Aqua Talk

A newsletter from the Safe Drinking Water Program

Colorado Department of Public Health and Environment

Drought and Wildfire: Readiness and Response

Volume 7, Issue 3
Summer 2013

by David Dani, Local Assistance Unit

Spring and summer months in Colorado, and the western United States, bring to the forefront some alarming facts related to temperature, drought and wildfires:

- According to NASA, since instrumental temperature measurements began in 1880, all nine of the warmest years have occurred in the past 11 years.
- According to the *US Drought Monitor March 2013* report, 100 percent of Colorado was experiencing some level of drought.
- Conditions in 2013 provide a recipe for fire: low water supply, dead trees from pine beetle and hot, dry spring and summer temperatures.

Every water system in Colorado is impacted by these conditions. Water system administrators and operators are not alone when asking:

- Is my system vulnerable to drought and wildfire?
- How can I protect the system?
- How would my system respond to a water shortage or outage from a drought or wildfire?
- What if we have an emergency too big for us to handle?

(Continued on page 4)

SAFE DRINKING WATER PROGRAM GOALS AND PERFORMANCE

by Ron Falco, Safe Drinking Water Program Manager

To measure our success the Safe Drinking Water Program uses a combination of national and Colorado-specific goals. Together they drive performance and measure the degree to which our customers, the residents and visitors to the state of Colorado, experience the benefits of our services. To meet health-based standards, it means that virtually every sample at a public drinking water system collected during the entire year, and this can be thousands of samples at large systems, must meet the standards. Even the slightest, temporary bad result can push a system below this stringent compliance threshold. We use this simple red, yellow and green color-coded scorecard to assess performance relative to our goals.

Safe Drinking Water Program Scorecard

PROGRAM GOAL	ACTUAL RESULT(S)	SCORE COLOR	COMMENTS
Zero waterborne disease outbreaks at public drinking water systems	Zero outbreaks since March 2008	GREEN	In 2012 we responded to 94 potential threats at systems serving a total of 94,000 people. Threats often involve minor treatment problems or water main breaks, but can be more serious. We are available 24 hours a day to help during these situations. Thirty-one bottled or boiled water orders were issued impacting 18,500 people. There was a chemical contamination outbreak that sickened 26 people at a medical building complex in Colorado Springs during October 2012, but this was an issue inside one building and not a problem with the public water supply.
Zero people receive drinking water that exceeds health-based standards for uranium or radium.	28 systems serving 21,000 people exceed these standards	RED	Historically, over 50 water systems in Colorado struggled with naturally occurring radium and uranium in groundwater. It is a complicated challenge for these mostly very small systems. By 2016, we hope that only 16 systems serving about 4,000 people are still grappling with this problem. Several systems in the Lower Arkansas River Valley are awaiting a Federal water pipeline project for clean, safe water. This may not happen until at least the 2020s.
98% of the population in communities receive drinking water that meets all health-based standards.	97.3%	YELLOW	We always have hovered right near the target, which is well above the national 2014 goal of 92%. The national result from 2010 was 91.4%. Colorado should be proud of this number.
95% of community public drinking water systems meet all health-based standards	92.2%		The national goal is 90%, and that is where the nation stood in 2010. If not for the radium and uranium issues, Colorado would be right at about 95%. Again, Colorado should be proud of this number.
80% of public drinking water systems are in full compliance with all regulatory requirements	75.1%		The most common violations are caused by failing to collect required samples and do not necessarily represent a direct public health risk however, unless a system properly samples, its water quality status cannot be known.

(Continued on page 6)

North-South Realignment of Compliance

by Jennifer Miller, Compliance Assurance Section Manager

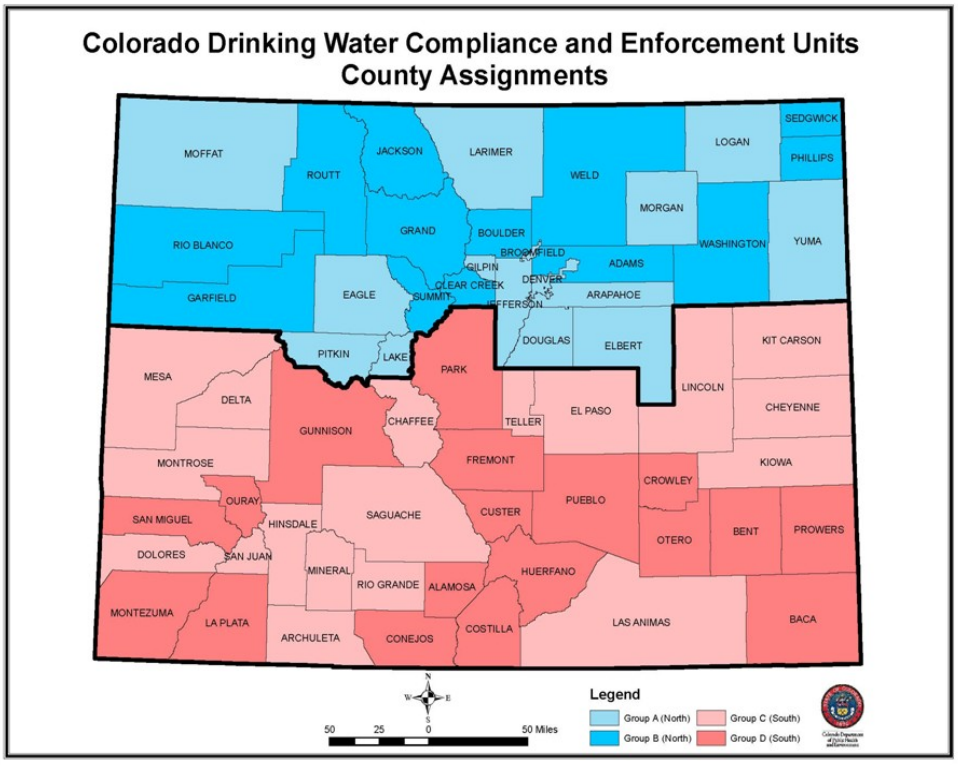
As is the case for so many government organizations and businesses today, we are constantly struggling with balancing our limited resources and providing quality and timely services to the citizens and visitors of Colorado. As part of our efforts to improve our efficiency and effectiveness in the drinking water Compliance Assurance Section, we recently completed major changes in the compliance and enforcement parts of our organization and some less-substantial changes in other parts of our organization.

In evaluating our ability to positively affect compliance, we found that we were lacking the ability to holistically look at individual and groups of water systems to identify common barriers and the corresponding solutions to achieving compliance. Because of the 'hard divide' that existed between our compliance and enforcement work, we had difficulty identifying and utilizing the best tools to address challenging and sometimes widespread compliance issues. This often resulted in the expenditure of resources on formal enforcement in lieu of creative compliance solutions that could be more widely leveraged.

Colorado Drinking Water Compliance and Enforcement Units Contact Information

		Surface Water	Comm & NTNC Ground Water	Transient Non-Comm Ground Water
North	**Group A**	Lauren Worley 303.692.3547 lauren.worley@state.co.u	Erica Kannely 303.692.3543 erica.kannely@state.co.us	Kaitlyn Minich 303.691.4084 kaitlyn.minich@state.co.us
	Group B	Amy Schultz 303.691.4927 amy.schultz@state.co.us	Robert Pohl 303.692.3254 robert.pohl@state.co.us	Kaitlyn Minich 303.691.4084 kaitlyn.minich@state.co.us
South	**Group C**	Bryan Pilson 303.692.3318 bryan.pilson@state.co.us	Mike Sherry 303.692.3325 michael.sherry@state.co.us	Lori Moore 303.692.6263 lori.moore@state.co.us
	Group D	Alison Brinton 303.691.4918 alison.brinton@state.co.us	Russ Zigler 303.692.3546 russell.zigler@state.co.us	Lori Moore 303.692.6263 lori.moore@state.co.us
	North Unit Manager	Nicole Graziano	303.692.3258	nicole.graziano@state.co.us
	South Unit Manager	Margaret Talbott	303.692.3540	margaret.talbott@state.co.us

Colorado Drinking Water Compliance and Enforcement Units County Assignments



(Continued on page 8)

As a result of what we found, we have gone away from the rule manager model and we no longer have stand-alone compliance monitoring and enforcement units. We now have two Compliance and Enforcement (C&E) Units that are geographically-based. The work is assigned based upon geographical assignment and type of water system being regulated. That is, each person in the C&E Units is assigned to one of three regulated entity groupings (surface water systems, community and non-transient non-community groundwater and transient non-community

Wildfire and Drought

(Continued from page 1)

To help systems answer these questions, the Water Quality Control Division has partnered with CoWARN to assemble a go-to emergency resource library on the CoWARN website www.cowarn.org. This is the one-stop-shop where systems can access emergency readiness and response tools and templates.

For droughts, water systems will find resources to help:

- Prioritize water uses (i.e., fire fighting, health care facilities, landscaping)
- Forecast supply and demand
- Identify strategies to temporarily reduce demand and find alternate water to increase supply
- Establish actions to take at various levels of drought
- Monitor and document water reductions

For wildfires, water systems will find resources to help:

- Predict effects a wildfire would have on watersheds, water quality and treatment
- Identify strategies to implement now for reducing the impact a wildfire would have on water systems
- Develop a wildfire response plan

Other tools available on the CoWARN website www.cowarn.org:

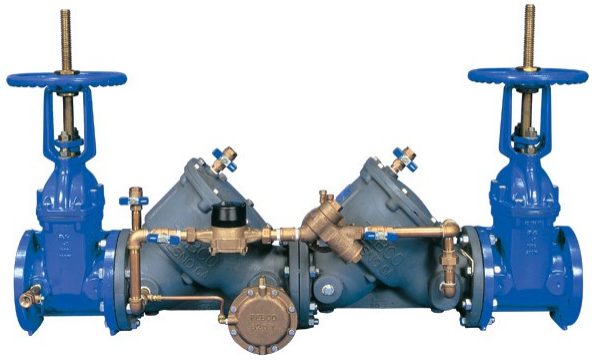
Vulnerability Assessment templates
Emergency Response Plan templates
Emergency Drinking Water Supplies – a list of water haulers, portable tanks, and bottled water companies
Emergency funding information
Security threat reports
Links to tools from EPA and other organizations

Simple Fixes

by Cameron Wilkins, PE, Field Services Section

Cross connections are a serious threat to water quality. When was the last time you evaluated your system for potential cross connections? Routine evaluations may be necessary to fully evaluate whether a system is adequately protected against a back flow event. Several locations need to be evaluated, including the treatment plant and distribution system.

Evaluating the treatment system to ensure no cross connections exist is a simple way to protect treated water quality. Common cross connections at a treatment plant include chemical makeup lines, garden hoses, drain lines and direct connections between raw and treated water. Be sure all identified cross connections are properly protected and annual testing is conducted and documented on testable devices.



Distribution systems can be harder to routinely evaluate for cross connections. Conduct and document an evaluation of potential cross connections to the distribution system. Develop a program to ensure all cross connections are adequately protected and annual testing is conducted and documented on testable devices. Keep your program up-to-date by continually evaluating to determine if new cross connections exist. Coordination with the local building department or your area's wastewater pre-treatment program can help achieve this goal. Keeping an eye out for new uses in existing buildings can also be an effective way of identifying new cross connections.

For more information regarding regulatory requirements related to cross connections, please review the *Colorado Primary Drinking Water Regulations, Article 12*. ♦

Cross Connection Contamination Event

by Jorge Delgado, PE, Field Services Section

On Oct. 26 a cross connection was created at the Printers Park Medical Plaza in Colorado Springs. This cross connection contaminated the Plaza's potable supply system, primarily with propylene glycol. Twenty-six people got sick after drinking the contaminated water. The contaminant was believed to have come from the building's HVAC system where propylene glycol was present.

The Colorado Department of Public Health and Environment, Water Quality Control Division with the help of El Paso County Public Health and information provided from Colorado Springs Utilities, responded and subsequently documented the event. The report *Drinking Water Waterborne Disease Outbreak, Printers Park Medical Plaza,* documenting the event, investigation, observations, conclusions and recommendations associated with the event is available on our website. While this was a waterborne disease outbreak, it did not occur because of a problem that a regulated public water system could control. Therefore, this event did not "count" as a waterborne disease outbreak that we track for the purpose of the program scorecard on Page 2. ♦

Propylene glycol, the presumed contaminant, drawn from a spigot in the Printers Park Medical Plaza mechanical room.

Colorado Primary Drinking Water Regulations Update

by Melissa Swerdlow,, Regulatory Development and Support Unit

The Water Quality Control Division is continuing to make strides in updating the *Colorado Primary Drinking Water Regulations* (CPDWR) to simplify the language and clarify the requirements of the regulations. Earlier this year, the division conducted a survey regarding whether the regulations should be split into multiple regulations or remain as a single regulation. Based on stakeholder feedback, the division has decided to keep the current structure of one regulation.

The current article structure of the CPDWR is organized by drinking water rule and will remain that way in the new version. However, the new CPDWR will have more articles than the current version. For example, Article 7 includes the surface water treatment rules, disinfection, disinfection byproducts and disinfection byproduct precursor rules. These have been split into separate articles. Overall, the number of articles will increase from 13 to 35, plus reserve articles for future rulemakings. Although the number of articles has increased, breaking out the information in this manner will make requirements easier to find.

The final two statewide stakeholder meetings were held May 7 in Denver and May 9 in Grand Junction to review and comment on the final proposal of the revisions. The final proposal is currently being reviewed by EPA Region 8. The increased readability rulemaking hearing to adopt these revisions is scheduled for Nov. 4 in Summit County. For more information about this rulemaking please visit our webpage. ♦

Protecting Water Sources

by Paul Kosik, PE, Field Services Section

The multibarrier concept of proactively protecting and improving water quality begins with source water protection. While groundwater wells appear to be a great source of clean, high quality drinking water, they can be subject to contamination and be of a less than desirable quality as compared to an available surface water source nearby.

Examples of ways to protect your groundwater wellhead and its aquifer include ensuring an intact sanitary seal is on the wellhead, maintaining a wellhead at least 12 inches above grade, installing a 24-mesh screen on the wellhead vent, and properly sealing, repairing or replacing any other openings such as cracked well casings, open electrical conduit connections, etc. Other source water protection considerations include protecting the wellhead perimeter with concrete bollards in areas of vehicle traffic, ensuring the slope in the vicinity of the wellhead allows for drainage away from it, maintaining a wellhead higher than the 100-year flood plain or other localized flooding, and avoiding or mitigating potential sources of contamination near the well.

Of particular note, septic systems or leach fields near the well may contribute to increasing nitrate/nitrite concentrations in the source water and could diminish source water aesthetic qualities by increasing total dissolved solids concentrations if the well is shallow or draws from an unconfined aquifer. In such instances, maintaining the wellhead and casing may not be enough. Water systems might consider investigating the condition of the septic system and evaluating its design to determine if the septic system is in need of repair, redesign, maintenance or even relocation. Common septic system problems may include leaking septic vaults, improper design or overloaded leach fields. Water system operators are encouraged to determine potential source of source water contamination to the source water they manage and coordinate with county and city authorities to determine solutions, as necessary.♦

Program Goals and Performance

(Continued from page 2)

In conclusion, the Safe Drinking Water Program is proud there has not been a confirmed waterborne disease outbreak at a public drinking water system since March 2008. We are also proud that we set our targets well above some key national goals and we exceed the national performance. Unfortunately, the ancient geologic history of Colorado that blessed us with such beauty also left a little extra radium and uranium in the ground that can sometimes dissolve into groundwater at low levels, but still above health-based standards. We have been working on this problem for a number of years, and the situation is gradually improving. We would like to achieve more "green" results, but we will not lower our existing goals. When we achieve them, we will challenge our program and public water systems by raising the goals for the future. ♦

Drinking Water Quiz

by Bryan Pilson, Compliance Assurance Section

Think you know everything about drinking water? Prove your drinking water knowledge with our quiz. For this issue of *Aqua Talk*, the topic is general monitoring and testing. Please go online to record your answers. Answers will appear in the next issue. The spring 2013 quiz answers are below. Enjoy!

1. Where must all monitoring locations for each applicable rule of a water system be recorded?
   A. Monitoring schedule
   B. Monitoring plan
   C. Operations and maintenance plan

2. You are on annual lead and copper monitoring. When are you required to collect your samples?
   A. June through September
   B. August
   C. Anytime during the year

3. Campgrounds and other transient water systems are not required to monitor for radionuclides because:
   A. The cost of sample analysis is too high
   B. Radionuclides are not present in the drinking water of transient water systems
   C. Health effects from drinking water with elevated radionuclides are chronic and it takes 20-plus years of daily exposure to be at an increased risk of illness

4. How often shall a containment device on a potential cross connection be tested and maintained?
   A. Annually
   B. Every three years
   C. Every five years

Answers to spring 2012 Aqua Talk Drinking Water Quiz

1. B or C. You should notify the division promptly to any errors you may have on your monitoring schedule. If the end of the monitoring period is fast approaching, you may want to collect the sample anyway to avoid a potential violation.
2. C. It's the responsibility of the water system and not the lab to ensure results are reported to the division.
3. B. If the disinfectant residual goes below 0.2 mg/L, a surface water system will be in violation if the disinfectant residual is not restored to at least 0.2 mg/L within 4 hours. Operators should first troubleshoot and fix the problem, then call the division to report the issue and resolution by the next business day.
4. B. The wholesale system must collect source water samples within 24 hours. If the source is fecally contaminated, both the wholesale and consecutive system must issue a tier 1 public notice under the groundwater rule.

Senate Bill 150 Update

by Jackie Whelan, Facility Operator Certification

Article 9 of Title 25, C.R.S., establishes the Water and Wastewater Facility Operators Certification Board. This law includes an automatic repeal provision known as a sunset provision that would repeal or sunset the board. The board was set to expire July 1, 2013. The Colorado Department of Regulatory Agencies conducted a yearlong review and assessment of the operator certification program and produced a sunset review report.

As a result of the report, Senate bill 13-150 was introduced in this year's legislative session. The bill to continue the Water and Wastewater Facility Operators Certification Board successfully passed through the legislature and was signed by Governor Hickenlooper on June 5, 2013.

The changes to the law as a result of Senate bill 13-150 include:

1. Continuation of the Water and Wastewater Facility Operators Certification Board for another seven years until July 1, 2020.
2. Changes the seat on the board for the Colorado Rural Water Association to a more general small systems seat.
3. Expanded the board's exemption authority to include certain domestic wastewater and drinking water facilities from the requirement they operate under the supervision of a certified operator.
4. Created separate statutory sections delineating the responsibilities of the board, the Water Quality Control Division and any nonprofit corporations under contract with the board. ♦

Safety Tip:

To reduce risk of fires, properly dispose of cigarettes, be aware of sparks from equipment and respect campfire, fireworks and other burning restrictions and bans.

North-South Realignment

(Continued from page 3)

groundwater) with a county subgroup (A or B). The assignments include performing all compliance and enforcement work and being the primary point-of-contact for the regulated entity grouping for each county subgroup. The staff and managers assigned to the C&E Units are the primary points of contact for all questions and issues related to drinking water compliance and enforcement in Colorado.

We also have made changes to the previously-entitled Policy and Planning Unit. PPU is now called the Regulatory Development and Support Unit; the RDSU is responsible for leading work on making changes to the *Colorado Primary Drinking Water Regulations* and its associated policies, as well as working within the Drinking Water Compliance Assurance Section to document implementation decisions and activities.

We have been transitioning into these organizational changes over the past few months and the effective date of full implementation of the changes was May 1. The new contacts for compliance and enforcement are detailed in the table on Page 3 and on our website. ♦

Water System Excellence Recognition Program

Colorado Department of Public Health and Environment in partnership with utilities, universities, organizations and industry is launching an Excellence Program fall 2013 to provide drinking water systems and operators with resources and incentives to continually improve performance. Program details will be announced at the RMSAWWA conference in October.

Portrait of Waterborne Disease Outbreak

Drinking Water's Most Wanted

by David Dani, Local Assistance Unit

Part II of IV part series

It turns out one of the side effects of having *Giardiasis*, besides nausea, abdominal cramps and bloating, can be some pretty lucid dreams brought on by fatigue and dehydration. Lately, you've been waking up in a cold sweat after dreaming about outlaw protozoa chasing you around and around a pristine mountain lake.

Proceed with extreme caution; these outlaws are responsible for 77 Colorado drinking water outbreaks and over 13,000 cases of illness dating back to the 1960s. They are heavily armed with potentially fatal weapons causing diarrhea, nausea, fever, abdominal pain and weight loss. They may show up in your glass of water to be swallowed or join you in the shower to be inhaled. These outlaws are still at large and were last seen hanging out in human and animal poop. Let's take a closer look at classes of these outlaws:

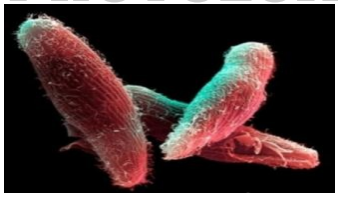
BACTERIA

Alias: *E. coli, Salmonella, Shigella, Vibrio cholera* (cholera), *Legionella*

- Accounts for 1 to 2 million deaths a year worldwide

- *Salmonella* responsible for Alamosa outbreak

PROTOZOA

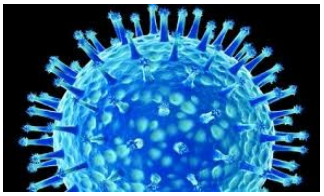


Alias: *Giardia, Cryptosporidium*

- Estimated that *Cryptosporidium* causes 748,000 illness cases per year and *Giardia* causes 2,500,000

- *Giardia* responsible for over half of all Colorado waterborne disease outbreaks

VIRUS



Alias: Norovirus (stomach flu)

- Most common of gastrointestinal outbreaks at 23 million per year

- Norovirus responsible for Skyline Ranch outbreak

CHEMICAL

Alias: too many to list

- Some chemicals cause illness at concentrations equivalent to 1 drop in an Olympic size pool

- Estimated that cross connections are leading cause of waterborne disease outbreaks in U.S.

- Proplylene glycol responsible for Printers Park outbreak

For more waterborne disease outbreak information please visit the Colorado Department of Public Health and Environment website and search for "public health threats."

Tune in next issue for part four of this series on waterborne disease outbreaks.

Is Your Coliform Sampling Adequate?

by Serenity Valdez, Compliance Assurance Section

One of the most important ways to reduce the risk of acute disease outbreaks is meeting the requirements of the total coliform rule of the *Colorado Primary Drinking Water Regulations*. Complying with the total coliform rule involves both proper sampling and appropriately responding to positive samples. Proper sampling requires sampling at locations that represent the water quality throughout the distribution system (CPDWR, article 5, section 1.1 (a)).

In order to determine whether your sampling locations are appropriate, consider the following:

- Does the water age vary in different areas of the distribution system?
- Do you supply the distribution system with different sources and different entry points? Is there a location where the different sources combine within the distribution system?
- Are there any cross connection hazards present?
- Are there areas of different water pressures?
- Are there areas of low or no disinfectant residual?
- Are there areas of higher or lower flow conditions?
- Is there any additional (booster) disinfection applied within the distribution system?
- Are there any schools, daycares, hospitals or other higher risk populations being served?

Sample sites should be selected to represent water quality in all of the different areas (high pressure, low pressure, high flow, low flow) within your distribution system. Once you have identified sites that represent all of the different areas in your distribution system, you should establish a sampling procedure that rotates between all of the identified sites.

For example:

A. You have determined there are three pressure zones present.

B. You have identified at least one sample tap within each zone.

C. Your monitoring frequency is one sample per month.

You can establish a procedure to rotate the sample location each month moving through each site once per quarter. In addition, all of the sample sites and sample procedure information must be recorded within the system's monitoring plan.

For more information on total coliform rule sampling, keep an eye out for the release of a total coliform rule sampling guide coming this fall! ♦

Draft Total Coliform Rule Sampling Guide

The Water Quality Control Division receives many requests for clarification on the sampling requirements for the total coliform rule. These requests often are the same requests from different entities. The division documented the recurring themes and released a draft guide. The draft guide is available on the division website at Colorado.gov/cdphe/wqcd and select the "What's New" button to locate drinking water coliform sample guidance development project (TCR). After you have reviewed the guide, please contact your assigned compliance specialist (see Page 3) with any questions or concerns you may have about total coliform sampling. ♦

Coach's Corner

by Mike Bacon, Local Assistance Unit

Providing safe drinking water to the public is the number one priority of both water systems and the Colorado Department of Public Health and Environment. So how do you plan for emergencies to ensure this is consistently done? How do you even know what emergencies to plan for? Some things you can control, and yes, some things you cannot control. You can control having emergency contacts, specific emergency response actions, chain of command, warning and notification procedures, communication to the media and steps to take prior to or during the emergency. You cannot control the pathway of the disaster, such as fires, floods or tornadoes.

Boulder county water treatment plant surrounded by fire during 2009 fire season.

Types of emergencies associated with drinking water include, but are not limited to: waterborne diseases, chemical spills, water breaks, power outages, snow storms, fires, floods, terrorism, vandalism and drought. Some questions to ask to help you get started could be:

- How can I minimize the impact of emergency situations to public health?
- How can I protect my water system and customers from further impact?

Standard operating procedures (SOPs) associated with each emergency applicable to your system should be developed. SOPs should include procedures to reduce the impact of the emergency, notification, warnings and contacts prior to or during the emergency, and procedures to follow.

Your system might be in tornado country. Communication and warnings are key steps that should be developed prior to a tornado in order to protect people as much as possible. You can control emergency preparation and measures that should be done prior to, during and after the tornado. You cannot control the tornado's intensity, time it is on the ground or miles per hour of wind velocity.

This year, Colorado is facing drought. What can we all do to reduce the impact of drought? Water restriction is not a popular choice however, despite restrictive efforts some may end up with a significant reduction in source water availability. Providing public education on conserving water could be a procedure to implement prior to a drought situation. Identifying potential water haulers to contact in the event of a water source shortage is another procedure to consider. Planning ahead is easier than planning during a crisis. ♦

Impacts of severe drought on rivers and creek beds.

Coach's Corner

Drawn by Tiffany Jackson

Coming Down the Pipe…

Design Criteria for Potable Water Systems

by Doug Camrud, PE, Engineering Section

The Colorado Department of Public Health and Environment, Water Quality Control Division implements the Safe Drinking Water Act in Colorado. As part of this implementation, the division reviews and approves new and modified waterworks at public drinking water systems based on the requirements of the *Colorado Primary Drinking Water Regulations* (CPDWR) and the *Design Criteria for Potable Water Systems* (DCPWS). The division had not updated the DCPWS since 1997. The 1997 DCPWS are outdated and deficient based on technology, operational and design advancements that have occurred over the past 16 years.

To remedy the deficiencies, the division led an update to the DCPWS over the past year and has worked diligently to obtain consensus from the stakeholder community which includes water systems, design engineers, state and county personnel. One of the main objectives of the new DCPWS was to add clarity to the design submittal process which will expedite the review and approval timeline for all regulated public water systems within the state. The process began in August 2012 with public stakeholder meetings in Denver, Glenwood Springs and Pueblo to introduce the need to update DCPWS and solicit volunteers for 10 workgroups to review various chapters of the existing DCPWS. The 10 workgroups met approximately every two weeks from October 2012 through April 2013 to develop an updated draft DCPWS.

The process successfully developed a draft DCPWS which was made available for stakeholder review May 10. The division scheduled three stakeholder meetings during May in Denver, Glenwood Springs and Pueblo to initiate comments on the draft DCPWS. The stakeholder comment period closed June 7. The division, with workgroup support, responded to all stakeholder comments and updated the draft DCPWS where appropriate. Following the stakeholder review and draft update, the public was given an additional two weeks to review and comment on the final draft DCPWS. Any final comments will then be addressed by the division. The division has scheduled an informational hearing for August 12 to inform the Water Quality Control Commission about the updates to this policy. The division anticipates final implementation of the new DCPWS on Sept. 1.

After the effective implementation date of the new DCPWS, there will be a four month transition period where a water system may elect to be evaluated based on the new design criteria or the 1997 design criteria. After the transition period, all designs will be evaluated based on the 2013 DCPWS. In the future, minor modifications to keep the DCPWS current may be made by the division as necessary. These minor revisions will be made by the division and notification provided to interested parties via the quarterly *Aqua Talk* publication, email notifications, water utility council announcements and other means. In general, the division's goal will be to routinely perform a major technical review and update of the criteria through a formal stakeholder process. These future stakeholder processes are expected to be more streamlined than the 2012/2013 effort due to more frequent updates. ♦

Ask Aqua Man

Dear Aqua Man:

I recently received my class D water operator certification and began my career with a small public water system in southwestern Colorado. New to the field, I know there is much to learn. How do I find out about training for small system operators? Travel time and training costs are a factor.

Bea Lerner

Dear Bea:

Congratulations on passing the exam and beginning your exciting career! The Water Quality Control Division provides a one-stop water system operator training web page. To find the webpage try a Google search for "wqcd training opportunities."

Training events are organized by month. Simply select a month that fits your schedule to see what is available in your area. Check back frequently as new events may be added. Be sure to view different months as Local Assistance Unit partners with CWRA, Rocky Mountain Water Solutions, JDS Hydro Consultants, Inc., Oxenford Consulting and RCAC to bring low-cost training to the four corners of Colorado and all points in-between.

The LAU currently offers four free coaching for training units programs. Coaches will travel to systems providing training to you and your coworkers.

Indigo Water Group, a partner of LAU, provides web-based training. A complete list of web base trainings can be viewed by selecting any month and clicking on a webinar hyperlink.

Links are provided to connect knowledge seekers with colleges offering water related courses and curriculums. The Operator Certification Program Office provides a comprehensive list of courses offering training units throughout Colorado.

Signing up for the division's listserv is another great way to be informed of upcoming training events at a venue near you, stakeholder activities and other information pertinent to water industry professionals.

Keep on learning!

Aqua Man

Coach Mike Bacon demonstrates use of chlorine meter to Steve Tew of Western Convenient Stores.

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

Engineering Section or Field Services?

by Kelly Jacques and Doug Camrud

In spring 2012 the Colorado Department of Public Health and Environment, Water Quality Control Division's Engineering Section divided into two sections: Engineering and Field Services.

The Engineering Section is focused on review and approval of drinking water and clean water design submittals.

The Field Services Section is focused on drinking water sanitary surveys, clean water compliance evaluation inspections and spill response.

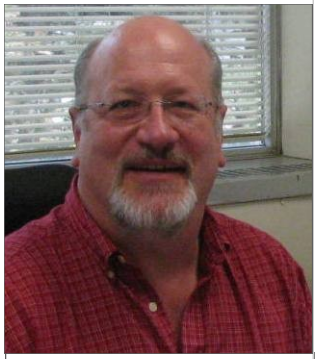
Please note the CDPHE 24-hour incident hotline at 877-518-5608 does include line breaks which cause a pressure drop in distribution systems.

The previous district engineer model no longer exists within the division. For information regarding who to contact in the Engineering Section or Field Services section please visit the following website addresses:

Bret Icenogle, PE, Engineering Section Manager

Engineering Section:

Phone: 303-692-6298



Greg Naugle, Field Services Section Manager

Field Services Section:

303-692-3596

Operator in Responsible Charge Vacation Coverage

by Jackie Whelan, Facility Operator Certification

What is the responsibility of an owner of a small public water system when the operator in responsible charge (ORC) takes a vacation?

This can be particularly challenging when systems have only one operator on staff certified at or above the level of the facility. The owner of the system is required to ensure a designated certified operator, certified at a level equal to or higher than the classification of the facility, is available whenever the facility is in operation.

An important thing to remember is "available" in this instance means the designated certified operator must either be on-site or able to be contacted as needed to make decisions and initiate necessary actions in a timely manner (section 100.18.3(b)). An operator certified at the level of the system classification is required to cover while the system's ORC is away. This can be a contract operator or someone from a nearby facility.

Some routine duties can be delegated to the owner or other staff by the ORC, if those activities are included in a written operating plan. Before the ORC leaves for vacation, ensure he or she has provided a written copy of the system's operating plan. The plan should include a list of routine tasks and who has been trained to perform them. For tasks such as checking the chlorine residual in a system, it's important to include the range of acceptable levels measured. This will help the person doing the sampling to know when they should call the certified operator for direction. Remember, all process control and/or facility integrity decisions about water quality or quantity that may affect public health or the environment must be made by either an ORC or by another operator certified at a level equal to or higher than the classification of the facility.

Colorado does not require a back up ORC to be on record or to report the person covering when the system's ORC is away, but a good management practice is to have a certified operator identified before they are needed.

Contact Jackie Whelan at 303-692-3617 or jackie.whelan@state.co.us with questions. ♦

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