more palatable name "Biosolids." I returned to the drinking water program in October 1989 and have been in drinking water ever since. I have been fortunate to have had many different positions within the program including being a unit manager over the drinking water compliance staff, being a rule manager for organic and lead and copper rules and being a lead person in the development of our computerized data systems.

To give you some perspective, when I started, our program did not even own a computer. In the mid 1980s, the program finally got its first PC, which the entire program had to share. We began developing our system in dBase and I did almost all of the programming and set up of that data system. It was fairly simplistic by modern day standards, but it served the program very well. In late 2002, I moved full time into the data side of our program and we began an effort to convert all of our data into an EPA-developed data system, which is now called SDWIS (Safe Drinking Water Information System). The transition was long and difficult, but it was much needed. I have spent the last eight years primarily focused on the continual process of improving and enhancing our usage of the SDWIS data system.

As I leave, I feel proud of how far we have come as we are now on the most current version of SDWIS and are utilizing many features that other states have not yet implemented. I have also had the opportunity to work and train many of our newer personnel and feel confident the program has a very capable and energetic staff to move forward into the future.

This is not the last chapter in my water quality career as I am still "young" and full of valuable knowledge about drinking water quality and compliance issues. After some much-needed and well-deserved downtime, I hope to continue working in the drinking water field. I am planning on getting my drinking water operator's license for small systems in the spring and would love to assist some small water systems in the Front Range area with drinking water compliance issues. I know there is important work to be done out there to keep our drinking water safe for everyone!

Adult Training Courses

The Get Into Water! Project, an alliance of Colorado-based utilities, workforce centers, educational institutions and associations, is offering adult training courses via Boulder Valley School District's Lifelong Learning program starting in January. These courses are part of the Water Utility Science Program, which offers introductory courses for individuals interested in a career in the water or wastewater industry. Classes are delivered at the Boulder Career and Technical Education Center.

* **Water Foundations**: Jan. 31 to Mar. 17, 2011; Monday, Tuesday, Thursday from 1 p.m. to 4 p.m.

* **Essentials of Water Distribution**: Apr. 19 to June 2, 2011 (afternoons)

To register, go to: www.bvsd.org/lll or call the Registrar at 720-561-3768.

First Human Resource/Operations Forum a Success!

On Sept. 24, the Parker Water and Sanitation District (PWSD) hosted the first quarterly HRO (Human Resource/Operations) Open Forum with over 18 utilities in attendance. The meeting was co-facilitated by Carla Elam-Floyd, HR director for Denver Water and James Roche, operations manager for PWSD. The utility operations and human resource representatives discussed key issues in the water workforce including recruitment, retention, training and certification.

The event was created as part of the Get Into Water Project to open lines of communication between human resource and operations professionals and enhance collaboration in addressing workforce issues into the future. Topics of discussion include retention, job descriptions, recruitment, training, and HR communications.

The next HRO Open Forum will be held on Jan. 20 from 11 a.m. to 1 p.m. (location TBD) and is open to operations and HR professionals. To get on our mailing list for these events, please send an e-mail to me at: mel@mjfconsult.com

The Get Into Water! Mission:

The Front Range water and wastewater industry will sufficiently recruit, train and retain personnel to ensure mission-critical positions are filled with qualified, trained and technically skilled employees. This project will address outreach and recruitment; training; knowledge retention; and human resource and operations staff collaboration.

ASK AQUA MAN

Dear Aqua Man,

I am a certified water professional and have recently started my own contracting business in which I offer my certification, experience, and knowledge to small systems needing the supervision of an operator in order to comply with state regulations. I have a general idea of what my responsibilities are, but would like to have some specifics. Can you help me?

Signed,

M. Winters, C.W.P.

Dear Mr. Winters, C.W.P.

Thank you for your question; it's an excellent one and it comes up often. As an operator hired to supervise a system, you are responsible for many things and the list below should give you an idea what they are.

From Regulation 100, the Water and Wastewater Facility Operators Certification Requirements, pages 20-21, section 100.16.1 "***In the performance of their duties, certified operators shall exercise a level of reasonable care and judgment consistent with the experience***

(Continued on page 15)

New Year, New Monitoring Schedule

by Melissa McClain and Bryan Pilson

By now, you should have received your 2011 Monitoring Schedule. You might have noticed that your schedule is shorter than in years past. In an effort to make your monitoring schedule easier to understand and more streamlined, individual analytes within the inorganics and volatile and synthetic organics groups have been removed. This simple change has hopefully made your monitoring schedule more concise and easier to follow. If you have any questions after reviewing your monitoring schedule, please call the compliance specialist designated for your system type.

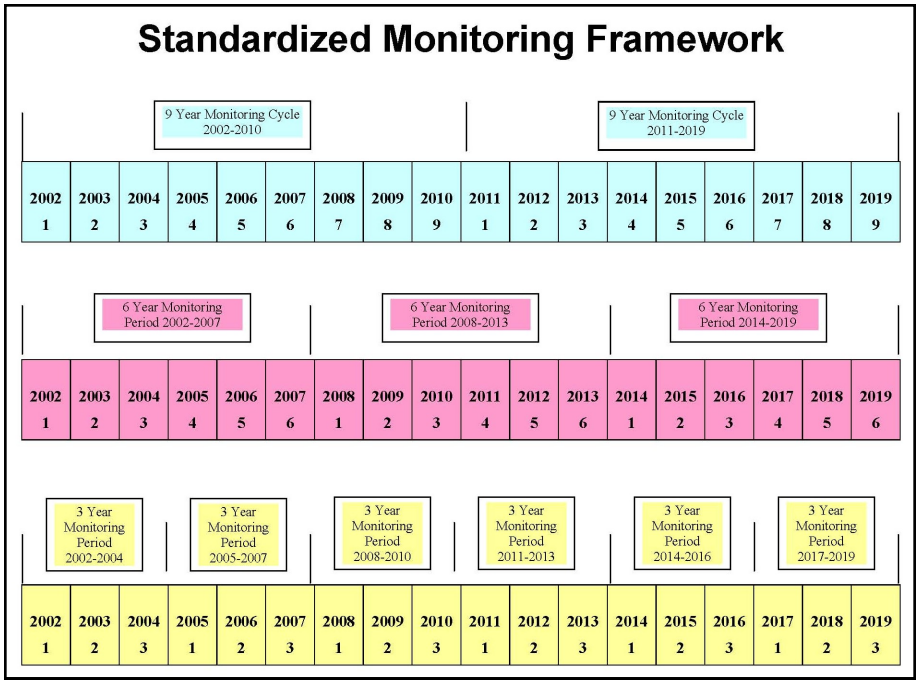
Jan. 1, 2011, marks not only a new year, but a new three-year monitoring period and a new nine-year monitoring cycle. The U.S. EPA created the Standardized Monitoring Framework, which defines the monitoring periods in which drinking water systems have to collect and submit certain types of samples for their system. The concept applies to monitoring schedules that are on a three-, six- or nine-year frequency for monitoring.

The chart below is a visual representation of the Standardized Monitoring Framework. On the top line, standard nine-year monitoring periods are defined as being from 2002 to 2010 and from 2011 to 2019. Systems that are on a nine-year monitoring frequency, most commonly for nitrite, are expected to monitor at least once within the nine-year cycle. On the middle line, the standard six-year monitoring period is from 2002 to 2007, 2008 to 2013, and 2014 to 2019. Likewise, on the bottom line three-year monitoring periods are every three years beginning in 2002.

A common question water systems have is how monitoring frequencies and assigned sampling years are determined. Monitoring frequencies are set based on a variety of factors, such as source water type, past sample results and the health risk posed by the regulated contaminant. For example, nitrate poses an acute health risk, so systems must sample at least annually, or more frequently if the system has high nitrates. In comparison, a community system that has demonstrated that uranium in the drinking water is present at levels below the detection limit can be reduced to a nine-year schedule. A nine-year schedule is appropriate, because uranium has a chronic health risk and is naturally occurring. So if uranium wasn't present in past sampling, it will likely be absent in subsequent sampling.

For three-, six- and nine-year monitoring frequencies, each water system is designated a year to sample by the WQCD. The year in which a water system is designated to sample within the monitoring period is called the sequence year. Within the Standardized Monitoring Framework, the sequence year is shown below each year. A system on a six-year frequency with a sequence year 4 would be designated to sample in 2005, 2011 and 2017. A water system's assigned sequence year is largely influenced by when past sampling was done so that samples are collected at regular intervals. For example, a system that is reduced to a nine-year schedule in 2003, will be set to collect the next sample in 2012 so that the time between samples is no more than the monitoring period frequency.

To ensure you can always access the most up-to-date monitoring schedule, we have created a website where you can retrieve a PDF copy. The website is ftp://wqcdcompliance.hosting4less.com. The user name is **wqcdcompliance-ms** and the password is **2010 ccr**. The schedules are listed numerically by PWSID number. Please contact us if you have any problems accessing your schedule from the website, or if you have questions about your schedule.



Colorado State University and Water Quality Control Division's Engineering Section Team Up to Develop Ways to Improve Small Public Water Systems Operations

by Paul Kim and Tyson Ingels

The Water Quality Control Division's Engineering Section and Colorado State University (CSU) have a formed a joint venture to evaluate disinfection contact time configurations to help find acceptable disinfection systems for small systems in Colorado.

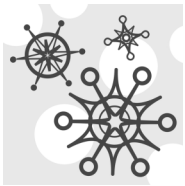
Currently, a water system can determine the effectiveness of their disinfection process by calculating the system's log inactivation. The Engineering Section can then review the water system's calculations to confirm the appropriate disinfection is being achieved. Log inactivation is a convenient way to express the number or percent of microorganisms inactivated (killed or unable to replicate) through the disinfection process.

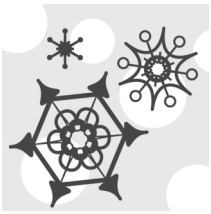
While many factors impact disinfection through treatment, such as pH, chlorine residual, contact time, and temperature, the two most significant variables in determining log inactivation are chlorine residual and contact time. Contact time is primarily dependent on the peak flowrate and minimum amount of volume in the disinfection system. Systems do not receive 100 percent credit for their contact basins however; water systems must only use a certain percentage of the theoretical contact time as determined by applying an appropriate Baffling Factor.

Baffling factors were originally developed by the Environmental Protection Agency (EPA) to estimate the actual chlorine contact time a basin, pipe or unit process provides without in-depth computer modeling. However, with the increased use, availability and capabilities of computer models, current findings have created uncertainty surrounding the use of these defined baffling factors for determining log inactivation for small public water systems.

To evaluate the current baffling factors and efficiency of contact basins commonly used in small groundwater systems, the Engineering Section contracted CSU Assistant Professor Karan Venayagamoorthy, Ph.D., and Mr. Jordon Wilson, who is a graduate research assistant at CSU. The team has been tasked with analyzing and evaluating the theoretical versus actual contact time for various small disinfection systems arrangements.

The research includes performing computer modeling and performing physical experiments on the following conditions: a pipe loop system, pressurized tanks and a baffled contact tank. In addition to evaluating baffling factors, the study will identify potential pre-engineered treatment configurations appropriate for small water systems that utilize groundwater as their water source. The data collected from this study will aid in a better understanding of the application of baffling factors, develop possible treatment configurations for water systems and improve the water quality throughout Colorado. The findings and conclusions of the study will be available within the upcoming newsletter.





Drawing by Tiffany Jackson, Water Quality Control Division

COACHES CORNER

Operator Shortage

by Coach Mike Bacon and Lori Billeisen-Moore

Hi, Coach Mike here. Recently, I have experienced a couple of transitions in my life, as I know many of you have. Transitions occur when you have an expected or unexpected change in your life, whether it relates to work, family or even health. You are going along and all of a sudden, change occurs and you may not be prepared for what comes next. This type of change happened to an esteemed co-worker of mine, with whom I enjoyed working with for a short period of time. She had planned to retire, and did. There was plenty of planning, so there was ample time for training another person in order to carry out the duties of the work that still needed to be done. I talk about changes both intended and unintended and succession planning today to make a very important point.

There seem to be many operators who are planning on retiring in the next few years after devoting a number of years to the water and wastewater industry. The concern that I have, is that there aren't many replacements for the retiring operators. Many operators do not have succession planning in place in order to have another operator ready to take over after they leave.

This puts the water system and community at risk of an unsupervised water or wastewater system, violations and noncompliance of Reg. 100 which reads: *"...every water treatment facility, domestic or industrial wastewater treatment facility, wastewater collection system and water distribution system be under the supervision of a certified operator, holding a certificate in a class equal to or higher than the class of the facility or system."* (Regulation 100.1.1)

Though there are approximately a little over 6,300 certified operators, 20 percent of the systems employ 80 percent of the operators and the other 80 percent of the systems are supervised by the remaining 20 percent of operators. This exodus of employment is occurring mainly along the Front Range and includes the certified water professionals for whom the greater number of our systems depend on to supervise the remaining systems in Colorado. Many of our rural communities have great difficulty in locating and hiring a certified operator due to constraints such as remote location, financial and/or managerial issues and a lack of operators in the area. We greatly depend on our contract certified water professionals who are willing to work with the many systems needing an operator, in order to meet the aforementioned compliance requirements.

So here is my suggestion: begin planning now. Look at the future of the system or systems for which you work and decide how to make sure that you have well-trained, properly certified operators and staff ready to take over the duties and responsibilities assigned to you as the operator in responsible charge. Put together your standard operating procedures (SOPs), operation and maintenance manuals (O&Ms) and monitoring plans (different from your monitoring schedules). Make sure that whomever takes your place can step right in and take over as a well-trained, knowledgeable, experienced and confident operator. They will thank you and your communities, though unknowingly in most instances, will appreciate that life can go on as usual with uninterrupted drinking water and safe, fun and clean waterways in Colorado. You have the power now to make sure this happens!

If you are a system, or an operator needing some guidance, consultation or mentoring, please call me, Mike Bacon at 303-692-2605 or Gordon Whittaker at 303-692-3580 and maybe we can help. If you are a system needing an operator in responsible charge (ORC) you may contact some of our contract-certified water professionals who offer their services for certified-operator supervision. The State doesn't endorse or make recommendations for the contract-certified water professionals, but can provide a list of contractor options. Please contact Lori Billeisen-Moore at 303-692-3510 for a list in your area.

Facility-Operator Program News

Exam Information: The next cycle of treatment and small system certification exams will be in the winter of 2011 at several locations across the state. Dates, locations and application materials are available on the OCPO website at www.ocpoweb.com. **The deadline for applying for these exams was Dec. 31, 2010. Late applications will not be accepted!** The next cycle of distribution, collection and small-system certification exams will be in the spring of 2011 at several locations across the state. Dates, locations and application materials should be available on the OCPO website (see above) on or around Jan. 10. **The deadline for applying for these exams will be Feb.15, 2011. And again, late applications will not be accepted!** Note: If you have already scheduled an examination and need to change the date, contact Teresa at OCPO at 303-394-8994.

WWFOCB news: New! The WWFOCB has made electronic testing available at the OCPO office. You must apply for exams by the deadlines, but then will be able to make an individual appointment to take the exam. Online testing is available for all levels. Advantages include *instantly* knowing your score, you may complete your Affidavit of Legal presence and purchase your certificate on site, and you have the flexibility in arranging a test time to fit your schedule. **You MUST be approved for standard paper-and-pencil exam to enroll and you MUST enroll at least two weeks prior to the exam date you want. Additional cost for online testing is $35.** Details may be obtained from the regular spring letter from the OCPO office and on the OCPO and WWFOCB websites. Go to the Operator Certification Program Office website at www.ocpoweb.com , click on the "Operators" tab, choose "Certification," then choose "Pre-Approved Enrollment." Read the information and follow instructions to enroll!

The next two Board meetings are scheduled for Feb. 15, during the Colorado Rural Water Association Annual Conference at the Crown Plaza Hotel in Colorado Springs, and March (date TBD) at the Colorado Department of Public Health and Environment in the Sabin Room in Building A (unless otherwise noted). The meetings begin at 9 a.m. and are an excellent opportunity to hear and be heard. Please consider this an invaluable opportunity to bring your ideas, concerns or questions about water and wastewater certification, testing, careers, management or any other relevant topic to the people who can help affect change. If you would like to provide any comments in addition to the published agenda, you should contact Heather Timms at 303-692-3469. Specific agenda information can be found at http://www.cdphe.state.co.us/op/ocb/Meetings/Meetings.html. For all other inquiries you may visit www.cdphe.state.co.us/op/ocb (the Water and Wastewater Facility Operators Certification Board website).

Renewals: Please check the renewal date on your certification! Renewal applications must be submitted, along with the appropriate number of training units, completed legal presence documents and the application fee, **by the expiration date.** If you think that you may not be able to complete your renewal by the expiration date, please call the Facility Operator Program (303-692-3510) in order to request a bridge letter. Remember, certificates expired for more than two years are automatically revoked!

ORC Changes: If you are the Operator in Responsible Charge (ORC) of a system and are leaving that system, please send written notice to the Facility-Operator Program. The notice only needs to include your name, the name of the system and the effective date of separation. Either mail or e-mail notifications are acceptable. If you are the administrator of a system with a new ORC, please submit a new ORC form to the Facility-Operator Program as soon as possible. ORC forms may be found at http://www.cdphe.state.co.us/op/ocb/opassist/ORC/ORC.html.

Operator Certification Expense Grant Reimbursements Increased!

If you work as an operator (either water treatment or distribution) for a community or non-transient non-community public drinking water system that serves a population of 3,300 people or less, you may qualify for certification cost reimbursement through our expense reimbursement grant. **The application MUST be received by CDPHE within six months of issue date on the operator certificate.**

The grant money allotted for certification exam reimbursement and renewals has just been increased to $230 per application!

✓ **Application Forms:** Contact Lori Billeisen at the WQCD at 303-692-3510.

What Do You See?

by Melissa McCain

Try to identify the problems with this public notice. If you see something we missed, let us know!

Send your comments to comments.wqcd@state.co.us. Enter "Safe Drinking Water Program Newsletter" as the subject.

THIS IS NOT AN EMERGANCY

Water test did not meet the State of Colorado drinking water requirements.

The chlorine form was found too high which caused collection on the inside of the pipes, with chlorine injected into the water the coli form will be eliminated.
This test was done on 7/15/07 and was treated after Colorado required us of this notice to be posted.

Drinking this water may cause cramping to infants or to anyone with weak stomach . If you have any questioned on this matter please feel free to ask or call @ _____ or check with _____.

If you think you are at some risk with drinking this water please don't drink the water.

THANK YOU FOR YOUR PATIENCES.

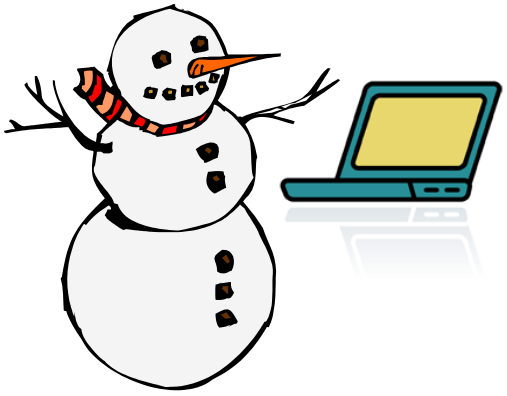
ANSWER:

Aside from grammatical errors, the following required elements of a public notice are missing or unsatisfactory in the above example:

1. Accurate and succinct description of the violation or situation including contaminant(s) of concern and (as applicable) the contaminant level(s).
2. When the violation or situation occurred.
3. Any potential adverse health effects from the violation or situation, including any standard language provided in the rule. The health effects language may not be modified.
4. The population at risk; including subpopulations particularly vulnerable if exposed to the contaminant in their drinking water.
5. Whether alternate water supplies should be used.
6. What actions consumers should take, including when to seek medical help, if known.
7. What the system is doing to correct the violation or situation (corrective action).
8. When the system expects to return to compliance or resolve the situation.
9. Contact information: name, business address and phone number of the water system owner or the owner's legal representative of the PWS that can provide additional information.
10. A statement encouraging notice recipients to distribute the notice to other persons served using the following standard language from the rule. This statement may not be modified: "Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools and businesses). You can do this by posting this notice in public places or by distributing

Visit Us on the Web

- Follow us on Twitter! http://twitter.com/CO_SafeWater.
- Subscribe to the program's RSS feed http://twitter.com/statuses/user_timeline/35859511.rss.
- The Drinking Water Program's home page Web address is www.cdphe.state.co.us/wq/drinkingwater/index.html.
- For training opportunities, please visit the division's website at www.cdphe.state.co.us/wq/drinkingwater/trainingevents.html.
- To access Aqua Talk online, go to www.cdphe.state.co.us/wq/drinkingwater/QuickLinks.html.
- To access the district engineer county listing, go to www.cdphe.state.co.us/wq/engineering/pdf/County_List.pdf.
- To access the contact list for drinking water rules, go to www.cdphe.state.co.us/wq/drinkingwater/pdf/CAS_Contact_List.pdf.



What's New With Significant Deficiencies?

The *Colorado Primary Drinking Water Regulations* are amended periodically by the Water Quality Control Commission to clarify or add requirements. When the Commission amended the regulations to include the requirements of the new federal ground water rule, it amended Article 11 to increase the frequency of sanitary surveys at groundwater systems and to set more specific deadlines for the division and public water systems to address significant deficiencies and violations discovered at surface and ground water systems during inspections. These new requirements went into effect Dec. 1, 2009.

Significant deficiencies are those conditions that have the potential to result in finished water that poses an unacceptable risk to the system's consumers. Examples of significant deficiencies include damaged storage tanks that could allow entrance of animals, inadequate distribution system pressure and defects in operations and maintenance procedures. Typical violations discovered during inspections include construction without design approval, failure to have a certified operator, and lack of a written monitoring plan.

The regulations now require that the division and the water systems meet certain deadlines, and take certain actions, whenever significant deficiencies or violations are discovered. The clock starts for the water system when it receives written notice of the sanitary survey findings from the division. The written notice will advise the water system of the findings and of the deadlines for responding. In general, all significant deficiencies and violations must be corrected within 120 days, or the system must have a division-approved action plan in place if it will take longer than 120 days to correct the deficiencies or violations.

To comply with the new provisions in Article 11, you should be aware of the following deadlines:

- **Within 30 days of receiving the sanitary survey letter**: Telephone, e-mail or otherwise contact the division's inspector to discuss the significant deficiencies or violations and the actions you plan to take to correct them.
- **Within 45 days:** Send the inspector a written plan, committing to the actions you will take to remedy the significant deficiencies or violations. You must include a schedule for completing the actions. If the division does not receive a response by this deadline, then you will receive a compliance advisory notifying you that the water system is now in violation of the regulations. This violation is a treatment technique violation.
- **Within 120 days:** The significant deficiencies or violations must be corrected unless the division has approved an action plan with a longer schedule. If you don't correct the deficiencies/violations, or have an approved action plan in place by this time, then you will receive a second compliance advisory and incur a second treatment technique violation. In many cases, because the discovered conditions pose an unreasonable risk to health, the division will exercise its enforcement authority to compel the system to correct the deficiencies or violations.

The overall goal of Article 11 is to achieve prompt correction of conditions that pose a risk to public health. The Safe Drinking Water Program is committed to assisting you with meeting this goal, and to following the timelines in Article 11. We encourage you to work closely with the inspector during and after a sanitary survey to understand and resolve the deficiencies or violations.

Groundwater Entry Point Designation

by Paul Kim and Tyson Ingels

On Nov. 30, 2010, the Water Quality Control Division (Division) of the Colorado Department of Public Health and Environment will begin implementing new groundwater disinfection regulations for all public water systems that utilize groundwater as their source. The new regulations will require entities to do the following:

- Provide a 0.2 mg/L disinfectant concentration residual in the water at the entry point to the distribution system.
- Conduct weekly residual disinfection concentration monitoring at all entry points serving groundwater to the public.

Based on these new requirements, the identification of entry point sampling will be crucial to ensure proper monitoring and reporting of disinfection residuals and water quality parameters.

To assist water systems with properly identifying entry point(s) sites, the Division has defined an entry point as a point after all treatment but before the first customer. The Division considers treatment to include all contact time components (i.e., treatment piping and contact time tanks). The following examples illustrate the correct and incorrect entry point designations.

As indicated in Figure A, the entry point must be located at a point where treatment is considered complete. Disinfection is the primary type of treatment for groundwater systems. Disinfection contact time is considered a portion of treatment. If your water system believes the entry point is incorrectly designated, please contact your compliance assurance officer to update the system's inventory and monitoring schedules.

In situations where a water system has a configuration that is not conducive for installing an entry point tap, or is unsure of the entry point location, please contact your compliance assurance officer. Further guidance and information will be forthcoming to assist groundwater systems with the implementation of the new groundwater regulations. Please continue to check the divisions webpage for updates.

Figure A. Correct Entry Point Designation

Entry point is designated after all treatment (i.e., storage tank) and prior to the first customer.

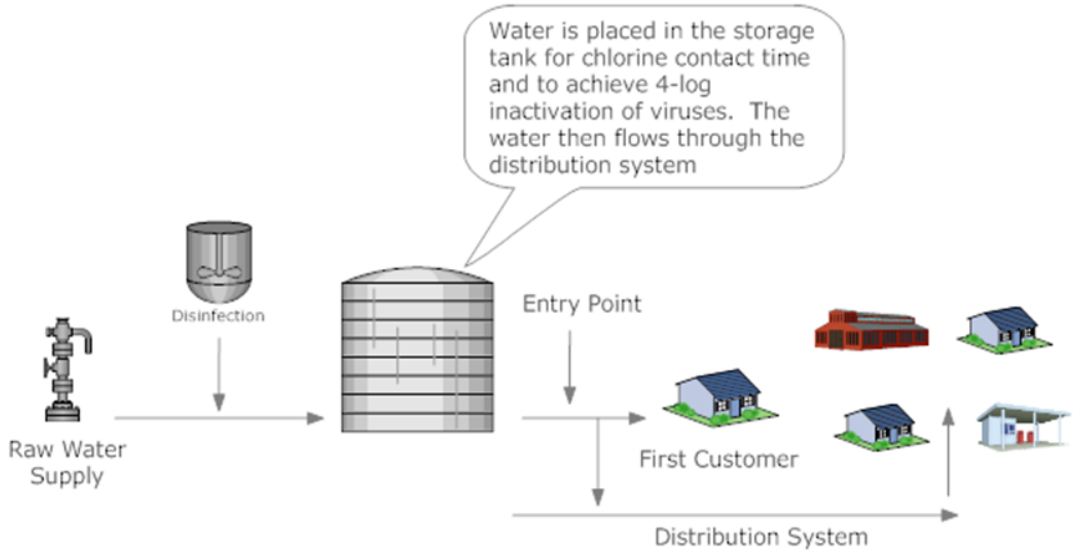


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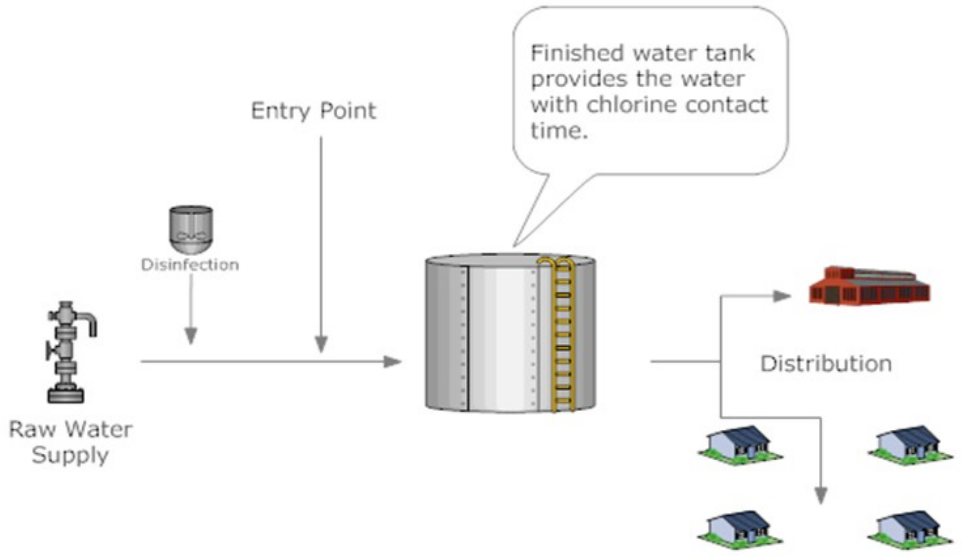
Figure B. Incorrect Entry Point Designation

Entry point is located after disinfection: however treatment (i.e., chlorine contact time) is provided by the finished water tank.



Raising the Bar – Elevating the Status of the Water and Wastewater Certified Operator Profession

by Lori Billeisen-Moore

The water and wastewater facility operator profession is one that is perpetually changing. A growing list of changes, which includes changes in certification, regulation, and technology, as well as an increase in population growth, among others, is seemingly endless. This is an opportunity that should be viewed for its potential to educate your community about what you do and the vital role you play.

People should be better informed about where their water comes from, why conservation is important, the cost of water and why there ***is*** a cost associated with this seemingly "free" resource. But more important, people should have a MUCH better awareness about **who** takes care of their water. Most people living in the U.S. don't think twice about turning on their tap and having clean water to drink or being able to flush their toilet and not worrying about where everything goes. Here in Colorado, we enjoy some of the best-tasting water straight from our taps. Our favorite outdoor recreation activities, (rafting, fishing, etc.), are made possible and more enjoyable by the good health and pollution-free condition of the state's rivers, lakes and reservoirs.

Recently, Colorado's water and wastewater facility operators were given the opportunity to become recognized as "Certified Water Professionals," also known as C.W.P. This certification gives operators an opportunity to elevate their individual professional status and raises awareness about the profession among coworkers, human resource departments and other staff. Most important, the credential creates camaraderie and a feeling of mutual respect. Hopefully this will encourage collaboration and professional development within our field.

Now let's make an important and valid comparison: firefighters, police officers, teachers and health care providers all have clear, well-known and respected roles in their communities. Our certified water professionals should as well. People know why firefighters and police officers are important and what they do. They are respected in their professions and in their communities. They get involved in different community causes, recruit young people to advance and increase their workforce, promote themselves and are proud of the work they do. I believe that certified water professionals can do the same in our profession. I also believe that operators deserve this type of recognition in the communities that we care for.

Here's my advice on what you can do:

- Take advantage of opportunities for recruitment as well as self-promotion within your high schools and community colleges.
- Participate in job fairs and science fairs to help introduce youth to the profession and get them excited about the possibilities that this dynamic and fascinating field holds.
- Send out a newsletter or a shortened version of your Consumer Confidence Report to drive home the role you play in protecting your source water. Share conservation suggestions, explain characteristics of your community's drinking water, and what you do to treat the issues.
- Mentor other systems and educate people about the importance and interconnectedness of water sources and systems within your communities.
- Talk to your communities about cross connection control protection, using garbage disposals sparingly, and caring for septic systems and well-heads.

There are so many opportunities to educate people about your work and the importance of having clean drinking water and safe wastewater systems. You have the chance to elevate your status in your community and help people understand the crucial role you play in protecting the health of the public and environment.

Change takes time to take effect, but I believe in Colorado's water and wastewater certified professionals. I look forward to the possibilities that are within our grasp to inform and increase understanding about our water and environment. Remember, you are an amazing group of men and women who have a unique and important job. Your role in our communities is vital and will always be required. Thank you for the work that you do!

(Continued from page 5)

and training appropriate to their level of certification as defined in these regulations."

...and 100.16.2, "*Certified operators shall protect the public and safety by properly performing and/or supervising the tasks pertinent to controlling the operation of a water or wastewater facility."*

For specific certified operator duties, please visit http://www.cdphe.state.co.us/regulations/ocb/0911FinalReg100internal.pdf

...and then as the **Operator in Responsible Charge (ORC)**, which you will be if you are contracting with a system to supervise and maintain, you will have additional responsibilities which will include:

100.17.1, "*The operator in responsible charge of a water or wastewater facility must hold a valid certificate equal to or greater than the classification of the water and wastewater facility he or she operates."*

100.17.2, *"The operator in responsible charge shall protect the public health and safety in the conduct of his or her duties."*

For specific operator in responsible charge duties, please visit http://www.cdphe.state.co.us/regulations/ocb/0911FinalReg100internal.pdf.

Of course each system is different and may require more or less than other systems, however the duties specified online should be considered the basic guidelines for which you should set your supervisory standards. At the very least, you should set up your day-to-day activities based upon the requirements outlined in Regulation 100, and the individual system's needs.

Never should less than the basic requirements be accepted for any system you supervise. If you are just merely visiting your systems long enough to pull the required samples with no other considerations, then you are not doing your job and you should rethink your responsibilities. Being a certified operator requires so much more than just sampling. Remember, people count on **YOU** to be the expert and to do the best job that you can do when it comes to their drinking water and source water protection.

If you have any questions about operator duties, supervising systems, Regulation 100, or any other certification concerns, please call Lori Billeisen-Moore of the Water Quality Control Division's Facility-Operator Program at 303-692-3510.

Colorado Department
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