

# Drinking Water Board Packet

August 28, 2018

# Agenda



State of Utah

GARY R. HERBERT  
*Governor*

SPENCER J. COX  
*Lieutenant Governor*

**Drinking Water Board**  
Betty Naylor, *Chair*  
Roger G. Fridal, *Vice-Chair*  
Brett Chynoweth  
Jeff Coombs  
Tage Flint  
Eric Franson, P.E.  
Brad Johnson  
David Stevens, Ph.D.  
Marie E. Owens, P.E.  
*Executive Secretary*

**DRINKING WATER BOARD MEETING**

August 28, 2018 – 2:15 pm

Davis Conference Center

Zephyr Room

1651 North 700 West

Layton, Utah 84041

Marie Owens' Cell Phone #: (801) 505-1973

1. Call to Order
2. Roll Call – Marie Owens
3. Approval of the Minutes:
  - A. July 13, 2018
4. Financial Assistance Committee Report
  - A. Status Report – Michael Grange
  - B. Project Priority List – Michael Grange
  - C. SRF Applications
    - i. STATE:
      - a) Aurora City – Lisa Nelson
    - ii. FEDERAL:
      - a) West Corinne – Lisa Nelson
      - b) Central Utah Water Conservancy District - Duchesne - Lisa Nelson
5. Rural Water Association Report – Dale Pierson
6. Open Board Discussion – Betty Naylor
  - A. Introduction of New Governor Appointed Drinking Water Board Member
7. Authorization to Begin Rulemaking to Amend Cross Connection Control Rules
  - A. R309-105-12: Cross Connection Control – Gary Rager
  - B. R309-305: Cross Connection Control and Backflow Prevention Certification – Gary Rager
8. Directors Report
  - A. Public Water System Definition Rule Review
  - B. Revised Total Coliform Rule (RTCR) Review

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- C. Legislative Interim Committee Updates
- D. Other

9. Other

10. Next Board Meeting:

Date: Friday, October 12, 2018  
Time: 2:00 pm  
Place: Zermatt Resort  
Grindelwald Room (2<sup>nd</sup> Floor)  
784 West Resort Drive  
Midway, Utah 84049

11. Adjourn

*In compliance with the American Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Larene Wyss, Office of Human Resources, at: (801) 297-3828, TDD (801) 903-3978, at least five working days prior to the scheduled meeting.*

# Agenda Item

3(A)



State of Utah

GARY R. HERBERT  
*Governor*

SPENCER J. COX  
*Lieutenant Governor*

Department of  
Environmental Quality

Alan Matheson  
*Executive Director*

DIVISION OF DRINKING WATER  
Marie E. Owens, P.E.  
*Director*

**Drinking Water Board**  
Betty Naylor, *Chair*  
Roger G. Fridal, *Vice-Chair*  
Brett Chynoweth  
Jeff Coombs  
Tage Flint  
Eric Franson, P.E.  
Brad Johnson  
David Stevens, Ph.D.  
Marie E. Owens, P.E.  
*Executive Secretary*

DRINKING WATER BOARD MEETING  
July 13, 2018 – 1:00 pm  
Multi Agency State Office Building – Board Room 1015  
195 North 1950 West  
Salt Lake City, Utah 84116

**DRAFT MINUTES**

**1. Call to Order**

Betty Naylor, Board Chairman called the meeting to order at 1:00 p.m.

**2. Roll Call**

Board Members present: Betty Naylor, Tage Flint, Roger Fridal, Brad Johnson, Brett Chynoweth, and Jeff Coombs.

Division Staff present: Marie Owens, Hayley Shaffer, Michael Grange, Julie Cobleigh, Lisa Nelson, Heather Bobb, Zane Tomlins, Tammie Allen, and Matt Wycoff.

**3. Approval of the Minutes:**

**A. May 11, 2018**

- Jeff Coombs moved to approve the minutes. Roger Fridal seconded. The motion was carried unanimously by the Board.

**4. Financial Assistance Committee Report**

**A. Status Report – Michael Grange**

Michael Grange, Technical Assistance Section Manager with the Division of Drinking Water (DDW, the Division) reported there is currently a balance of \$3.9 million in the State SRF fund. Over the course of the next year, the Division is expecting an additional \$2.1 million to come into the fund, for a total of approximately \$6 million for project allocation. These totals include the proposed project allocations on the board agenda.

Michael then reported currently there is approximately \$61 million in the Federal SRF fund. Over the course of the next year, the Division is expecting about \$31 million to come into the fund, for a total of approximately \$92 million for project allocation. He reported fiscal year 18 has now passed and fiscal year 19 has begun. The overall congressional appropriation for the SRF has increased in FY19 from \$9 million to \$11 million. While this is good news, this money is non-revolving and could be a potential issue ensuring the funds are spent.

Tage Flint asked why the federal funds are harder to allocate. Michael responded from the feedback he has heard, there are many restrictions and requirements that must be met using federal funds including the Davis-Bacon Wages Act and the American Iron and Steel (AIS) Requirements. These are perceived as costly and can greatly vary depending on the project. He reported Central Utah Water Conservancy District (CUWCD) will be requesting funds from the board in the next few months and have agreed at the Division's request to compare the costs of using AIS products versus non AIS products if the project is approved to move forward. Michael stated another reason federal money is harder to allocate is it must be repaid with generally little to no principal forgiveness leaving water systems unable to take on this additional debt.

Roger Fridal asked why the first round of SRF funding was shown to be in the negative. Michael responded this is due to more loans closing than funds received, however this is generally made up the following year.

## **B. Project Priority List – Michael Grange**

Michael Grange reported there are no proposed projects to be added to the project priority list this month, however there will be 3-4 applications anticipated at the next meeting.

## **C. SRF Applications**

### **i. FEDERAL:**

#### **a) Community Water – De-Authorization – Julie Cobleigh**

Julie Cobleigh informed the Board Community Water Company was authorized a loan of \$3,662,000 on May 12, 2017 to replace and upgrade portions of their existing distribution system and transmission lines, install meters, add an interconnection with Summit Water Distribution Company and upgrade their water treatment plant.

She reported negotiations between Community Water Company and Summit Water Distribution Company have proved to be unsuccessful due to their structure as a mutual water company. Subsequently, Community Water Company reached out to Mountain Regional Special Service District to annex into their system. Mountain Regional has applied for funding to take over this project. Therefore, Division Staff recommends a de-authorization of funds to Community Water Company.

Due to the overlapping agenda item of 4(C)(ii)(c) – Mountain Regional Special Service District's request for funds to take over this project, Marie Owens suggested the Board hear

this agenda item as a part of the decision to de-authorize Community Water. (Meeting minutes remain in chronological order. Please see item 4(C)(ii)(c) for continued discussion).

- Brett Chynoweth moved to de-authorize the \$3,662,000 loan to Community Water Company. Roger Fridal seconded. The motion was carried unanimously by the Board.

**ii. STATE:**

**a) Wilson Arch – Lisa Nelson**

Lisa Nelson informed the Board Wilson Arch has chosen to withdraw their application at this time. Division Staff is still working with the system; however there were issues that arose that still need to be worked through.

**b) Mutton Hollow – Lisa Nelson**

Representing Mutton Hollow was Justin Logan

Lisa Nelson informed the Board that Mutton Hollow is requesting \$1,700,000 in financial assistance to replace approximately 9,200-linear feet of existing deteriorating water lines. She stated the time sensitivity of this project due to a UDOT project already underway that would eliminate the need to tear up recently improved roadways for this project, and could be done simultaneously. With that said, Mutton Hollow has submitted plans and specifications which have been approved, and the project has gone out to bid.

Mutton Hollow does not qualify for a subsidy based on the MAGI, however the system does have 26 Financial Need Points as well as \$200,000 in local contribution for this request. Division Staff recommends the Board authorize a \$1,700,000 construction loan with 2% interest for 30 years to Mutton Hollow.

Betty Naylor noted there will be a substantial increase in the customer's water bill going from about \$46 per month to \$70.17 with this loan addition. She asked if residents are aware of this increase and have been able to provide comment. Justin Logan responded and informed the Board the rates were increased about a year ago on an incremental scale and comments were taken at that time.

- Brett Chynoweth moved to authorize a \$1,700,000 construction loan at 2% interest for 30 years to Mutton Hollow. Tage Flint seconded. The motion was carried unanimously by the Board.

**c) Mountain Regional – Community Water – Julie Cobleigh**

Representing Mountain Regional Water District was Doug Evans, Lisa Hoffman, Melissa O'Brien, and Scott Morrison

Doug Evans introduced staff in attendance and thanked the Board and Division Staff for their ongoing collaboration over the last twenty years. He explained Mountain Regional

Special Service District (MRSSD) is a regional entity that has been formed through the consolidation of many small systems. He stated through the de-annexation of Community Water, they will be able to accomplish the same or more projects with approximately \$1 million less than that of which was originally authorized to Community Water in 2017 due to regionalization.

Julie Cobleigh informed the Board Mountain Regional Special Service District (MRSSD) is requesting \$2,600,000 in financial assistance to annex Community Water Company into their system. Numerous system improvements are needed to replace, repair, and update aging infrastructure to be consistent with MRSSD's established system. The proposed project includes installing an interconnection, a new well pump, a pump station, water line replacements, SCADA improvements, meter replacements, and rehabilitating two existing Community Water wells.

Julie provided a brief background of Community Water Company and informed the Board of their continued deferred system maintenance and repairs leading to deteriorating infrastructure. They have gone through the formal annexation process which allows for public participation and comment, and was complete on June 15. The local MAGI for Community Water System, which is based on zip code is \$78,670, 182% of the State MAGI. Based on historical water use information from Community Water, the average water bill under MRSSD's structure would be approximately \$82, with an additional special assessment fee added to this amount for a total monthly bill of \$108.41. Currently, MRSSD has an average residential rate of approximately \$113 per month. Division Staff recommends the Board authorize a \$2,600,000 loan with 2% interest or fee for 20 years to Mountain Regional Special Service District.

Betty Naylor asked if the demolition of a treatment plant qualifies for funding assistance. Julie replied that indeed this project would qualify under the proposed application.

Tage Flint asked if the annexation was complete. Doug Evans with MRSSD informed the Board the Lieutenant Governor has certified the annexation complete as of July 6.

Doug Evans explained that while Summit County in general has a high income, the area and water system being annexed into MRSSD is the old Park West Village that is below the average income level, and many have struggled with the rate increases to their water bill.

Tage Flint asked what the original terms of the loan were to Community Water System. Julie replied the loan was for \$3,662,000 at 3.39% interest for 20 years. The system did not qualify for a reduced interest rate or principle forgiveness.

Marie Owens asked if the meter replacements, submitted as a part of this application will be for individual connections or for the interconnect, and whether or not they will be smart meters. Doug Evans responded the meters will be for the individual connections and will be smart meters.

- Tage Flint moved to authorize a \$2,600,000 loan at 2% interest or fee for 20 years to Mountain Regional Special Service District. Jeff Coombs seconded. The motion was carried unanimously by the Board.

## **5. Rural Water Association Report – Dale Pierson**

Dale Pierson with Rural Water Association of Utah (RWAU) reminded the members the next Drinking Water Board meeting will be held in conjunction with the RWAU Fall Conference in Layton on August 28<sup>th</sup>. He provided each Board member with the conference brochure and welcomed all members to attend the conference sessions with the registration fees covered by RWAU. Marie Owens informed the Board to let Hayley Shaffer know if they would like to be registered for the conference and/or need other travel accommodations.

Betty Naylor thanked Dale Pierson for continuing to provide the written reports for the Board packets. She commented the hard copies are beneficial to the Board to be able to reference their content at any time.

## **6. Open Board Discussion – Betty Naylor**

### **A. Board Schedule**

Betty Naylor noted over the past year, the Board has struggled to get a quorum on a consistent basis. At the last meeting in May, it was suggested to change the day of the week the meeting is held to increase availability and attendance. An email poll was sent out to members with a general consensus that Tuesday afternoons would be the favored day and time. Members reviewed the current 2018 schedule, proposed 2018 schedule with the change from Friday to Tuesday, as well as a proposed 2019 schedule. Members also reviewed a list of potential conferences in 2019 that could be held in conjunction with the Drinking Water Board. Some members expressed their interest in these listed conferences, however due to travel and other logistics, preferred to keep these to a minimum with the majority of meetings held at the Multi-Agency State Office Building (MASOB). Based on the meeting's discussions, a new schedule will be created for the remaining of 2018 and 2019, with dates held on Tuesday's. A site tour will also be determined and scheduled in 2019.

### **B. Board Training Items**

Betty Naylor reviewed a list of potential training topics for the Drinking Water Board to solicit feedback and logistical comments from members. Based on the listed options, the Board determined to begin with Roles and Responsibilities as members and the State Revolving Fund (SRF). After discussion, it was decided to hold this training prior to the February 2019 Board meeting at the RWAU conference in Layton.

## **7. Director's Report**

### **A. New Division Staff Introductions**

Marie Owens directed the members to review the updated organizational chart and Division Staff Contact list in the Board packet. She pointed out the last time this was reviewed by the Board there were a number of vacancies. Since that time, six new staff members have been added and some were in attendance for introductions. Marie provided a brief background on the new additions including Zane Tomlins and Cheryl Parker in the permitting section, Laurie

Leib in the Administrative Services section, Tammie Allen and Matt Wycoff in the Rules section, and Hayley Shaffer who has replaced Marianne Booth as Marie's administrative assistant and the Board liaison.

Marie Owens informed the Board there are two remaining vacancies in the Division and staff will continue to work diligently to get these positions filled with qualified candidates.

## **B. HB303 Implementation Strategies**

Marie Owens referenced the presentation in the Board packet that was presented to the Interim Legislative Committee earlier this month regarding the implementation strategies for HB303. She informed members staff is still working through some issues which include the development of guidance documents for both internal staff and water systems. Marie reviewed the language in the bill, now in the statute that states the Division is required to develop a new sizing standard upon the submittal plants with substantial additions or alterations. Staff has decided to define the terms "substantial addition or alteration" as a project that would increase the equivalent residential connection (ERC) to a public water system by 10% or more. In addition, if a system were to decrease their water system's source, storage, or distribution capacity, this will be considered a substantial alteration. An increase in these three however, will not be considered a substantial addition. This will allow a water system to continue with maintenance and enhancements to their system without having to submit three years of historic water use data, potentially delaying the project. From now until March 1, 2019, staff will continue with plan reviews as normal, however after this point, any substantial addition or alteration will need to be accompanied by the new sizing standard requirements before it will be considered a complete project.

## **C. IPS Changes**

Marie Owens informed the Board the Division staff has been very engaged in the continuous improvement project to review and update the Inventory Priority System (IPS). This is the rating system currently used by staff to apply points to a water system for deficiencies. These points then determine if a system is considered "Approved" or "Not Approved" by the state. She indicated this is a long-standing program used by the state and a similar system was adopted by the EPA after Utah's implementation. It has been recognized throughout the years the system is inconsistent, with faults needing adjustment in order to increase objectivity of the surveyor. As the rule has continued to grow, many of the point values for similar deficiencies have differing point assessments, and are not necessarily aligned. Members were given a copy of the proposed changes for review. Marie provided a tentative timeline for rolling out these changes which will include a public comment period before coming before the Board for a formal rule change sometime next year. Staff would like to go through a process of "pre-rule" notification to water systems to gain comments and feedback before the rule is implemented. Marie asked the Board for feedback on the process of notifying water systems before it is approved, as this differs from the normal rule change practice.

Betty Naylor stated in her opinion it is a good idea to obtain the feedback from water systems. She also noted on the handout, addressing public health as a priority and reducing surveyor interpretations are important goals to be addressed. Tage Flint commented he also believes it is a good idea to get comments from the water systems and Jeff Coombs concurred stating from the health department perspective, there is always room for enhancement and

improvements and water systems and other health departments should be able to participate in the review.

Marie Owens informed the Board one issue staff is also dealing with is how to interpret the user-friendly table format of the IPS changes into written format for the rule. The proposed solution will be to streamline the rule significantly to 2-5 pages in order to lay out the program with the actual list of deficiencies and point values in a longer more detailed guidance document that will be reference in the rule and also approved by the Board. This will also aid in future changes made to the guidance document without having to go through the full rule changing process. Board members were in support of this process.

#### **D. Other**

Marie Owens had no other items for discussion.

#### **8. Other**

Betty Naylor asked members if they would like to continue to receive the “current news” section in their Board packets. She expressed her appreciation and desire to continue having this item available at the meeting. Other members agreed and the current news will continue to be a part of the packet going forward.

Betty Naylor asked Marie Owens the status of filling the current vacancy on the Board. Marie informed members the vacancy needs to be an elected official and we have reached out to the Utah League of Cities and Towns (ULCT) to help in the process of recruitment. All candidates will need to submit application through the online state portal for review and we are accepting recommendations.

#### **9. Next Board Meeting:**

Date: Tuesday, August 28, 2018  
Time: 2:15 pm  
Place: Davis Conference Center  
Zephyr Room  
1651 North 700 West  
Layton, Utah 84041

#### **10. Adjourn**

- Betty Naylor moved to adjourn the meeting. The motion was carried unanimously by the Board.

**The meeting adjourned at 2:07 p.m.**

# Agenda Item

4(A)

DIVISION OF DRINKING WATER  
**STATE LOAN FUNDS**  
AS OF July 31, 2018

SUMMARY		
	Total State Fund:	\$15,580,484
	Total State Hardship Fund:	\$1,325,412
	Subtotal:	\$16,905,896
<b>LESS AUTHORIZED</b>	Less:	
	Authorized Loans & Closed loans in construction:	\$12,355,000
	Authorized Hardship:	\$409,650
	Subtotal:	\$12,764,650
	<b>Total available after Authorized deducted</b>	<b>\$4,141,246</b>
<b>PROPOSED</b>	Proposed Loan Project(s):	\$3,804,000
	Proposed Hardship Project(s):	\$424,000
	Subtotal:	\$4,228,000
<b>AS OF:</b>		
July 31, 2018	<b>TOTAL REMAINING STATE LOAN FUNDS:</b>	<b>-\$578,516</b>
	<b>TOTAL REMAINING STATE HARDSHIP FUNDS:</b>	<b>\$491,762</b>

*(see Page 2 for details)*

*(see Page 2 for details)*

**Total Balance of ALL Funds:       -\$86,754**

Projected Receipts Next Twelve Months: and Sales Tax Revenue	
<b>Annual Maximum Sales Tax Projection</b>	<b>\$3,587,500</b>
Less State Match for 2018 Federal Grant	(\$2,221,400)
Less State Match for 2019 Federal Grant	(\$2,221,400)
Less Appropriation to DDW	(\$834,100)
Less Board Administration Fees	(\$159,000)
<b>SUBTOTAL Sales Tax Revenue including adjustments:</b>	<b>-\$1,848,400</b>
Payment:	
Interest on Investments (Both Loan and Hardship Accounts)	\$360,000
Principal payments	\$2,928,754
Interest payments	\$750,430
Total Projections:	\$2,190,783

Total Estimated State SRF Funds Available through 7-31-2019	<b>\$2,104,029</b>
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**DIVISION OF DRINKING WATER  
STATE LOAN FUNDS  
PROJECTS AUTHORIZED BUT NOT YET CLOSED  
AS OF July 31, 2018**

Community	Loan #	Cost Estimate	Date Authorized	Date Closed/Anticipated	Authorized Funding		
					Loan	Grant	Total
Grantsville 1.5% int, 20 yrs	3S249	3,500,000	Mar-18	Sep-18	3,500,000		3,500,000
Ephraim 1% int, 20 yrs	3S251	1,422,905	Mar-18		1,145,000	127,150	1,272,150
Laketown 1.5% int @ 30 yrs	3S248	1,863,636	May-18		1,110,000	0	1,110,000
Pleasant Grove 2% int, 20 yrs	3S255	2,300,000	May-18		2,300,000	0	2,300,000
Mutton Hollow Imp Dist 2% int 30 yr	3S253	2,060,000	Jul-18	Sep-18	1,700,000		1,700,000
Mtn Regional-Community Wtr 2% 20 yr	3S254	2,600,000	Jul-18		2,600,000		2,600,000
Subtotal Loans and Grants Authorized					12,355,000	127,150	12,482,150
<b>PLANNING LOANS / GRANTS IN PROCESS</b>							
Antimony PI Grant	3S250P	40,000	Jan-18	Mar-18		40,000	40,000
Enoch City	3S256P	27,500	Jul-18			27,500	27,500
Paragonah	3S257P	10,000	Jul-18			10,000	10,000
					0	77,500	77,500
<b>CLOSED LOANS (partially disbursed)</b>							
Daggett Co - Dutch John 0% int 30 yrs	3S216	1,020,000	Jan-15	Feb-16	0	100,000	100,000
Henrieville	3S241	345,000	Aug-16	Nov-16	0	105,000	105,000
							0
							0
Subtotal Planning Loans/Grants Auth					0	205,000	205,000
<b>Total authorized or closed but not yet funded</b>					<b>\$12,355,000</b>	<b>\$409,650</b>	<b>\$12,764,650</b>
<b>PROPOSED PROJECTS for AUGUST 2018</b>							
Aurora City 0.75% int 30 yrs	3S258	4,228,000	Aug-18		3,804,000	424,000	4,228,000
							0
							0
							0
Total Proposed Projects					3,804,000	424,000	4,228,000

**DIVISION OF DRINKING WATER  
STATE LOAN FUNDS  
AS OF July 31, 2018**

	5235	5240	
	Loan	Interest	
	Funds	(use for Grants)	Total
Cash:	\$15,580,484	\$1,325,412	\$16,905,896
Less:			
Loans & Grants authorized but not yet closed (schedule attached)	(12,355,000)	(204,650)	(12,559,650)
Loans & Grants closed but not fully disbursed (schedule attached)	0	(205,000)	(205,000)
Proposed loans & grants	(3,804,000)	(424,000)	(4,228,000)
Administrative quarterly charge for entire year	(159,000)		(159,000)
Appropriation to DDW	(834,100)		(834,100)
FY 2018 Federal SRF 20% match	(2,221,400)		(2,221,400)
FY 2019 Federal SRF 20% match	(2,221,400)		(2,221,400)
	<b>(6,014,416)</b>	<b>491,762</b>	<b>(5,522,654)</b>
Projected repayments during the next twelve months			
Thru 07-31-2019			
Principal	2,928,754		2,928,754
Interest		750,430	750,430
Projected annual investment earnings on invested cash balance		360,000	360,000
Sales Tax allocation thru Jul-31-2019	3,587,500		3,587,500
<b>Total</b>	<b>\$501,838</b>	<b>\$1,602,191</b>	<b>\$2,104,029</b>
* All interest is added to the Hardship Fee account.			

**DIVISION OF DRINKING WATER  
FEDERAL SRF  
AS OF July 31, 2018**

FIRST ROUND FUND		FEDERAL SECOND ROUND FUND		Hardship Fund
1997 thru 2017 SRF Grants		Principal Repayments	Earnings on Invested Cash Balance	Total:
Net Federal SRF Grants:	\$161,538,751	Principal (P):	\$57,999,032	<b>\$1,199,680</b>
Total State Matches:	\$36,828,900	Interest (I):	\$15,917,249	
Closed Loans:	-\$199,992,651	<b>Total P &amp; I:</b>	<b>\$73,916,281</b>	
<b>Total Grant Dollars:</b>	<b>-\$1,625,000</b>			<b>\$1,554,784</b>

SUMMARY		
	Total Federal State Revolving Fund:	\$73,490,961
	Total Federal Hardship Fund:	\$1,554,784
	Subtotal:	\$75,045,744
<b>LESS AUTHORIZED &amp; PARTIALLY DISBURSED</b>	Less:	
	Authorized & Partially Disbursed Closed Loans:	\$13,527,000
	Authorized Federal Hardship:	\$330,800
	Subtotal:	\$13,857,800
		(see Page 2 for details)
<b>PROPOSED</b>	Proposed Federal Project(s):	\$3,600,000
	Proposed Federal Hardship Project(s):	\$0
	Subtotal:	\$3,600,000
		(see Page 2 for details)
AS OF:	<b>TOTAL REMAINING LOAN FUNDS:</b>	<b>\$56,363,961</b>
July 31, 2018	<b>TOTAL REMAINING HARDSHIP FUNDS:</b>	<b>\$1,223,984</b>

**Total Balance of ALL Funds after deducting proposed actions: \$57,587,944**

Projected Receipts thru August 1, 2019	
2018 Fed SRF Grant	\$8,200,000
2018 State Match	\$2,221,400
2019 Fed SRF Grant & State Match	\$10,421,400
Interest on Investments	\$1,698,000
Principal Payments	\$6,564,845
Interest	\$1,303,450
Hardship & Technical Assistance fees	\$281,814
	\$0
Total:	<b>\$30,690,909</b>

} Receive 60% in January

Total Estimated Federal SRF Funds Available through: 08/01/2019 **\$88,278,854**

**DIVISION OF DRINKING WATER  
FEDERAL STATE REVIVING FUND**

**PROJECTS AUTHORIZED BUT NOT YET CLOSED  
AS OF July 31, 2018**

COMMUNITY	Project			Authorized Date	Closing Date Scheduled	Authorized From Loan Funds (1st or 2nd Round)			Hardship Fund
	Total Project	Terms	Loan #			Loan	Forgiveness	Total	
San Juan Spanish Valley SSD	5,100,000	0% int, 30yrs (combined w/CIB)	3F275	Aug-16	Oct-18	1,785,000	765,000	2,550,000	
Hanksville Town	1,091,273	0% int, 30 yrs	3F279	Nov-16	Aug-18	328,000	763,273	1,091,273	
Cove SSD	1,085,000	0% int, 30 yrs	3F285	Mar-17	Aug-18	600,000	485,000	1,085,000	
North Valley Ranches Sub	450,000	0% int, 30 yrs	3F294	Nov-17		360,000	90,000	450,000	
Twin Creeks SSD	5,619,000	1.87% hgf, 30 yrs	3F295	Nov-17		4,738,000	300,000	5,038,000	
Swiss Alpine Water Company	947,000	3.53% hgf, 25 YRS	3F300	Mar-18		807,000		807,000	
<b>TOTAL CONSTRUCTION AUTHORIZED:</b>						<b>\$ 8,618,000</b>	<b>\$ 2,403,273</b>	<b>\$ 11,021,273</b>	<b>\$ -</b>
<b>COMMITTED ADVANCES / AGREEMENTS or PARTIALLY DISBURSED CLOSED 2ND ROUND AGREEMENTS:</b>									
					Date Closed				
								0	0
Rural Water Assn of Utah	676,000	5 yr contract for Development Specialist	Ongoing	Jan-18	Jun-18			0	135,200
Forest Glen Plat A HOA	1,438,986	0% int, 30 yrs	3F222	Feb-14	Dec-14	68,000	29,986	97,986	
Taylor West Weber Water Improvement Dist	7,636,391	2.26% int, 30 yr	3F234	Feb-15	Apr-15	629,000	162,391	791,391	
Springdale	7,840,000	.5% int/hgf, 30 yrs	3F264	May-16	Oct-17	711,440	724,910	1,436,350	
Moab	90,000	100% pf	3F292	Aug-17	Feb-18		90,000	90,000	
Johnson Water Imp Dist	90,000	100% pf	3F299P	Mar-18	May-18		90,000	90,000	
Marble Hills Water Co	40,400	1.85% int, 20 yrs	3F296	Nov-17	Mar-18			0	40,000
Monticello	39,000	Eng study 10 yr 0% int	3F281P	Nov-16	May-18			0	39,000
Summit Special Service District	36,600	100% pf	3F303P	Jun-18	Jul-18				36,600
Green River City	40,000	100% pf	3F304P	Jul-18				0	40,000
Marysvale	40,000	100% pf	3F306P	Jul-18					40,000
<b>TOTAL PLANNING AUTHORIZED:</b>						<b>\$1,408,440</b>	<b>\$1,097,287</b>	<b>\$2,505,727</b>	<b>\$330,800</b>
<b>TOTAL CONSTRUCTION &amp; PLANNING:</b>						<b>\$13,527,000</b>			<b>\$330,800</b>
<b>AVAILABLE PROJECT FUNDS:</b>						<b>\$59,963,961</b>			
<b>AVAILABLE HARDSHIP FUNDS:</b>						<b>\$1,223,984</b>			
<b>PROPOSED PROJECTS FOR AUGUST 2018:</b>									
West Corinne Water Co	500,000	2.5% int/hgf 20 yrs	3F304	Aug-18		500,000		500,000	
CU WCD - Duchesne Valley WTP	3,100,000	1.5% int/HG 30 yrs	3F307	Aug-18		3,100,000		3,100,000	
								0	
								0	
<b>TOTAL PROPOSED PROJECTS FOR THIS MEETING:</b>						<b>\$3,600,000</b>	<b>\$0</b>	<b>\$3,600,000</b>	<b>\$0</b>
*RWAU hardship grant is being disbursed monthly									
<b>TOTAL FUNDS AFTER PROPOSED PROJECTS ARE FUNDED:</b>						<b>\$56,363,961</b>			
<b>TOTAL FUNDS AFTER PROPOSED HS PROJECTS ARE FUNDED:</b>						<b>\$1,223,984</b>			
<b>NOTES OF LOAN CLOSINGS SINCE LAST BOARD MEETING:</b>									
Winchester Hills Water Company	450,000	0% int, 30 yrs (add-on)	3F277A	Jan-18	Jul-18	225,000	225,000	450,000	
								0	
<b>Total Recent Loan Closings</b>						<b>\$225,000</b>	<b>\$225,000</b>	<b>\$450,000</b>	<b>\$0</b>

**DIVISION OF DRINKING WATER  
FEDERAL SRF LOAN FUNDS  
AS OF July 31, 2018**

	Loan Funds 1st Round	Loan Payments			TOTAL
		2nd Round		Hardship Fund	
		Principal	Interest		
Federal Capitalization Grants and State 20% match thru 2015	\$198,367,651				
Earnings on Invested 1st Round Funds			1,199,680		
Repayments (including interest earnings on 2nd round receipts)		57,999,032	15,917,249	1,554,784	275,038,395
Less:					
Closed loans and grants	-199,992,651				-199,992,651
<b>SUBTOTAL of Funds Available</b>	<b>-\$1,625,000</b>	<b>\$57,999,032</b>	<b>\$17,116,929</b>	<b>\$1,554,784</b>	<b>\$75,045,744</b>
Loans & Grants authorized but not yet closed or fully disbursed	-8,241,273	-4,188,440	-1,097,287	-330,800	-13,857,800
<b>SUBTOTAL of Funds Available less Authorized</b>	<b>-\$9,866,273</b>	<b>\$53,810,592</b>	<b>\$16,019,642</b>	<b>\$1,223,984</b>	<b>\$61,187,944</b>
Future Estimates:					
Proposed Loans/Grants for current board package	-3,600,000			0	-3,600,000
<b>SUBTOTAL of Funds Available less Proposed Loans &amp; Grants</b>	<b>-\$13,466,273</b>	<b>\$53,810,592</b>	<b>\$16,019,642</b>	<b>\$1,223,984</b>	<b>\$57,587,944</b>
PROJECTIONS THRU August-2019					
	10,421,400				
2017 SRF Capitalization Grant (Loan Portion)	8,200,000				
2017 SRF Capitalization State Match	2,221,400				
Projected repayments & revenue during the next twelve months		6,564,845	1,303,450	281,814	8,150,109
Projected annual investment earnings on invested cash balance		1,320,000	348,000	30,000	1,698,000
<b>TOTAL</b>	<b>\$7,376,527</b>	<b>\$61,695,437</b>	<b>\$17,671,092</b>	<b>\$1,535,798</b>	<b>\$88,278,854</b>

Agenda Item

4(B)

**DRINKING WATER BOARD**  
**PACKET FOR PROJECT PRIORITY LIST**  
**INTRODUCTION TO THE FINANCIAL ASSISTANCE COMMITTEE**

**There is one new project being added to the project priority list**

West Corinne Water Company is being added to the Project Priority List with 24.3 points. Their project consists of a spring rehab and transmission line replacement.

**STAFF RECOMMENDATION:**

**The Financial Assistance Committee recommends the Drinking Water Board approve the updated Project Priority List.**

July 25, 2018

# Utah Federal SRF Program

## Project Priority List

Authorized

**Total Unmet Needs:**

**\$222,275,134**

**Total Needs, incl. Recent funding**

**\$261,016,807**

**\$272,473,991**

	date	type	%Green	Priority Points	System Name	County	Pop.	ProjectTitle	Project Total	Request DWB	Funds Authorized
N				29	Woodland Mutual	Summit	186	Spring redevelopment, new tank, water lines, pump station	\$3,257,320	\$3,257,320	
N				28.1	Pleasant Grove City		36,329	Spring redevelopment and transmission line replacement	\$2,300,000	\$2,300,000	
N				24.3	West Corrine	Box Elder	1,275	Spring redevelopment and transmission line replacement	\$533,075	\$479,767	
A				41.4	Virgin Town	Washington	750	New 500,000-gallon tank and transmission line	\$1,131,313	\$1,131,313	\$1,120,000
A				27	Bridge Hollow	Summit	45	New Well	\$225,000	\$225,000	\$225,000
A				26.3	Hanksville	Wayne	210	Water Line Replacement	\$601,548	\$601,548	\$601,548
A				25.3	San Juan Spanish Valley SSD	San Juan	491	New System: tank, well, distribution	\$5,125,758	\$2,575,758	\$2,550,000
A				24.8	Torrey Town	Wayne	500	New water line and replacement	\$2,230,000	\$1,852,000	\$1,852,000
A				24.1	Community Water Company	Summit	505	Water line replacement, treatment plant upgrades	\$3,343,000	\$3,343,000	\$3,662,000
A				19.5	Twin Creeks SSD	Wasatch	2,500	Treatment Plant, Storage Tank, Water Lines	\$5,672,650	\$5,400,000	\$5,338,000
A				18.8	Swiss Alpine	Wasatch	300	New Well and transmission line	\$955,152	\$815,152	
A				18.3	Greenwich	Piute	67	Chlorination building	\$131,300	\$131,300	\$131,000
N				17.3	North Valley Ranches	Washington	25	New Well and transmission line	\$450,000	\$450,000	\$450,000
A				12.5	Cove SSD	Sevier	100	New well, storage tank and water lines	\$1,611,000	\$1,085,000	\$1,085,000
A				9.7	Juab Co	Juab	???	Regionalization pipeline	\$24,000,000	\$21,000,000	\$21,210,000
A				N/A	Big Plains Water and Sewer SSD	Washington	720	Regionalization- purchase Canaan Springs Water Co.	\$517,125	\$517,125	\$517,125

N = New Application

A = Authorized

P = Potential Project- no application

E= Energy Efficiency

W= Water Efficiency

G= Green Infrastructure

I= Environmentally Innovative

### GREEN PROJECTS

### EMERGENCY FUNDING

A 100 Ephraim New Well, booster pump, transmission line

### POTENTIAL PROJECTS

July 25, 2018

# Utah Federal SRF Program

## Project Priority List

				Priority Points	Total Unmet Needs: \$222,275,134			Total Needs, incl. Recent funding \$261,016,807		Authorized \$272,473,991	
	date	type	%Green		System Name	County	Pop.	ProjectTitle	Project Total	Request DWB	Funds Authorized
P				125.2	Soldier Summit SSD-2nd home sub	Utah	33	Water line upgrade	\$530,303	\$530,303	
P				36.4	Santa Clara (on hold)	Washington	8,000	Water line upgrades	\$6,419,202	\$6,354,202	
P				35.0	CUWCD-Utah Valley	Utah		Treatment plant upgrades	\$39,369,500	\$36,950,000	
P				51.8	Storm Haven	Wasatch	148	New Well and transmission line	\$2,041,414		
P				20.0	Pinon Forest	Duchesne	n/a	New system- residents haul water	\$21,247,000		
P				17.9	Wendover	Tooele	1,600	Water line upgrades	\$833,000		
P				17.5	Draper City	Salt Lake	15,000	Storage and distribution upgrades	\$35,789,000		
P				17.1	East Zion SSD	Kane	49	Water line	\$128,876	\$128,876	
P				16.4	Eastland SSD	San Juan	60	New well for back up purposes	\$500,000		
P				16.4	Neola	Duchesne	840	Waterline upgrades, storage, source improvements	\$3,607,592	\$3,607,592	
P				15.3	Newton Town	Cache	799	Spring rehabilitation, water line upgrades	\$1,581,500		
P				15.3	South Rim Water	Tooele	264	Well equipment and house, new tank	\$600,000		
P				15.2	Midvalley Estates Water Company	Iron	700	Source, storage, distribution	\$500,000		
P				15.1	Syracuse	Davis	25,200	Water line upgrades	\$1,589,756	\$1,589,756	
P				14.7	Central Waterworks Co.	Sevier	450	Storage and distribution upgrades	\$1,400,000		
P				14.0	Herriman	Salt Lake	18,431	Booster Pump, water line	\$2,050,000		
P				13.7	Cornish Town	Cache	300	Connect to Lewiston, rehab well	\$1,226,263		
P				13.7	Morgan City	Morgan	3,250	Water line upgrades	\$692,026		
P				13.5	Riverdale	Weber	8,200	New well and tank, water line upgrades	\$2,050,000		
P				13.3	Richfield City	Sevier	7,111	System repairs	\$2,722,000		
P				13.0	Uintah City	Weber	1,300	Treatment	\$1,063,000		
P				12.8	Centerfield	Sanpete	1,200	New tank, upgrade water lines	\$3,600,000		
P				12.6	Enterprise	Washington	1,500	New tank, upgrade water lines	\$1,917,100		
P				12.6	Price River	Carbon	7,659	New tank, water lines, treatment	\$2,750,000		
P				11.6	Manila Culinary Water Co.	Utah	2,450	Treatment and water line upgrades	\$700,000		
P				11.6	Jordan Valley WCD	Salt Lake	82,500	Flouride facility, well equipping	\$3,694,000	\$2,000,000	
P				11.4	Pineview West Water Company	Weber	115	Telemetry system	\$25,000		
P				11.4	North Ogden City	Weber	15,000	Water line upgrades	\$746,000	\$746,000	
P				11.3	Farmington	Davis	15,000	New well, new tank, water line replacement	\$2,830,000		
P				10.7	Ogden City	Weber	77,000	Source rehabilitation, treatment plant upgrades	\$26,500,000		
P				10.7	High Valley Water Company	Summit	850	Water line upgrades	\$1,000,000		
P				10.3	City of Monticello	San Juan	2,000	Storage and distribution upgrades	\$1,200,000		
P				9.8	Gorgoza	Summit	4,200	Waterline upgrades	\$1,000,000		
P				9.7	Moutain Regional SSD	Summit	6,700	Transmission line	\$600,000		
P				9.7	Benson Culinary Water District	Cache	743	New tank, water line replacement	\$500,000		

July 25, 2018

# Utah Federal SRF Program

## Project Priority List

				Priority Points	Total Unmet Needs: \$222,275,134			Total Needs, incl. Recent funding \$261,016,807		Authorized	
	date	type	%Green		System Name	County	Pop.	ProjectTitle	Project Total	Request DWB	Funds Authorized
P				9.3	Mapleton City	Utah	7,300	Replace distribution lines	\$15,339,560		
P				9.2	Greendale Water Co.	Daggett	500	Treatment system	\$800,000		
P				9.1	Center Creek	Wasatch	200	Pump house and pump	\$80,000		
P				8.4	Nibley City	Cache	4,300	New tank	\$1,270,355		
P				8.3	Hurricane	Washington	8,000	Water line replacement and new tank	\$5,047,899		
P				7.6	Harmony Farms Water User Assoc.	Washington	300	Water line Replacement	\$3,000		
P				6.8	Hooper Water Improvement District	Weber	16,520	Storage, water lines, treatment	\$2,887,000		
P				6.7	Centerville City	Davis	16,000	Replacement well, water line upgrades	\$2,965,000		
P				6.1	Marble Hill Water Company	Box Elder	250	New storage tank	\$225,000		
P				4.5	Peterson Pipeline Association	Morgan	450	Source, storage, distribution	\$1,700,000		
P				4.5	Perry City	Box Elder	4,603	Source, storage, distribution	\$4,782,220		
P				3.9	Wolf Creek Country Club	Weber	2,000	Water line	\$180,000		
P				3.4	Highland City	Utah	15,066	New well houses	\$650,000		

# Agenda Item

4(C)(i)(a)

**DRINKING WATER BOARD  
BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

**APPLICANT'S REQUEST:**

Aurora City is requesting \$4,228,000 in financial assistance to fund the construction of a new drinking water well, a new storage tank and the installation of 10,400-lf of water line.

**STAFF COMMENTS:**

The local MAGI for Aurora City is \$50,588 which is 114% of the 2016 State MAGI \$44,268. The average water bill is \$43 per month, which is 1.01% of the local MAGI. Aurora City does qualify for subsidy as this project will result in a monthly water bill that exceeds 1.75% of the local MAGI.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	Grant or Principal Forgiveness	Monthly Water Rate	% Local MAGI
1	Full Loan	\$ 4,228,000	3.92%	20 yrs	0	\$131.36	3.12 %
2	Full Loan	\$ 4,228,000	1.5%	30 yrs	0	\$94.26	2.24 %
<b>3</b>	<b>90/10 loan/grant</b>	<b>\$ 3,804,000</b>	<b>0.75%</b>	<b>30 yrs</b>	<b>\$424,000</b>	<b>\$84.77</b>	<b>2.01 %</b>

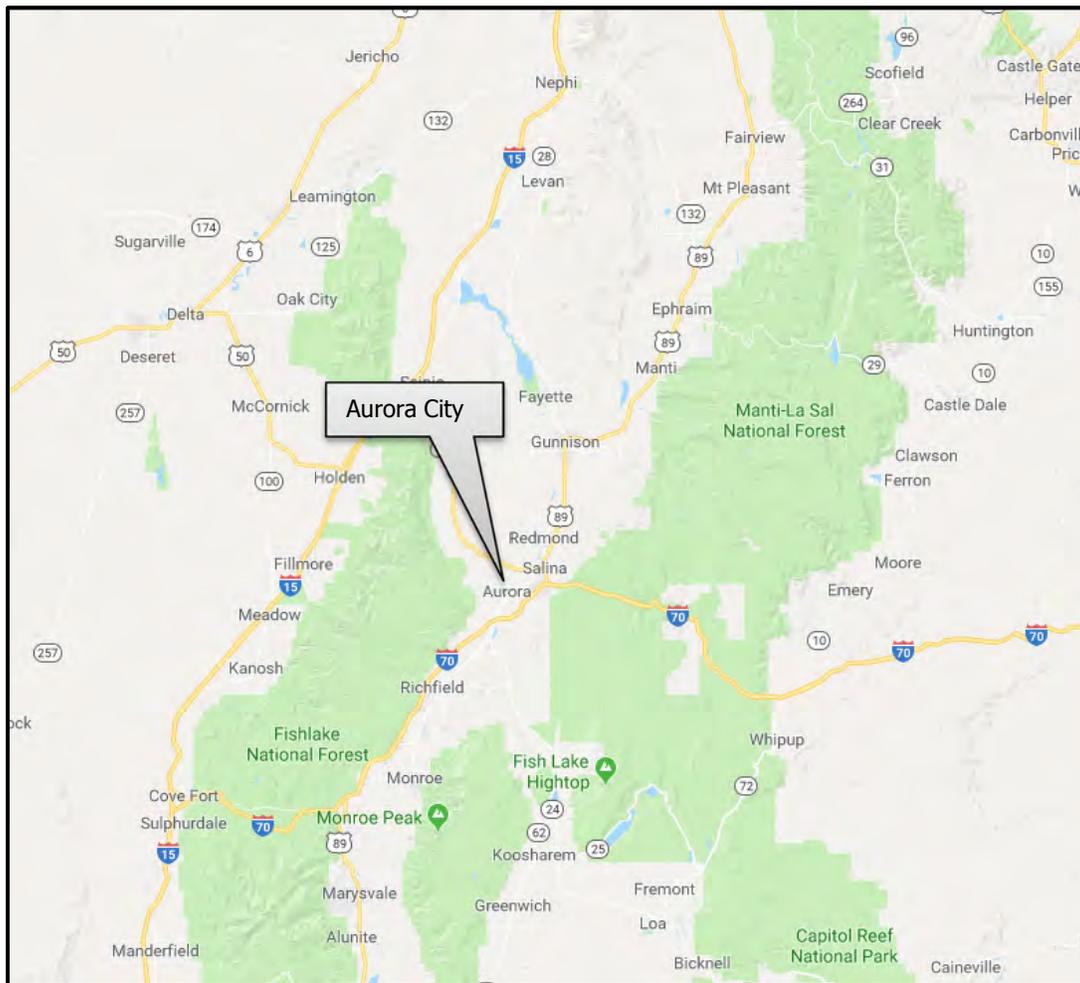
**FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:**

**The Drinking Water Board authorize a loan of \$3,804,000 at 0.75% interest/fee for thirty (30) years and \$424,000 in grant/principal forgiveness to Aurora City to fund the a new well, new storage tank and approximately 10,400-ft of water line.**

**APPLICANT’S LOCATION:**

Aurora City is located in Sevier County approximately 150 miles south of Salt Lake City.

**MAP OF APPLICANT’S LOCATION:**



**PROJECT DESCRIPTION:**

Aurora City has experienced water shortages in recent years and has determined that the most feasible option is to drill a new well. This project will include a new well house, chlorination building, and a new 250,000 gallon storage tank to replace the existing concrete tank which is nearly 90-years old. This project will also include installation of new 8-inch transmission line from the new well to the new tank, and new 12-inch distribution from the tank to the distribution system.

**POPULATION GROWTH:**

	<u>Year</u>	<u>Population</u>	<u>Equivalent Connections</u>
Current:	2018	1,110	373
Projected:	2040	1,700	570

**IMPLEMENTATION SCHEDULE:**

DWB Funding Authorization:	August 2018
Plan Approval	March 2019
Advertise for Bids:	March 2019
Bid Opening	April 2019
Loan Closing	May 2019
Begin Construction	May 2019
Complete Construction	October 2019
Receive Operating Permit:	November 2019

**COST ESTIMATE:**

Legal/Bonding	\$ 37,000	} \$353,000
Engineering - Planning	\$ 20,000	
Engineering - Design	\$ 142,000	
Engineering - CMS	\$ 166,000	
Engineering – PER and SP	\$ 25,000	
Construction	\$ 2,057,000	
Contingency (~ 17%)	\$ 351,000	
Land Acquisition	\$ 80,000	
Water Rights	\$ 1,500,000	
<b>Total</b>	<b>\$ 4,378,000</b>	

**COST ALLOCATION:**

The cost allocation proposed for the project is shown below.

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB	\$ 4,228,000	97%
Local Contribution	\$ 150,000	3%
	\$ 4,378,000	100%

APPLICANT:	Aurora City 20 South 120 East Aurora, UT 84620 435-529-7643
PRESIDING OFFICIAL & CONTACT PERSON:	David Quarnberg Mayor PO Box 477 Aurora, UT 84620 435-529-7643
TREASURER/RECORDER:	Clint Johnson 435-529-7643 cjohnson@auroracity.org
CONSULTING ENGINEER:	Jeff Albrecht Savage Albrecht Engineering 1925 South Industrial Park Road Richfield, UT 84701 435-896-8635 jeff@saeutah.com
BOND COUNSEL:	Richard Chamberlain Chamberlain and Associates 225 North 100 East Richfield, UT 84701 435-896-4461 baxterse@hotmail.com

## DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Aurora City  
 COUNTY: Sevier  
 PROJECT DESCRIPTION: New well, storage tank and 10,400-ft of water line

FUNDING SOURCE: State SRF

### 90% Loan/10% Grant

ESTIMATED POPULATION:	1,110	NO. OF CONNECTIONS:	373 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$42.77 *			PROJECT TOTAL:	\$4,378,000
CURRENT % OF AGI:	1.01%	FINANCIAL PTS:	33	LOAN AMOUNT:	\$4,228,000
ESTIMATED MEDIAN AGI:	\$50,588			GRANT AMOUNT:	\$0
STATE AGI:	\$44,268			TOTAL REQUEST:	\$4,228,000
SYSTEM % OF STATE AGI:	114%				

	\$4,228,000	\$4,228,000	\$4,228,000		\$3,804,000
	RATE	MKT RATE	RATE		30 yrs
	0%	3.92%	1.50%		0.75%
<b>SYSTEM</b>					\$424,000 Grant
ASSUMED LENGTH OF DEBT, YRS:	20	20	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%	1.50%		0.75%
REQUIRED DEBT SERVICE:	\$211,400.00	\$308,903.79	\$176,050.49		\$142,072.40
*PARTIAL COVERAGE (15%):	\$31,710.00	\$46,335.57	\$26,407.57		\$21,310.86
*ADD. COVERAGE AND RESERVE (10%):	\$21,140.00	\$30,890.38	\$17,605.05		\$14,207.24
<b>ANNUAL NEW DEBT PER CONNECTION:</b>	<b>\$708.45</b>	<b>\$1,035.20</b>	<b>\$589.98</b>		<b>\$476.11</b>
O & M + FUNDED DEPRECIATION:	\$135,000.00	\$135,000.00	\$135,000.00		\$135,000.00
OTHER DEBT + COVERAGE:	\$34,375.00	\$34,375.00	\$34,375.00		\$34,375.00
REPLACEMENT RESERVE ACCOUNT:	\$0.00	\$0.00	\$0.00		\$0.00
<b>ANNUAL EXPENSES PER CONNECTION:</b>	<b>\$454.09</b>	<b>\$454.09</b>	<b>\$454.09</b>		<b>\$454.09</b>
TOTAL SYSTEM EXPENSES	\$433,625.00	\$555,504.74	\$389,438.11		\$346,965.50
TAX REVENUE:	\$0.00	\$0.00	\$0.00		\$0.00
<b>RESIDENCE</b>					
MONTHLY NEEDED WATER BILL:	\$104.13	\$131.36	\$94.26		\$84.77
<b>% OF ADJUSTED GROSS INCOME:</b>	<b>2.47%</b>	<b>3.12%</b>	<b>2.24%</b>		<b>2.01%</b>

\* Equivalent Residential Connections

Agenda Item

4(C)(ii)(a)

**DRINKING WATER BOARD**  
**BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

**APPLICANT'S REQUEST:**

West Corinne Water Company is requesting \$500,000 in financial assistance to fund the redevelopment of their Main Spring and installation of approximately 3,500-ft of 8-inch water line.

**STAFF COMMENTS:**

The local MAGI for West Corinne Water Company is \$45,005 which is 102% of the 2016 State MAGI \$44,268. The average water bill is \$33 per month, which is 0.88% of the local MAGI. They are also bringing a \$53,000 local contribution to this project.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	Grant or Principal Forgiveness	Monthly Water Rate	% Local MAGI
1	Full Loan	\$ 500,000	2.50%	20 yrs	0	\$43.10	1.15 %

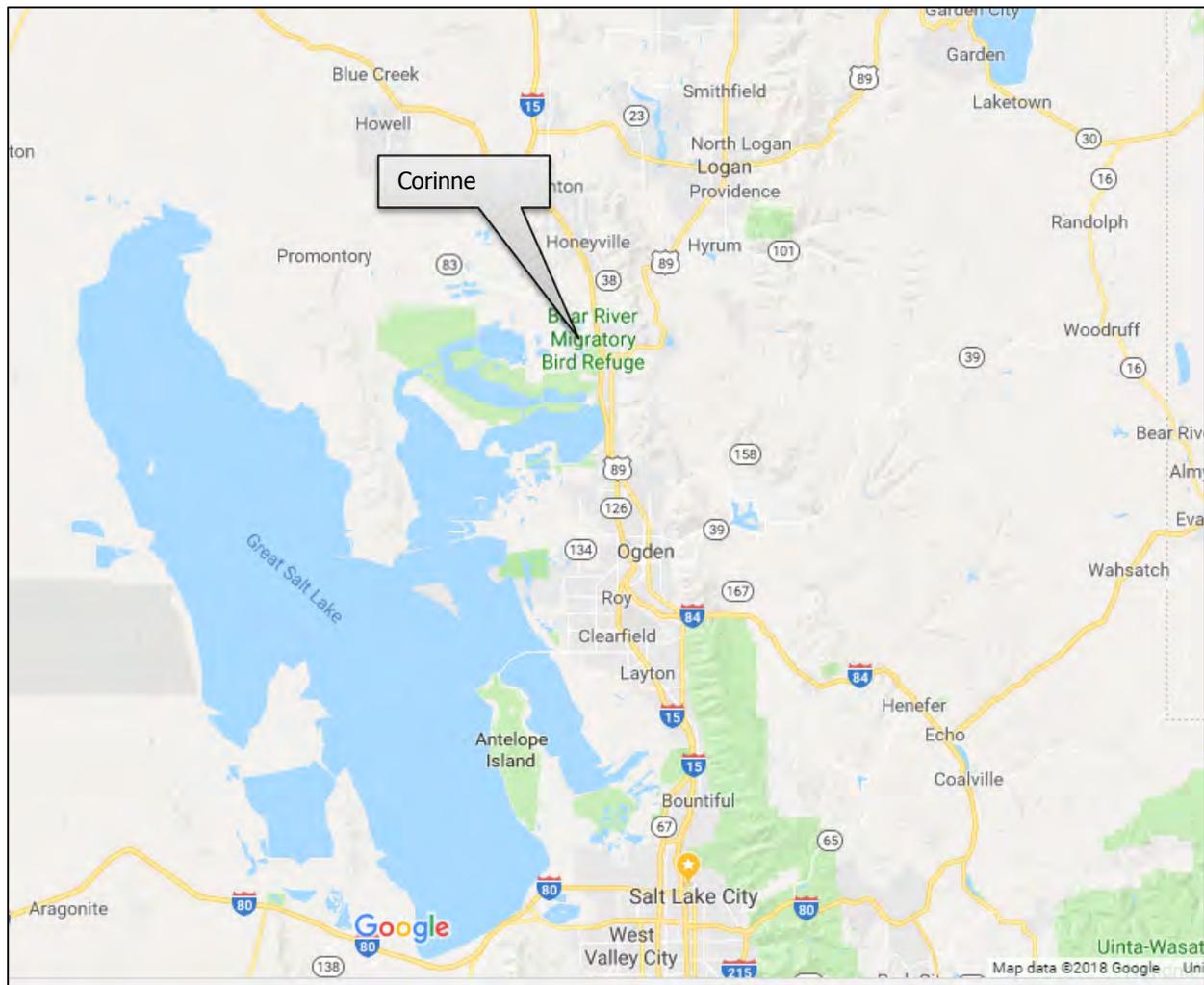
**FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:**

**The Drinking Water Board authorize a loan of \$500,000 at 2.50% interest/fee for twenty (20) years to West Corinne Water Company to fund the redevelopment of their spring and to install additional water line.**

**APPLICANT'S LOCATION:**

West Corinne Water Company is located in Box Elder County approximately 60 miles north of Salt Lake City.

**MAP OF APPLICANT'S LOCATION:**



**PROJECT DESCRIPTION:**

West Corinne Water Company intends to rehabilitate their Main Spring in order to improve flow during the summer months with system demand is greatest. Site observations indicate there is significant potential for additional water to be collected through redevelopment of this spring. This project will also include the installation of approximately 3,500-linear feet of 8-inch transmission line.

**POPULATION GROWTH:**

	<u>Year</u>	<u>Population</u>	<u>Equivalent Connections</u>
Current:	2018	1,760	1,336
Projected:	2040	2,721	2,060

**IMPLEMENTATION SCHEDULE:**

DWB Funding Authorization:	August 2018
Plan Approval	February 2019
Advertise for Bids:	June 2019
Bid Opening	June 2019
Loan Closing	July 2019
Begin Construction	August 2019
Complete Construction	December 2019
Receive Operating Permit:	January 2020

**COST ESTIMATE:**

Legal/Bonding	\$ 12,000	} \$93,000
Engineering - Planning	\$ 5,000	
Engineering - Design	\$ 35,000	
Engineering - CMS	\$ 35,000	
Engineering – Environmental	\$ 18,000	
Construction	\$ 380,000	
Contingency (~ 17%)	\$ 63,000	
DDW Loan Origination Fee	\$ 5,000	
<b>Total</b>	<b>\$ 553,000</b>	

**COST ALLOCATION:**

The cost allocation proposed for the project is shown below.

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB	\$ 500,000	90%
Local Contribution	\$ 53,000	10%
	\$ 553,000	100%

APPLICANT: West Corinne Water Company  
PO Box 37  
Corinne, UT 84307

PRESIDING OFFICIAL &  
CONTACT PERSON: Chad Hardy  
President  
PO Box 37  
Corinne, UT 84307  
435-230-1043  
chadtish@yahoo.com

TREASURER/RECORDER: Kim Larkin  
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klarkinw@aol.com

CONSULTING ENGINEER: Brian Deeter  
JUB Engineers, Inc.  
466 North 900 West  
Kaysville, UT 84037  
801-547-0393  
brd@jub.com

ATTORNEY: Wendy Crowther  
Parsons Behle & Latimer  
201 South Main Street  
Suite 1800  
Salt Lake City, UT 84111  
801-536-6724  
wcrowther@parsonsbehle.com

## DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: West Corinne Water Company  
 COUNTY: Box Elder  
 PROJECT DESCRIPTION: Redevelop Main Spring and 3,500-ft of 8-in water line

FUNDING SOURCE: Federal SRF

**100 % Loan & 0 % P.F.**

ESTIMATED POPULATION:	1,760	NO. OF CONNECTIONS:	1336 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$32.93 *			PROJECT TOTAL:	\$553,000
CURRENT % OF AGI:	0.88%	FINANCIAL PTS:	42	LOAN AMOUNT:	\$500,000
ESTIMATED MEDIAN AGI:	\$45,005			PRINC. FORGIVE.:	\$0
STATE AGI:	\$44,268			TOTAL REQUEST:	\$500,000
SYSTEM % OF STATE AGI:	102%				

	@ ZERO % RATE	@ RBBI MKT RATE		AFTER REPAYMENT PENALTY & POINTS
<b>SYSTEM</b>	0%	3.92%		2.50%
ASSUMED LENGTH OF DEBT, YRS:	20	20		20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%		2.50%
REQUIRED DEBT SERVICE:	\$25,000.00	\$36,530.72		\$32,073.56
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$2,500.00	\$3,653.07		\$3,207.36
<b>ANNUAL NEW DEBT PER CONNECTION:</b>	<b>\$20.58</b>	<b>\$30.08</b>		<b>\$26.41</b>
O & M + FUNDED DEPRECIATION:	\$407,554.00	\$407,554.00		\$407,554.00
OTHER DEBT + COVERAGE:	\$217,500.00	\$217,500.00		\$217,500.00
REPLACEMENT RESERVE ACCOUNT:	\$30,327.70	\$30,904.24		\$30,681.38
<b>ANNUAL EXPENSES PER CONNECTION:</b>	<b>\$490.56</b>	<b>\$490.99</b>		<b>\$490.82</b>
TOTAL SYSTEM EXPENSES	\$682,881.70	\$696,142.03		\$691,016.30
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<b>RESIDENCE</b>				
MONTHLY NEEDED WATER BILL:	\$42.59	\$43.42		\$43.10
<b>% OF ADJUSTED GROSS INCOME:</b>	<b>1.14%</b>	<b>1.16%</b>		<b>1.15%</b>

\* Equivalent Residential Connections

Agenda Item

4(C)(ii)(b)

**DRINKING WATER BOARD**  
**BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

**APPLICANT'S REQUEST:**

Central Utah Water Conservancy District (CUWCD) is requesting \$3,100,000 in financial assistance to fund the construction of an algal straining facility at its Duchesne Valley Water Treatment Plant (DVWTP).

**STAFF COMMENTS:**

The DVWTP provides wholesale water to the following areas within Duchesne County: East Duchesne Culinary Water Improvement District, Johnson Water Improvement District, Myton City, and Roosevelt City. The financial analysis is based on calculating a weighted average for MAGI and monthly user rate for these multiple water systems the DVWTP services.

The weighted local MAGI was calculated to be \$40,747 which is 92% of the 2016 State MAGI \$44,268. The current weighted average water bill is \$74.95/month, which is 2.21% of the local weighted MAGI, and the recommended financing package would raise that to \$78.63/month which would be 2.34% of the weighted MAGI. CUWCD is also bringing a local contribution of \$606,000 for this project.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	Principal Forgiveness	Monthly Water Rate	% Local MAGI
1	Base Eval.	\$ 3,100,000	0%	30 yrs	0	\$78.51	2.31 %
2	100% Loan	\$ 3,100,000	2.5 %	30 yrs	0	\$80.05	2.36 %
<b>3</b>	<b>100% Loan</b>	<b>\$ 3,100,000</b>	<b>1.5%</b>	<b>30 yrs</b>	<b>0</b>	<b>\$79.40</b>	<b>2.34 %</b>

**STAFF RECOMMENDATION:**

The Drinking Water Board authorize a loan of **\$3,100,000 at 1.50% interest/fee for thirty (30) years** to the Central Utah Water Conservancy District to fund the construction of an algal straining facility at the Duchesne Valley Water Treatment Plant.

**APPLICANT'S LOCATION:**

Central Utah Water Conservancy District – Duchesne Valley Water Treatment Plant is located in Duchesne County.

**MAP OF APPLICANT'S LOCATION:**



**PROJECT DESCRIPTION:**

Central Utah Water Conservancy District (CUWCD) owns and operates the Duchesne Valley Water Treatment Plant (DVWTP) located at Starvation Reservoir in Duchesne, Utah. The DVWTP is a direct filtration plant initially constructed in the early 1980's to supply wholesale treated culinary water for areas in Duchesne County.

The source of raw water available to the DVWTP is Starvation Reservoir from water diverted from the Strawberry and Duchesne Rivers. The DVWTP pumps the water from the reservoir to the treatment and finished water storage facilities. From these facilities, the DVWTP provides drinking water and industrial water to Duchesne City, East Duchesne Culinary Water Improvement District, Johnson Water

Improvement District, Myton City, and areas within Duchesne County Water Conservancy District, including Roosevelt City.

Periods of high algal growth in Starvation Reservoir have impacted the quality of the raw water entering the treatment plant. The algae clog the top of the deep bed filters, which reduces the filtration capacity and increases the frequency of backwashing. This limits the ability of the plant to operate at its full rated capacity. In the Fall of 2017 the algae reduced production such that the DVWTP had to limit water delivery. The DVWTP is concerned they may not be able to meet future customer demand without this project.

The CUWCD has already tested an algal straining technology to ensure that the proposed project is a cost-effective solution for obtaining acceptable filter runs during algal events. These strainers are expected to be able to remove the majority of the algae before it reaches the DVWTP treatment processes and then return the strained algae with water back to Starvation Reservoir.

**IMPLEMENTATION SCHEDULE:**

DWB Funding Authorization:	August 2018
Plan Approval	October 2018
Bid Opening	October 2018
Loan Closing	November 2018
Begin Construction	November 2018
Complete Construction	October 2019
Receive Operating Permit:	October 2019

**COST ESTIMATE:**

Legal/Bonding (District will self-pay)	\$ 15,000	
Engineering - Design	\$ 291,000	} \$591,000 16%
Engineering - CMS	\$ 300,000	
Construction	\$ 2,952,000	
Contingency (~5%)	\$ 148,000	
<b>Total</b>	<b>\$ 3,706,000</b>	

**COST ALLOCATION:**

The cost allocation proposed for the project is shown below.

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB	\$ 3,100,000	84%
Local Contribution	\$ 606,000	16%
	\$ 3,706,000	100%

APPLICANT: CUWCD – Duchesne Valley Water Treatment Plant  
355 West University Parkway  
Orem, UT 84058

PRESIDING OFFICIAL &  
CONTACT PERSON: David Pitcher, P.E., Assistant General Manager  
355 West University Parkway  
Orem, UT 84058  
801-226-7121  
Dave@cuwcd.com

TREASURER/RECORDER: Shawn Lambert  
801-226-7138  
shawn@cuwcd.com

CONSULTING ENGINEER: Alan Domonoske  
Carollo Engineers  
7090 South Union Park Avenue  
Suite 600  
Midvale, UT 84047  
adomonoske@carollo.com

ATTORNEY: Eric Hunter  
Chapman & Cutler  
215 South State Street  
Suite 800  
Salt Lake City, UT 84111-2339  
801-533-0066  
ehunter@chapman.com

## DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: CUWCD-DVWTP  
 COUNTY: Duchesne  
 PROJECT DESCRIPTION: Algae Strainer Project

FUNDING SOURCE: Federal SRF

### 100% Loan

ESTIMATED POPULATION:		NO. OF CONNECTIONS:	3023 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$74.95 *			PROJECT TOTAL:	\$3,706,000
CURRENT % OF AGI:	2.21%	FINANCIAL PTS:	80	LOAN AMOUNT:	\$3,100,000
WEIGHTED MEDIAN AGI:	\$40,747			PRINC. FORGIVE.:	\$0
STATE AGI:	\$44,268			TOTAL REQUEST:	\$3,100,000
SYSTEM % OF STATE AGI:	92%				

	\$3,100,000	\$3,100,000	\$3,100,000		\$3,100,000
	RATE	MKT RATE	RATE		RATE
<b>SYSTEM</b>	0%	3.92%	2.50%		1.50%
ASSUMED LENGTH OF DEBT, YRS:	30	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%	2.50%		1.50%
REQUIRED DEBT SERVICE:	\$103,333.33	\$177,536.04	\$148,110.69		\$129,081.48
*PARTIAL COVERAGE (15%):	\$15,500.00	\$26,630.41	\$22,216.60		\$19,362.22
*ADD. COVERAGE AND RESERVE (10%):	\$10,333.33	\$17,753.60	\$14,811.07		\$12,908.15
<b>ANNUAL NEW DEBT PER CONNECTION:</b>	<b>\$42.73</b>	<b>\$73.41</b>	<b>\$61.24</b>		<b>\$53.37</b>
O & M + FUNDED DEPRECIATION:	\$0.00	\$0.00	\$0.00		\$0.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$0.00	\$0.00	\$0.00		\$0.00
<b>ANNUAL EXPENSES PER CONNECTION:</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>		<b>\$0.00</b>
TOTAL SYSTEM EXPENSES	\$129,166.67	\$221,920.05	\$185,138.36		\$161,351.85
TAX REVENUE:	\$0.00	\$0.00	\$0.00		\$0.00
<b>RESIDENCE</b>					
MONTHLY INCREASE IN WATER BILL:	\$3.56	\$6.12	\$5.10		\$4.45
REQUIRED NEW WATER BILL:	\$78.51	\$81.07	\$80.05		\$79.40
% OF ADJUSTED GROSS INCOME:	2.31%	2.39%	2.36%		2.34%

\* Equivalent Residential Connections

# Agenda Item

5

**DRINKING WATER BOARD PACKET**  
**Rural Water Association Report**

**Table of Contents**

Terry Smith – Management Technician .....2  
Brian Pattee – Compliance Circuit Rider.....4  
Curt Ludvigson – Development Specialist .....5

# Rural Water Association of Utah

## Drinking Water Board Report - Activities Overview

Employee/Position: Terry Smith - Management Technician

Report Date Range: 06/25/2018 - 08/08/2018

### **June**

#### Onsite:

- June 27th - Training - chlorination repair, operation and troubleshooting - Rainbow Ranchos WC.
- June 28th - System Sustainability training - Salina and Gunnison Cities

#### Offsite:

- Water rate survey. Sent form to various systems that had not yet responded to our request for rate data.
- Sampling Site Plan list creation. Created list from data supplied by DDW of systems that have not filed an updated Bacti sampling plan. Distributed to field staff for them to follow up with as they work around the state.

### **July**

#### Onsite:

- July 10th - System Sustainability regional training - Heber City
- July 14th - Emergency response - Panguitch City. A cloudburst flooded two of their three tanks with muddy water through the spring transmission line. My help was requested at 5:30 Saturday morning by Mayor Lori Talbot. I picked up 20 lbs of powdered chlorine from the local supplier in Cedar City, then traveled to Panguitch. I spent the day there advising them as to how best to clean the tanks, disinfect properly afterwards, verification bacti sampling, etc. I also repaired the chlorination system, which had broken down due to the muddy water conditions.
- July 17th - System Sustainability regional training - Ogden City

#### Offsite:

- Blending plan addressing Radionuclides in sources - Angell Springs
- Water Rates planning and analysis - Oakley City
- Water rates planning/analysis - Tropic Town
- Source water adequacy analysis (ERC calculation) - Teasdale Town

### **August**

#### Onsite:

- August 4th - Board training on blending plan - Angell Springs
- August 6th - Met with councilperson over water and operator to discuss secondary water usage policy and customer consumption determination. This was required because due to the lack of surface water, the city had to switch to an irrigation well - Moroni City

- August 7th - Dutch John/Daggett County. Met with two board members and county treasurer to discuss water rate analysis I'm currently working on; commercial vs residential rate structure, budgeting/depreciation, etc.

- 

Offsite:

- Oakley City water rate analysis (continued from last month)
- Town water rate analysis (continued from last month)

# Rural Water Association of Utah

## Drinking Water Board Report - Activities Overview

Employee/Position: BRIAN PATTEE, Compliance Circuit Rider

Report Date Range: June 27<sup>th</sup> 2018 – August 8<sup>th</sup> 2018

### **June 27<sup>th</sup> to June 30<sup>th</sup>**

Onsite:

- 6-27, Eastland SSD, Compliance follow up, system moving forward on track.
- 6-27, Canyonlands Field, Sampling, RWAU Introductions
- 6-28, Monroe, Treatment Plant Training
- 6-28, Eureka, Compliance Chlorine residual online reporting reminder.

Offsite:

6-28, Cross Connection Control technical assistance for associate member.

### **July 1<sup>st</sup> to July 31<sup>st</sup>**

Onsite:

- 7-16,17, Logan City, Cross Connection Control Program
- 7-17, Disinfection Best Practices, Moderate Training for Multiple Systems with DDW as Presenters.

Offsite:

- 7-5, Bryce Canyon Water System, Disinfection of equipment replacement Instruction.
- 7-12, Lake Rockport Estates, Compliance IPS discussion CL2 Violations, need to clarify Chlorinator.
- 7-23, Greenwich, Compliance IPS call, advised operator to contact district engineer for guidance.
- 7-25, Sorrel River Ranch, Prepared Cross Connection Control Program Elements and Tracking, Shipped it off to Operator with Instructions.
- 7-25, Weber Basin Job Corps. Technical assistance via phone call. Question from Donica with regards to future metering of their buildings, I advised them to meter all structures.

### **August 1<sup>st</sup> to August 8<sup>th</sup>**

Onsite:

Offsite:

- 8-1, Nibley, Technical Assistance Call Justin had questions about water age, DBPs on his system where he supplies water to an extended part. I advised him to create a flushing program specific to that area and to take some investigative DBP samples as well as Chlorine Residuals.
- 8-2, Clarkston, Trenton, Newton, Reviewed IPS after Operator contacted us with questions as to their Points regarding a UDI source.
- 8-6, Bradford Acres, Review of lab sample data for Bact Chain of Custody form was checked wrong, sample OK though.



# RURAL WATER ASSOCIATION OF UTAH

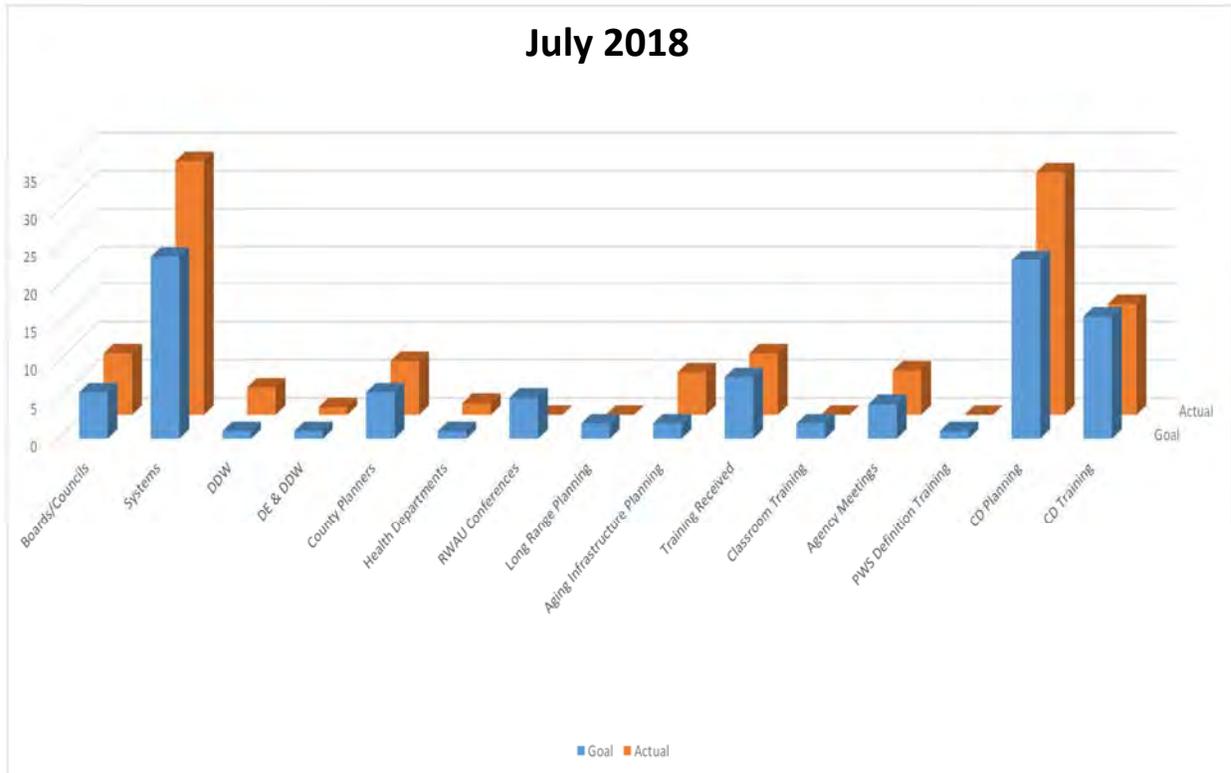
76 Red Pine Drive • Alpine, UT 84004 • Phone: 801-756-5123 • Fax: 801-756-5036

## Drinking Water Board Report

### Development Contract

### June 2018 – May 2023

RWAU Employee: Curtis Ludvigson



Work Performed	Goal	Actual
Boards/Councils	6	8
Systems	24	33.5
DDW	1	3.5
DE & DDW	1	1
County Planners	6	7
Health Departments	1	1.5
RWAU Conferences	5.33	0
Long Range Planning	2	0
Aging Infrastructure Eval	2	45.5
Training Received	8	9
Classroom Training	2	0
Agency Meetings	4.5	5.75
PWS Definition Training	1	0
CD Planning	23.5	32
CD Training	16	14.5
<b>Total</b>	<b>103.33</b>	<b>120.25</b>



# RURAL WATER ASSOCIATION OF UTAH

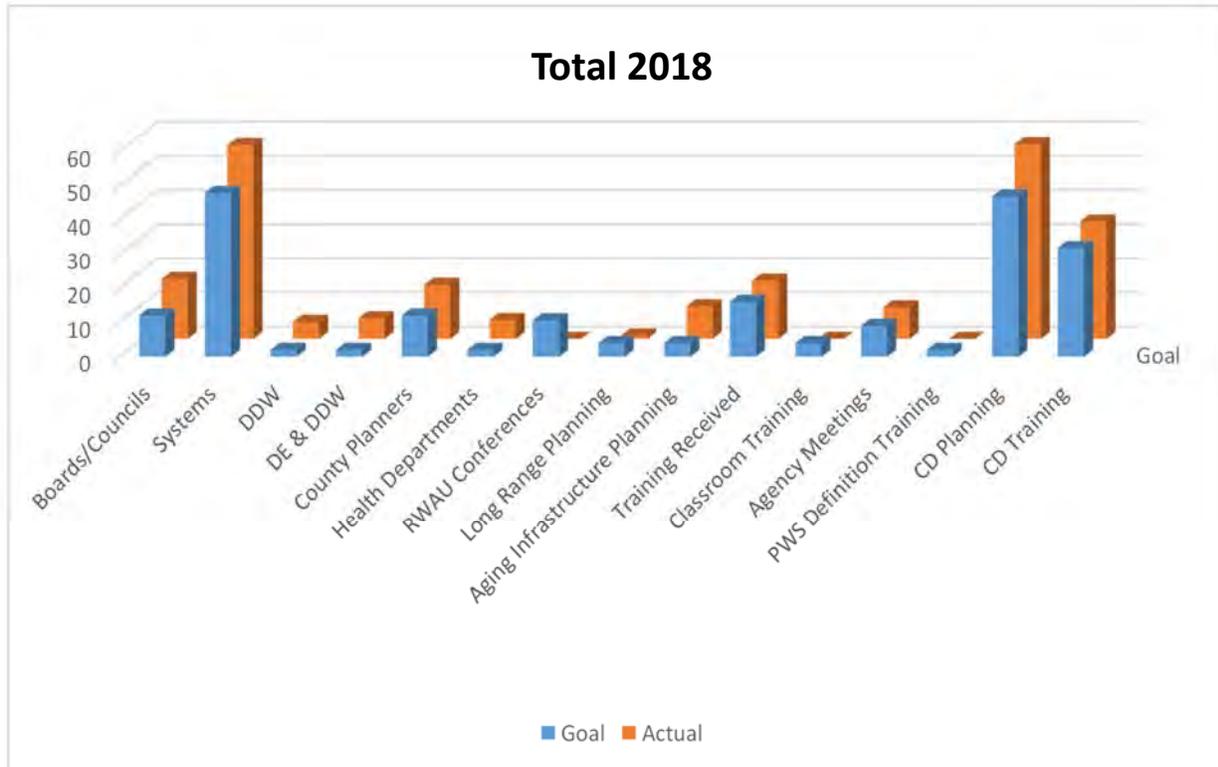
76 Red Pine Drive • Alpine, UT 84004 • Phone: 801-756-5123 • Fax: 801-756-5036

## Drinking Water Board Report

### Development Contract

### June 2018 – May 2023

RWAU Employee: Curtis Ludvigson



Work Performed	Goal	Actual
Boards/Councils	6	17.5
Systems	24	56.75
DDW	1	5
DE & DDW	1	6
County Planners	6	15.75
Health Departments	1	5.5
RWAU Conferences	5.33	0
Long Range Planning	2	1
Aging Infrastructure Eval	2	9.5
Training Received	8	17
Classroom Training	2	0
Agency Meetings	4.5	9.25
PWS Definition Training	1	0
CD Planning	23.5	57
CD Training	16	34.5
<b>Total</b>	<b>103.33</b>	<b>234.75</b>



# RURAL WATER ASSOCIATION OF UTAH

76 Red Pine Drive • Alpine, UT 84004 • Phone: 801-756-5123 • Fax: 801-756-5036

## On-Site Assistance & Work Performed

System/Entity	Topic
Green River	Master Planning, Project Funding, Aging Infrastructure Evaluation
Wales	Emergency with Well, Project Funding, Aging Infrastructure Evaluation
Garland	Rates Survey, Budget Analysis Rates Survey, Budget Analysis, Development of surrounding areas,
Elwood	Annexation
Centerville	Rates Survey, Discussion of upcoming training and training needs.
Garden City	Rates Survey, Budget Analysis, Master Planning
Bear Lake Mutual	Funding for planning and projects
Fairview	Application to DDW for funding of new meters
Sigurd	Rates Survey, Discussion on the importance of funding Depreciation
Redmond	Rates Survey, Educate on MAGI Rates Survey, Possibility of incorporating outlying areas, Growth &
Delta	Development
Helper	Rates Survey
Bicknell	Rates Survey and review of Budget
Loa	Rates Survey and Review of rates and revenues
Koosharem	Rates Survey

## Agency & Other Meetings

Entity	Hours
Division of Public Utilities (PSC)	1.5
Rural Development (Ephraim & Richfield)	4.25

# Agenda Item

6(A)



# STATE OF UTAH

GARY R. HERBERT  
GOVERNOR

OFFICE OF THE GOVERNOR  
SALT LAKE CITY, UTAH  
84114-2220

SPENCER J. COX  
LIEUTENANT GOVERNOR

August 13, 2018

The Honorable Wayne Niederhauser  
and Members of the Utah State Senate  
320 State Capitol  
Salt Lake City, Utah 84114

Dear President Niederhauser and Members of the Senate:

In accordance with Utah Code §§ 67-1-1 and 67-1-2, I propose and transmit the following appointments:

Dixie State University Board of Trustees:

Colleen Kvetko is appointed to replace Christina Durham as a member of the Dixie State University Board of Trustees, a term to expire June 30, 2022. *See* Utah Code § 53B-2-104.

Utah System of Technical Colleges Board of Trustees:

Jeff Worthington is appointed to replace Dale Cox as a member of the Utah System of Technical Colleges Board of Trustees, the remaining portion of the term to expire June 30, 2019. *See* Utah Code § 53B-2a-103(2)(f).

Bridgerland Technical College Board of Directors:

Jack R. Draxler is appointed as a business/industry member of the Bridgerland Technical College Board of Directors, a term to expire June 30, 2022. *See* Utah Code § 53B-2a-108(2)(c)(ii)(A) and § 53B-2a-108(3)(a).

Davis Technical College Board of Directors:

Mike Henry is appointed to replace Steve Earl as a member of the Davis Technical College Board of Directors, the remaining portion of the term to expire September 30, 2020. *See Utah Code § 53B-2a-108(2)(c)(ii)(C) and § 53B-2a-108(3)(a).*

Utah Science Technology and Research Governing Authority:

Derek B. Miller is reappointed as a member of the Utah Science Technology and Research Governing Authority, a term to expire June 30, 2022. *See Utah Code § 63M-2-301.*

Health Data Committee:

Stephen D. Neeleman (U) is appointed to replace David Purinton (R) as a business representative member of the Health Data Committee, a term to expire June 30, 2022. *See Utah Code § 26-33a-103.*

S. David Jackson (R) is appointed to replace Lynda Jeppesen (U) as a business representative member of the Health Data Committee, a term to expire June 30, 2022. *See Utah Code § 26-33a-103.*

Laura Summers (U) is appointed to replace Hinckley Jones-Sanpei (D) as a public health representative member of the Health Data Committee, a term to expire June 30, 2022. *See Utah Code § 26-33a-103.*

Charles William Hawley (D) is appointed to replace Becky Eisinger Land (D) as a consumer representative on the Health Data Committee, the remaining portion of the term to expire June 30, 2020. *See Utah Code § 26-33a-103.*

Russell Trujillo (U) is appointed to replace Roland J. Murray (R) as the HMO representative on the Health Data Committee, a term to expire June 30, 2022. *See Utah Code § 26-33a-103.*

Utah Conservation Commission:

Todd Arbon is appointed to replace Doug Bateman as the Zone 2 representative of the Utah Conservation Commission, a term to expire May 8, 2022. *See Utah Code § 4-18-104.*

Kimball B. Evans is appointed to replace Sidney Smart as the Zone 3 representative of the Utah Conservation Commission, the remaining portion of the term to expire May 8, 2019. *See Utah Code § 4-18-104.*

Stuart Bowler is appointed to replace Allen Henrie as the Zone 5 representative of the Utah Conservation Commission, a term to expire May 8, 2022. *See Utah Code § 4-18-104.*

William Butcher is appointed to replace Joe C. Begay as the Zone 7 representative of the Utah Conservation Commission, a term to expire May 8, 2022. *See Utah Code § 4-18-104.*

Scott Mower is reappointed as the Zone 4 representative of the Utah Conservation Commission, a term to expire May 8, 2021. *See Utah Code § 4-18-104.*

Crime Victim Reparations and Assistance Board:

Vickie C. Walker is appointed to replace Loydene Berg as a victim of criminally injurious conduct member on the Crime Victim Reparations and Assistance Board, a term to expire April 15, 2022. *See Utah Code § 63M-7-504.*

Shane Minor is reappointed as a law enforcement member on the Crime Victim Reparations and Assistance Board, a term to expire April 15, 2021. *See Utah Code § 63M-7-504.*

Sandi Johnson is reappointed as a representative of the state bar on the Crime Victim Reparations and Assistance Board, a term to expire April 15, 2021. *See Utah Code § 63M-7-504.*

Drinking Water Board:

Kristi Bell (R) is appointed to replace Mark Whitney (R) as the elected municipal official involved in management of a public water system on the Drinking Water Board, the remaining portion of the term to expire May 8, 2021. *See Utah Code § 19-4-103.*

Alcoholic Beverage Control Commission:

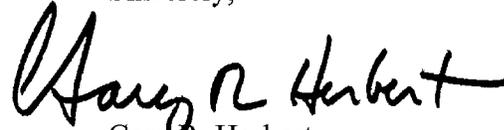
Jacquelyn Orton (D) is appointed to replace Kathleen Collinwood (D) as a member of the Alcoholic Beverage Control Commission, a term to expire July 1, 2022. *See Utah Code § 32B-2-201.*

Utah Department of Corrections:

Mike Haddon is appointed to replace Rollin E. Cook as Executive Director of the Utah Department of Corrections. *See* Utah Code § 64-13-3(1).

Thank you for your timely consideration and confirmation of the above appointments.

Sincerely,

A handwritten signature in black ink that reads "Gary R. Herbert". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

Gary R. Herbert  
Governor

# Agenda Item

7(A)

## **R309-105-12. Cross Connection Control.**

(1) The water supplier shall not allow a connection to his system which may jeopardize its quality and integrity. Cross connections are not allowed unless controlled by an approved and properly operating backflow prevention assembly or device. The requirements of ~~[Chapter 6 of]~~ the ~~[2009]~~ International Plumbing Code and its amendments as adopted by the Department of Commerce under R156-56 shall be met with respect to cross connection control and backflow prevention.

(2) Each water system shall have a functioning cross connection control program. The program shall consist of five designated elements documented on an annual basis. The elements are:

(a) a legally adopted and functional local authority to enforce a cross connection control program (i.e., ordinance, bylaw or policy);

(b) providing public education or awareness material or presentations;

(c) an operator with adequate training in the area of cross connection control or backflow prevention;

(i) Community water systems shall have at least one certified Cross Connection Control Program Administrator by December 31, 2020. Refer to R309-305 for specific requirements.

(ii) Non-transient non-community and transient non-community water systems may be required to have a certified Cross Connection Control Program Administrator at the Director's discretion.

(d) written records of cross connection control activities, such as, backflow assembly inventory; and

(e) test history and documentation of on-going enforcement (hazard assessments and enforcement actions) activities.

(3) Suppliers shall maintain, as proper documentation, an inventory of each pressure atmospheric vacuum breaker, spill resistant pressure vacuum breaker, double check valve, reduced pressure zone principle assembly, and high hazard air gap used by their customers, and a service record for each such assembly.

(4) Backflow prevention assemblies shall be in-line serviceable (repairable), in-line testable and have approval [certification] through third party [certifying] approval agencies to be used within a public drinking water system. Third party [certification] approval shall consist of any combination of two approvals [certifications], laboratory or field, performed by a recognized testing organization which has demonstrated competency to perform such tests.

(5) Backflow prevention assemblies shall be inspected and tested at least once a year, by an individual certified for such work as specified in R309-305. Suppliers shall maintain, as proper documentation, records of these inspections. This testing responsibility may be borne by the water system or the water system management may require that the customer having the backflow prevention assembly be responsible for having the [device] assembly tested.

(6) Suppliers serving areas also served by a pressurized irrigation system shall prevent cross connections between the two. Requirements for pressurized irrigation systems are outlined in Section 19-4-112 of the Utah Code.

**KEY: drinking water, watershed management**

**Date of Enactment or Last Substantive Amendment: [November 8, 2017]**

**Notice of Continuation: March 13, 2015**

**Authorizing, and Implemented or Interpreted Law: 19-4-104**

# Agenda Item 7(B)

## ~~[R309-305. Certification Rules for Backflow Technicians.~~

### ~~**R309-305-1. Purpose.**~~

~~These rules are established:~~

- ~~(1) In order to promote the use of trained, experienced professional personnel in protecting the public's health;~~
- ~~(2) To establish standards for training, examination, and certification of those personnel:
  - ~~(a) involved with cross connection control program administration~~
  - ~~(b) testing, maintaining and repairing backflow prevention assemblies; and~~~~
- ~~(3) To establish standards for the instruction of Backflow Technicians.~~

### ~~**R309-305-2. Authority.**~~

~~This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104(4)(a) of the Utah Code and in accordance with 63G-3 of the same, known as the Administrative Rulemaking Act.~~

### ~~**R309-305-3. Extent of Coverage.**~~

~~These rules shall apply to all personnel who will be:~~

- ~~(1) involved with the administration or enforcement of any cross connection control program being administered by a drinking water system; or~~
- ~~(2) testing, maintaining and/or repairing any backflow prevention assembly; or~~
- ~~(3) instructors within the certification program, regardless of institution or program.~~

### ~~**R309-305-4. Definitions.**~~

~~Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.~~

~~(1) Backflow Technician—An individual who has met the requirements and successfully completed the course of instruction and certification requirements for Class I, II or III backflow technician certification as outlined herein.~~

~~(a) Class I Backflow Technician is a Cross Connection Control Program Administrator.~~

~~(b) Class II Backflow Technician is a Backflow Assembly Tester.~~

~~(c) Class III Backflow Technician is a Backflow Instructor Trainer.~~

~~(2) Class—means the level of certification for a Backflow Technician.~~

~~(3) Director—means the Director of the Division of Drinking Water.~~

~~(4) Performance Examination—means a closed book, hands on demonstration of an individual applicant's ability to conduct an accurate field test on backflow prevention assemblies.~~

~~(5) Proctor—means a Class III Backflow Technician authorized to administer the written or the performance examination.~~

~~(6) Renewal Course—means a course of instruction, approved by the Commission, which is a prerequisite to the renewal of a Backflow Technician's Certificate.~~

~~(7) Secretary to the Commission—means that individual appointed by the Director to conduct the business of the Commission and to make recommendations to the Director regarding the backflow technician certification program.~~

~~(8) Written Examination—means a closed book examination for record used to determine the competency and ability of an individual applicant's understanding of the required course of instruction.~~

### **~~R309-305-5. General.~~**

~~(1) Certification Application: Any individual may apply for certification.~~

~~(2) Certification Classes: The classes of certificates shall be: Class I, Class II, and Class III.~~

~~(a) Class I Backflow Technician—Cross Connection Control Program Administrator: This certificate shall be issued to those individuals who are involved in administering a cross connection control program, who have demonstrated their knowledge and ability by successfully completing the approved certification examination.~~

~~(i) These individuals may NOT test, maintain or repair any backflow prevention assembly for purposes of submitting legal documentation of the operational status of a backflow prevention assembly, including performance of any record test demonstrating backflow prevention assembly compliance with required standards. These individuals may test to insure proper testing techniques are being utilized within their jurisdiction.~~

~~(ii) These individuals may conduct plan/design reviews, hazard assessment investigations, compliance inspections, and enforce local laws, codes, rules and regulations and policies within their jurisdictions, and offer technical assistance as needed.~~

~~(b) Class II Backflow Technician – Backflow Assembly Tester: This certificate shall be issued to those individuals who have demonstrated their knowledge and ability by successfully completing the approved written and performance certification examinations.~~

~~(c) Class III Backflow Technician – Backflow Instructor Trainer:~~

~~(i) This certificate shall be issued to those individuals who have successfully completed a 3 year renewal cycle as a Class II Technician and in addition have proven qualified and competent to instruct approved Backflow Technician Certification classes by participating in and successfully completing an approved Class III certification course.~~

~~(ii) In order to successfully complete a Class III certification course, the applicant shall be required to make a presentation about one or more randomly picked topics in backflow prevention, successfully demonstrating the applicant's knowledge of the subject. The applicant shall also successfully complete a performance examination in a manner that demonstrates knowledge and skill with randomly selected available testing equipment; the applicant shall identify, diagnose and document malfunctions of the backflow assembly and verify the design operating criteria are achieved.~~

~~(iii) Class III Backflow Technicians will also be required to attend additional training provided periodically by the Division to ensure knowledge of any regulatory changes and to ensure consistency in the evaluation of applicants.~~

~~(3) Certification Requirements: Those individuals seeking certification as a Backflow Technician must participate in an approved Technician's course of instruction and successfully complete the examination required per class of certification.~~

~~(4) Backflow Technician Course Instructors: All individuals who instruct Backflow Technician training courses must hold a current Class III Backflow Technician certificate.~~

~~(5) (a) No person shall install, replace or repair a backflow prevention assembly unless that person holds a Class II or Class III Certification.~~

~~(b) This requirement shall not apply when the Backflow Technician is the assembly owner or an employee of the assembly owner.~~

~~(c) No person shall install, replace or repair a backflow prevention assembly that has not been certified as provided in R309-105-12(4).~~

### **~~R309-305-6. Technician Responsibilities.~~**

~~(1) All technicians shall notify the Division of Drinking Water, local health department and the appropriate public water system of any backflow incident as soon as possible, but within eight hours. The Division can be reached during business hours at 801-536-4200 or after hours at 801-536-4123;~~

~~(2) All technicians shall notify the appropriate public water system of a failing backflow prevention assembly within five days;~~

~~(3) All technicians shall ensure that acceptable and approved procedures are used for testing, repairing and maintaining any backflow prevention assembly;~~

~~(4) All technicians shall report the backflow prevention assembly test results to the appropriate public water system within 30 days;~~

~~(5) All technicians shall include, on the test report form, any materials or replacement parts used to repair or to perform maintenance on a backflow prevention assembly;~~

~~(6) All technicians shall ensure that any replacement part is equal to or greater than the quality of parts originally supplied within the backflow prevention assembly and are supplied only by the assembly manufacturer or their agent;~~

~~(7) All technicians shall not change the design, material, or operational characteristics of the assembly during any repair or maintenance;~~

~~(8) All technicians shall perform each test and shall be responsible for the competency and accuracy of all testing and reports thereof;~~

~~(9) All technicians shall ensure the status of their technician certification is current; and~~

~~(10) All technicians shall be equipped with and competent in the use of all tools, gauges, and equipment necessary to properly test, repair and maintain a backflow prevention assembly.~~

~~(11) All technicians shall be responsible for any additional licensure.~~

### **~~R309-305-7. Examinations.~~**

~~(1) Examination Issuance:~~

~~(a) The examination recognized by the Commission for certification shall be issued through the Division of Drinking Water for both initial certification and renewal of certification.~~

~~(b) If an individual fails an examination, the individual may submit an application for reexamination on the next available scheduled test date.~~

~~(c) Examinations (both written and performance) that are used to determine competency and ability shall be approved by the Cross Connection Control Commission prior to being issued.[]~~

~~(2) Exam Scoring: Class I, Class II and Class III Technician's must successfully complete a written exam with a score of 70% or higher. Class II Technician's must also successfully demonstrate competence and ability in the performance examination, for the testing of a Pressure Vacuum Breaker Assembly, a Spill Resistant Pressure Vacuum Breaker Assembly, a Double Check Valve Assembly, and a Reduced Pressure Principal Backflow Prevention Assembly.~~

~~(a) The performance examination shall be conducted by a minimum of two Class III Technicians.~~

~~(b) Each candidate must demonstrate competence. Competence shall be evaluated by a proctor and determined with a pass or fail grade in each of the following areas:~~

~~(i) Properly identify backflow assembly;~~

~~(ii) Properly identify test equipment needed;~~

~~(iii) Properly connect test equipment;~~

~~(iv) Properly test assembly;~~

~~(v) Properly identify assembly malfunctions;~~

~~(vi) Properly diagnose assembly malfunctions; and~~

~~(vii) Properly record test results.~~

~~The candidate must receive a pass grade from the proctor in all areas listed above for each assembly tested in order to successfully complete the performance examination.~~

~~(e) An individual may apply for reexamination of either portion of the examination a maximum of two times. After a third failing grade, the individual must register for and complete another technician's training course prior to any further reexamination.~~

~~(3) Class III Technicians: Class III Technicians shall participate in and successfully complete a Class III Certification course, approved by the Cross Connection Control Commission. Class III Technicians shall maintain their Class II Technician certification.~~

### **~~R309-305-8. Certificates.~~**

~~(1) Certificate Issuance: For a certificate to be issued, the individual must complete a Technician's training course and pass with a minimum score of 70% the written examination. For Class II and III certificates, successful completion of the performance examination shall also be required.~~

~~(2) Certificate Renewal: The Backflow Technician's certificate is issued by the Director and shall expire December 31, three years from the year of issuance.~~

~~(a) Backflow Technician certificates shall be issued by the Director after considering the recommendation of the Commission Secretary.~~

~~(b) The Backflow Technician's certificate may be renewed up to six months in advance of the expiration date.~~

~~(c) A Backflow Technician may retain the Technician's certification number when the Technician renews certification within twelve months after the certification's expiration date. The technician shall not test, maintain or repair any backflow prevention assembly for purposes of submitting legal documentation of the operational status of a backflow prevention assembly as described in R305-5(2)(a)(i).~~

~~(d) To renew a Class I or II Technician certificate, the Technician must register for and participate in an approved backflow prevention renewal course, and successfully complete the renewal examination (minimum score of 70%) which shall include a performance portion for Class II Certification.~~

~~(e) To renew a Class III Technician certificate, the following criteria shall be met:~~

~~(i) In the 3 year certification period a total of three events from the following list shall be obtained in any combination:~~

~~(A) Instruction at a Commission approved backflow technician certification or renewal course.~~

~~(B) Serve as a proctor for the performance examination at a Commission approved backflow technician certification or renewal course.~~

~~(ii) Attendance at a minimum of two of the annual Class III coordination meetings or receive a meeting update from the Commission Secretary.~~

~~(iii) Attendance and successful review at a Class III renewal course, as approved by the Cross Connection Control Commission.~~

~~(f) Should the applicant fail the renewal written examination (minimum score of 70%), renewal of that existing license shall not be allowed until a passing score is obtained. If the applicant fails to successfully complete the test after three attempts, the applicant shall be required to participate in an approved Backflow Technician's course before retaking the written and performance examinations. Class I Technicians only need to successfully complete the written examination.~~

### **~~R309-305-9. Certification Revocation.~~**

~~(1) The Director may suspend or revoke a Backflow Technician's certification, for good cause, including any of the following:~~

~~(a) The certified person has acted in disregard for public health or safety;~~

~~(b) The certified person has engaged in activities beyond the scope of their certification;~~

~~(c) The certified person has misrepresented or falsified figures or reports concerning backflow prevention assembly or test results;~~

~~(d) The certified person has failed to notify proper authorities of a failing backflow prevention assembly within five days, as required by R309-305-6(2);~~

~~(e) The certified person has failed to notify proper authorities of a backflow incident for which the technician had personal knowledge, as required by R309-305-6(1);~~

~~(f) The certified person has installed or repaired a backflow prevention assembly that is not certified or has implemented a change in the design, material or~~

~~operational characteristics of a certified backflow prevention assembly thereby invalidating the backflow assembly certification.~~

~~(2) Disasters or "Acts of God", which could not be reasonably anticipated or prevented, shall not be grounds for suspension or revocation actions.~~

~~(3) The Commission Secretary shall inform the technician, in writing, if the certification is being considered for suspension or revocation. The communication shall state the reasons for considering suspension or revocation, and the technician shall be given an opportunity for a hearing.~~

### **~~R309-305-10. Fees.~~**

~~(1) Fees: The fees for certification shall be submitted in accordance with Section 63-38-3.2.~~

~~(2) All fees shall be deposited in a special account to defray the costs of administering the Cross-Connection Control and Certification programs.~~

~~(3) Renewal Fees: The renewal fee for all classes of Technicians shall be in accordance with Section 63-38-3.2.~~

~~(4) All fees shall be deposited in a special account to defray the cost of the program.~~

~~(5) All fees are non-refundable.~~

### **~~R309-305-11. Training.~~**

~~(1) Training: Minimum training course curriculum, written tests and performance tests shall be established by the Commission and implemented by the Secretary of the Commission for both the Technician Class I and Class II courses and the renewal courses.~~

~~(a) The length of the initial certification course for a Class I cross-connection control program administrator shall be a minimum of 32 hours, including examination time.~~

~~(b) The length of the initial certification course for a Class II backflow assembly tester shall be a minimum of 32 hours, excluding examination time.~~

~~(c) The length of each renewal course shall be a minimum of 16 hours including the renewal examination times, for both written and performance.~~

### **~~R309-305-12. Cross Connection Control Commission.~~**

~~(1) Appointment of Members: A Cross-Connection Control Commission shall be appointed by the Director from nominations made by cooperating agencies.~~

~~(2) Responsibility: The Commission is charged with the responsibility of conducting all work necessary to promote the cross-connection program as well as recommending qualified individuals for certification, and overseeing the maintenance of necessary records.~~

~~(3) Representative Agencies: The Commission shall consist of seven members:~~

~~(a) One member (nominated by the League of Cities and Towns) shall represent a community drinking water supply.~~

~~(b) One member (nominated by the Utah Pipes Trades Education Program) shall represent the plumbing trade and must be a licensed Journeyman Plumber.~~

~~(c) One member (nominated by the Utah Mechanical Contractors Association) shall represent the mechanical trade contractors.~~

~~(d) One member (nominated by the Utah Plumbing and Heating Contractors Association) shall represent the non-union plumbing and mechanical contractors and plumbers.~~

~~(e) One member (nominated by the Rural Water Association of Utah) shall represent small water systems.~~

~~(f) One member (nominated by the Utah Chapter American Backflow Prevention Association) shall represent Class II Backflow Technicians and shall be a Backflow Technician.~~

~~(g) One member (nominated by the Utah Association of Plumbing and Mechanical Officials) shall represent plumbing inspection officials and shall be a licensed plumbing inspector.~~

~~(4) Term: Each member shall serve a two-year term.~~

~~(5) Nominations of Members: All nominations of Commission members shall be presented to the Director, who may refuse any nomination.~~

~~(6) Unexpired Term: An appointment to succeed a Commission member who is unable to complete his full term shall be for the unexpired term only, and shall be nominated to, and appointed by, the Director in accordance with R309-305-11(1).~~

~~(7) Quorum: At least four Commission members shall be required to constitute a quorum to conduct the Commission's business.~~

~~(8) Officers: Each year the Commission shall elect officers as needed to conduct its business.~~

~~(a) The Commission shall meet at least once a year.~~

~~(b) All actions taken by the Commission shall require a minimum of four affirmative votes.~~

### **~~R309-305-13. Secretary of the Commission.~~**

~~(1) Appointment: The Director shall appoint, with the consent of the Commission, a staff member to function as the Secretary to the Commission. This Secretary shall serve to coordinate the business of the Commission and to bring issues before the Commission.~~

~~(2) Duties: The Secretary's duties shall be to:~~

~~(a) act as a liaison between the Commission, certified Technicians, public water suppliers, and the public at large;~~

~~(b) maintain records necessary to implement and enforce these rules;~~

~~(c) notify sponsor agencies of Commission nominations as needed;~~

~~(d) coordinate and review all cross connection control programs, certification training and the certification of Backflow Technicians;~~

~~(e) serve as a source of public information for Certified Technicians, water purveyors, and the public at large;~~

~~(f) receive and process applications for certification;~~

~~(g) investigate and verify all complaints against or concerning certified Backflow Prevention Technicians, and advise the Director regarding any enforcement actions that are being recommended by the Commission;~~

~~(h) develop and administer examinations;~~

~~(i) review and correct examinations.~~

~~(3) The Secretary to the Commission is also responsible for making recommendations to the Director regarding backflow technician certification as provided in these rules.]~~

## **R309-305 Cross Connection Control and Backflow Prevention Certification.**

### **R309-305-1 Purpose.**

The purpose of this rule is to:

- (1) adopt standards for the training, examination, and certification of persons engaged in:
  - (a) administration of cross connection control programs for public water systems;
  - (b) repair and testing of backflow prevention assemblies at public water systems; and
  - (c) instruction or examination monitoring for backflow assembly tester certification.
- (2) establish certification fee requirements; and
- (3) establish the Cross Connection Control Commission and its responsibilities.

### **R309-305-2 Authority.**

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104(4)(a) of the Utah Code and in accordance with 63G-3 of the same, known as the Administrative Rulemaking Act.

### **R309-305-3 Definitions.**

- (1) Definitions for certain terms used in this rule are given in R309-110.
- (2) In addition to terms defined in R309-110:
  - (a) “Accredited Agency” means a third party organization approved by the Cross Connection Commission to provide written and performance examinations for Backflow Assembly Tester certification;
  - (b) “Backflow Assembly Tester” means a person certified under this rule to conduct testing of backflow prevention assemblies;
  - (c) “Backflow Proctor/Trainer” means a person qualified to instruct cross connection control certification courses and to act as a proctor or exam monitor for cross connection control certification examinations;
  - (d) “Cross Connection Control Program Administrator” means a person certified under this rule to administer a cross connection control program for a public drinking water system;

(e) “Performance examination” means a closed-book, hands-on demonstration of an applicant’s ability to conduct an accurate field test of backflow assemblies; and

(f) “Written examination” means a closed-book examination for record to determine the competency and ability of an applicant to understand the requirements.

## **R309-305-4 Cross Connection Control Commission.**

### (1) Cross Connection Control Commission Organization and Members

(a) The Director may establish a Cross Connection Control Commission.

(b) The Commission shall consist of seven members representing the following sectors:

(i) One member who represents community water systems.

(ii) One member who represents the plumbing trade and is a licensed Journeyman Plumber.

(iii) One member who represents the mechanical trade contractors.

(iv) One member who represents the non-union plumbing and mechanical contractors and plumbers.

(v) One member who represents small public water systems.

(vi) One member who represents Backflow Assembly Testers and Cross Connection Control Program Administrators and is certified as either.

(vii) One member who represents plumbing inspection officials and is a licensed plumbing inspector.

(c) Commission members shall be appointed by the Director. The Director may consider or accept nominations made by entities representing specific sectors.

### (2) Cross Connection Control Commission Responsibilities

(a) The Cross Connection Control Commission may:

(i) advise the Director concerning the training, examination, and certification of persons engaged in cross connection control and backflow prevention for public water systems;

(ii) review findings and recommend to the Director suspension or revocation of certificates; and

(iii) review and accept certification training courses.

(3) Cross Connection Control Commission Operations

(a) Each appointed Commission member shall serve a two-year term.

(b) The Commission shall annually elect, at a minimum, a chairperson and a vice chairperson to conduct the business of the Commission.

(c) The Commission shall meet at least twice a year.

(d) Four members shall be present to constitute a quorum to conduct the Commission's business.

(e) A vote by a majority of the members present shall be required for the Commission to take an action.

**R309-305-5 Secretary to the Cross Connection Control Commission.**

(1) The Director shall appoint a Secretary to the Commission.

(2) The Secretary's responsibilities may include:

(a) coordinating the Commission's business;

(b) bringing pertinent issues before the Commission;

(c) being a liaison between the Commission and persons certified under this rule, public water systems, and the public;

(d) maintaining records to implement and enforce the requirements of this rule;

(e) coordinating nominations to the Commission;

(f) coordinating and reviewing public water system cross connection control programs and training and certifications in the cross connection control and backflow prevention program;

(g) processing applications for certification and renewals;

(h) investigating and verifying all complaints against or concerning certified Backflow Assembly Testers, Cross Connection Control Program Administrators, and Backflow

Proctor/Trainers, and inform the Director regarding any enforcement actions that are being recommended by the Commission;

(i) administering examinations; and

(j) making recommendations to the Director regarding cross connection control certifications.

### **R309-305-6 Cross Connection Control and Backflow Prevention Certifications.**

(1) Two types of certification may be obtained by persons engaged in cross connection control or backflow prevention for public water systems:

(a) Cross Connection Control Program Administrator; and

(b) Backflow Assembly Tester.

(2) To obtain either of the above certifications, a person must comply with the training and examination requirements specified in the following sections.

### **R309-305-7 Cross Connection Control Program Administrator Certification.**

(1) Application for a Certificate.

(a) To obtain a Program Administrator Certificate, a person shall:

(i) complete a certification course of at least 18 hours, including examination time, approved by the Cross Connection Control Commission;

(ii) pass a written examination accepted by the Cross Connection Control Commission by correctly answering 70% or more of the questions;

(iii) submit a complete application to the Director; and

(iv) pay the required fee.

(b) A Program Administrator Certificate issued by the Director is valid for one year from the date of issuance.

(c) A Program Administrator Certificate may be renewed annually by meeting the renewal requirements below.

(2) Certificate Renewal.

(a) A Program Administrator Certificate may be renewed:

- (i) for a period of one year; and
- (ii) an unlimited number of times.

(b) To renew a certificate, a person shall:

- (i) complete a minimum of 0.6 Continuing Education Units (CEU's) annually;
- (ii) submit evidence of CEU's completed to the Commission Secretary; and
- (iii) pay the required fee.

(c) Continuing Education Units shall:

- (i) be specific to cross connection control or backflow prevention; and
- (ii) be approved by the Commission Secretary.

(3) Certificate Expiration.

(a) A Program Administrator Certificate expires if a person fails to fulfill the requirements to maintain the certification.

(4) Program Administrator Responsibilities.

(a) A person with a valid Program Administrator Certificate may perform the following specifically regarding cross connection control and backflow prevention:

- (i) review plans and designs for compliance;
- (ii) investigate and assess hazards;
- (iii) inspect facilities for compliance;
- (iv) enforce local laws, codes, rules, and policies; and
- (v) provide technical assistance.

(b) A Program Administrator may test a backflow assembly only for the purpose of assuring that proper testing techniques are being used within a water system's jurisdiction.

(5) Program Administrator Certificate Restrictions.

A person with a valid Program Administrator Certificate may not perform the following specifically regarding a backflow prevention assembly:

- (a) test, maintain, or repair the assembly for the purpose of legally documenting the operational status of the assembly; or
- (b) perform a test for record demonstrating compliance of the assembly with required standards.

### **R309-305-8 Backflow Assembly Tester Certification.**

#### (1) Application for a Certificate.

(a) To obtain a Backflow Assembly Tester Certificate, a person shall:

- (i) complete a certification course accepted by the Cross Connection Control Commission;
- (ii) pass a written examination offered by an Accredited Agency accepted by the Cross Connection Control Commission;
- (iii) successfully demonstrate competence and ability in a performance examination offered by an Accredited Agency accepted by the Cross Connection Control Commission for the testing of:
  - (A) a pressure vacuum breaker assembly,
  - (B) a spill resistant pressure vacuum breaker assembly,
  - (C) a double check valve assembly, and
  - (D) a reduced pressure principal backflow prevention assembly;
- (iv) submit a complete application, including a valid certificate issued by an Accredited Agency accepted by the Cross Connection Control Commission, to the Commission Secretary; and
- (v) pay the required fee.

(b) A Backflow Assembly Tester Certificate issued by the Director is valid for three years from the date of issuance.

(c) A Backflow Assembly Tester Certificate may be renewed by meeting the renewal requirements below.

#### (2) Certificate Renewal.

(a) A Backflow Assembly Tester Certificate may be renewed:

(i) for a period of three years; and

(ii) an unlimited number of times.

(b) To renew a certificate, a person shall:

(i) complete the written and performance examination requirements of R309-305-8(1)(a)(ii) and (iii);

(ii) submit a renewal application; and

(iii) pay the required fee.

(3) Certificate Expiration.

(a) A Backflow Assembly Tester Certificate expires if a person fails to complete the certificate renewal requirements of R309-305-8(2).

(b) A Backflow Assembly Tester with an expired certificate may not test, maintain, or repair a backflow assembly for the purpose of legally documenting the operational status of the assembly.

(4) Backflow Assembly Tester Obligations.

(a) A person with a valid Backflow Assembly Tester Certificate shall:

(i) notify the Division of Drinking Water, local health department, and the appropriate public water system of any backflow incident as soon as possible and within eight hours of discovery;

(ii) notify the appropriate public water system of a failing backflow prevention assembly within five days;

(iii) ensure that acceptable and approved procedures are used for testing, repairing, and maintaining a backflow prevention assembly;

(iv) report backflow prevention assembly test results to the appropriate public water system within 30 days;

(v) include, on the test report form, any materials or replacement parts used to repair or to perform maintenance on a backflow prevention assembly;

(vi) ensure that a replacement part is equal to or greater than the quality of part originally supplied within the backflow prevention assembly and is supplied only by the assembly manufacturer or its agent;

(vii) perform each test and be responsible for the competency and accuracy of all testing and reporting;

(viii) ensure that Backflow Assembly Tester certification is current;

(ix) be equipped with and competent in the use of all tools, gauges, and equipment necessary to properly test, repair, and maintain a backflow prevention assembly; and

(x) be responsible for any additional licensure.

(5) Backflow Assembly Tester Restrictions.

A person with a valid Backflow Assembly Tester Certificate may not change the design, material, or operational characteristics of the assembly during any repair or maintenance.

### **R309-305-9 Proctor/Trainer for Backflow Assembly Tester Qualifications.**

A proctor or trainer for Backflow Assembly Tester Certification shall maintain a current proctor certificate issued by an Accredited Agency accepted by the Cross Connection Control Commission.

### **R309-305-10. Certification Suspension and Revocation.**

(1) A certificate may be suspended or revoked for unacceptable or unprofessional conduct, including:

(a) acting in disregard for public health or safety;

(b) engaging in activities beyond the scope of certification;

(c) misinterpreting or falsifying figures or reports concerning backflow prevention assembly or test results;

(d) failing to notify proper authorities of a known backflow incident, as required by R309-305-8(4)(a)(i);

(e) failing to notify proper authorities of a failed backflow prevention assembly within five days, as required by R309-305-8(4)(a)(ii);

(f) installing or repairing a backflow prevention assembly that is not certified; or

(g) implementing a change in the design, material, or operational characteristics of a certified backflow prevention assembly thereby invalidating the backflow assembly certification.

(2) The Commission Secretary shall investigate unprofessional or unacceptable conduct.

(3) The Commission shall evaluate the investigation findings and make a recommendation to the Director regarding certification suspension or revocation.

(4) The Commission Secretary shall notify a person in writing of the Commission's recommendation if certification is being considered for suspension or revocation.

(5) The Director may suspend or revoke a certificate based on the Commission's recommendation.

### **R309-305-11. Certification Fees.**

(1) Certification fees shall be:

(a) paid by the applicant to the Division of Drinking Water prior to issuance or renewal of a certificate according to the Department of Environmental Quality fee schedule; and

(b) used for administering the Cross Connection Control and Backflow Prevention Certification program.

(2) Certification fees are non-refundable.

**KEY: drinking water, cross connection control, backflow assembly tester**

**Date of Enactment or Last Substantive Amendment: ~~November 13, 2013~~**

**Notice of Continuation: March 22, 2010**

**Authorizing, and Implemented or Interpreted Law: 19-4-104(4)(a); 63G-3**

# Agenda Item

8(A)

**DRINKING WATER BOARD PACKET**  
**Public Water System Definition Rule Review**

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R309-100  
Amended Rule Text  
(Clean copy)

**R309. Environmental Quality, Drinking Water.**

**R309-100. Administration: Drinking Water Program.**

**R309-100-1. Purpose.**

The purpose of this rule is to set forth the water quality and drinking water standards for public water systems in the state of Utah.

- R309-100-2 Authority.
- R309-100-3 Definitions.
- R309-100-4 Public Water Systems, General Requirements.
- R309-100-5 Prospective Public Water Systems; Coordination with Land Use Authorities.
- R309-100-6 Public Water Systems Permitted by Rule.
- R309-100-7 New Bulk Meters; Receiving System Requirements.
- R309-100-8 Existing Bulk Meters and Receiving Systems; Terminus Determinations.
- R309-100-9 Categories of Public Water Systems.
- R309-100-10 Approval of Plans and Specifications for Public Water System Projects.
- R309-100-11 Sanitary Survey and Evaluation of Existing Facilities.
- R309-100-12 Rating System.
- R309-100-13 Orders and Emergency Actions.
- R309-100-14 Variances.
- R309-100-15 Small System Variances.
- R309-100-16 Exemptions.

**R309-100-2. Authority.**

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104 of the Utah Code and in accordance with Section 63G-3 of the same, known as the Utah Administrative Rulemaking Act.

**R309-100-3. Definitions.**

Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

**R309-100-4. Public Water Systems, General Requirements.**

These rules shall apply to all public water systems within the State of Utah.

(1) Pursuant to the Utah Safe Drinking Water Act, "public water system" means a system providing water for human consumption and other domestic uses that:

- (a) has at least 15 service connections; or
- (b) serves an average of 25 individuals daily for at least 60 days of the year.

(2) Pursuant to the Utah Safe Drinking Water Act, "public water system" also includes:

- (a) a collection, treatment, storage, or distribution facility under the control of the operator and used primarily in connection with the system; and
- (b) a collection, pretreatment, or storage facility used primarily in connection with the system but not under the operator's

control.

(3) Any platted subdivision or other contiguous development developed under the same ownership or control will be considered to be a single system for purposes of calculating the number of connections or population, regardless of the timing of construction or occupancy.

(4) For purposes of calculating population, there is a rebuttable presumption that each residential service connection serves 3.16 persons. This presumption is based on the statewide average persons per residence based on U.S. Census Bureau data. Therefore, a drinking water system having 8 or more service connections is presumed to serve 25 people and, as a result, is classified as a public water system. This presumption may be rebutted by valid evidence submitted by the system owner or operator.

(5) For purposes of calculating population, there is a rebuttable presumption that each discrete recreational vehicle camp site that has a drinking water connection serves an average of [X] persons at least 60 days of the year. This presumption is based upon RV campground occupancy data provided by industry sources.

(6) For purposes of calculating population for campgrounds that serve drinking water, the Director may rely on campground occupancy data provided by the U.S. Forest Service, the Utah Department of Parks and Recreation, and other reliable sources. Based on such data, the Director may create guidance establishing a reasonable basis to calculate population for campground recreational uses.

(7) Section 1447a of the federal Safe Drinking Water Act, codified at 42 U.S.C. § 300j-6, provides, in substance, that where a state has achieved enforcement primacy under the federal act, then federal agencies are subject to the jurisdiction of the relevant state agency. In directing federal facilities to be subject to and to comply with all state requirements "in the same manner, and to the same extent, as any non-governmental entity," the explicit language of the U.S. Code provision cited above demonstrates Congressional intent that federal facilities be treated as any other public water system covered by the federal act and, in turn, the Utah Safe Drinking Water Act.

As a result, all federally-controlled public water systems in Utah are subject to the jurisdiction of the Board and its rules in the same manner and to the same extent as any other public system in the state.

(8) The owner or operator of each public water system shall designate and maintain at all times a person who is responsible for the system. The name, address, and phone number of the designated, responsible person shall be provided to the Director. A designated, responsible person may not resign unless a replacement is named. Public water systems shall ensure that the designated, responsible person's identity and contact information is current and valid at all times.

(9) Any public water system owner, operator, or user may request a review of the Director's findings and conclusions regarding the legal status of any given system in accordance with section 19-6-301 and R305-7.

**R309-100-5. Prospective Public Water Systems; Coordination with Land Use Authorities.**

(1) Whenever any person submits a land use application to any land use authority wherein such proposed development, when fully constructed as planned and approved, is reasonably anticipated to qualify as a public water system, then such person will be deemed to have submitted to the jurisdiction of the Board's rules and such system will be treated as a prospective public water system.

(2) The Director shall assert jurisdiction over all prospective public water systems to the same extent as any active public water system, except that routine sampling and monitoring requirements will not be imposed until after a prospective public water system is serving the minimum population or has the minimum number of connections as stated in the definition of public water system. Engineering plan review, drinking water source requirements (including source protection), will apply to all prospective public water systems from the outset of development.

(3) All prospective public water systems shall apply to the Director for, and enter into or otherwise become subject to, an order from the Director that governs how such prospective public water system will be regulated.

(4) The Board requests that land use authorities and local health departments refrain from issuing authorizations, such as building permits, occupancy permits, or business licenses, for projects involving a prospective drinking water system until the Director has entered an order relating to such system as provided in subsection (3). The Board also requests that land use authorities and local health departments keep the Director apprised of new land use applications, permits of occupancy, business licenses, and other material changes to development plans that involve prospective drinking water systems.

(5) Definitions. As used in R309-100-5, the following terms shall have the following definitions:

(a) "Land use application" means any "land use application" submitted to any "land use authority" for any "land use permit" or approval of any subdivision plat, all within the meaning of the Municipal Land Use, Development, and Management Act (Section 10-9a-102 et seq.) or the County Land Use, Development, and Management Act (Section 17-27a-101 et seq.) (the "land use acts").

(b) "Land use authority" shall have the same meaning as in the land use acts.

#### **R309-100-6. Public Water Systems Permitted by Rule.**

(1) The permit by rule status for public water systems is intended to cover situations that present low inherent risk for potential adverse public health impacts. Public water systems that are permitted by rule are deemed to be in compliance with the Drinking Water Rules, unless otherwise determined or ordered by the Director.

(2) Unless otherwise determined by the Director, the following public water systems are permitted by rule if they meet the requirements set forth in subsection (3):

(a) Distribution-only public water systems that have less than 500 feet of continuous underground piping; and

(b) Public water systems that are regulated by the Utah Department of Agriculture pursuant to R70-630.

(3) In order to qualify for permit by rule status, the additional

requirements set forth in this subpart (3) apply. Any public water system that does not meet all of the following requirements is not entitled to permit by rule status unless otherwise determined in writing by the Director under subpart (4). The supplemental conditions are as follows:

(a) the system must receive all of its culinary water supply from an approved public water system; and

(b) the system must be constructed in conformance with all of the following: (i) the applicable plumbing code, (ii) the applicable construction standards provided in this Rule, and (iii) standards required by the delivering public water system; and

(c) the system must not have storage or complex treatment.

(4) Upon application, the Director may grant permit by rule status to any public water system, or any defined portion thereof, upon a showing that permit by rule status is appropriate and is protective of public health. Such determinations may be subject to conditions and shall be made in writing signed by the Director. Upon application, the Director may also confirm that any given public water system falls within permit by rule status without further conditions apart from those specified in this Rule.

(5) At any time, if the Director finds that there exists an actual or potential threat to public health with respect to a public water system that is permitted by rule, the Director may take any appropriate action, including imposing specific requirements or otherwise revoking such system's permit by rule status. Factors the Director may consider in revoking or modifying permit by rule status include, for example, sensitive populations served, the age and condition of the infrastructure, the potential for water quality degradation, cross-connection control, water age, water pressure, and other relevant factors. The Director shall provide written notice of such determinations to such public water systems as well as to the public water system providing water to such system.

(6) As used in R309-100-6, the following terms shall have the following meanings:

(a) "Complex treatment" means any process that alters the physical, chemical, or other properties of finished culinary water. Examples of complex treatment include chemical additions (such as corrosion control or disinfection), aeration, and large-scale (non point-of-use) filtration. Complex treatment does not include processes that present low public health risks. Examples of treatment that do not usually present public health risks include most types of water softening, water heaters, and point of use filtration (such as individual tap and appliance filtration).

(b) "Storage" means any storage facility for finished culinary water that may give rise to a public health risk. "Storage" does not include emergency fire suppression storage with backflow-protected separate plumbing.

#### **R309-100-7. New Bulk Meters; Receiving System Requirements.**

(1) With respect to any bulk meter connected after **[insert effective date]**, the public water system supplying the finished drinking water shall be deemed to be responsible for the receiving system (and the receiving system shall become part of the delivering system) as of the date that the bulk meter is connected unless one

of the following conditions is met: (i) the receiving system is authorized by the Director as an independent public water system under the drinking water rules; or (ii) the receiving system is permitted by rule, as provided in R309-100-6, at the time that the bulk meter is installed; or (iii) the receiving system does not qualify as a public water system or a prospective public water system.

(2) If a receiving system has permit by rule status at the time that the bulk meter is connected and the Director subsequently revokes such receiving system's permit by rule status under R309-100-6(5), the supplying public water system shall not be responsible for such Receiving System as provided in R309-100-7(1). Rather, such receiving system will be solely responsible for compliance with the board's rules and the Utah Safe Drinking Water Act.

(3) As used in R309-100-7, the following terms shall have the following meanings:

(a) "Bulk meter" means a point of delivery where a public water system delivers finished drinking water to any buyer where the buyer's system meets the definition of a public water system.

(b) "Receiving system" means the public water system or prospective public water system (as provided in R309-100-5) that purchases finished drinking water from any public water system through a bulk meter or equivalent point of delivery.

#### **R309-100-8. Existing Bulk Meters and Receiving Systems; Terminus Determinations.**

(1) With respect to bulk meters connected prior to **[insert effective date]**, whenever the Director is required to make determinations as to the terminus of a public water system or the legal status of any Receiving System, the following guidelines shall be followed:

(a) The point of delivery will be deemed to be the point of terminus of the public water system supplying finished drinking water. There will be a rebuttable presumption that the established service connection (meter) is the point of delivery if one exists, or if a service connection (meter) does not exist, the legal property boundary.

(b) Public water system terminus determinations are committed to the Director's enforcement discretion. The Director may take into account other factors relating to the terminus determination, including legal arrangements between the parties, metering and billing practices, the parties' course of dealings, and the date that service connections or bulk meters were installed.

(c) The foregoing guidelines are not intended to, and do not, limit the Director's enforcement discretion.

(2) Terminus determinations and enforcement actions as to bulk meters and associated receiving systems existing before **[insert effective date]** will be pursued as potential public health issues come to the attention of the Director.

#### **R309-100-9. Categories of Public Water Systems.**

Public water systems are divided into three categories, as follows:

(1) "Community water system" (CWS) means a public water system

which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. However, there is a rebuttable presumption that a water system with eight connections serves at least 25 persons.

(2) "Non-transient, non-community water system" (NTNCWS) means a public water system that is not a community water system and that regularly serves at least 25 of the same nonresident persons over six months per year. Examples of such systems are those serving the same individuals (industrial workers, school children, church members) by means of a separate system.

(3) "Transient non-community water system" (TNCWS) means a non-community public water system that does not serve 25 of the same nonresident persons per day for more than 180 days in any 12 month period. Examples of such systems are RV parks, diners or convenience stores where the number of permanent, nonresident staff is less than 25, but the number of people served exceeds 25 per day.

(4) The Division shall use "Community," "Non-transient, non-community," and "Transient Non-community" water system designations for purposes of identifying and enforcing applicable monitoring and water quality requirements.

(5) In order to qualify as a seasonal system under this Rule, reasonable efforts shall be implemented to limit access to drinking water during the time that the seasonal system is closed.

#### **R309-100-10. Approval of Plans and Specifications for Public Water Supply Projects.**

(1) All engineering plans and specifications for public water projects, including prospective public water systems (as defined in R309-100-5), must be approved in writing prior to construction, in accordance with R309-105-6 and R309-500-6.

(2) A public water system shall obtain an Operating Permit prior to placing any public water facility into operation as required in R309-500-9. The timing of the requirement for any prospective public water system to obtain an Operating Permit will be as required by the Director, in accordance with R309-100-5.

#### **R309-100-11. Sanitary Survey, Evaluation, and Corrective Action of Existing Facilities.**

(1) The Director, after considering information gathered during sanitary surveys and facility evaluations, may make determinations of regulatory significance including: monitoring reductions or increases, treatment, variances and exemptions.

(2) CONDUCTING SANITARY SURVEYS

(a) The Director shall ensure a sanitary survey is conducted at least every three years on all public water systems. The Director may reduce this frequency to once every five years based on outstanding performance on prior sanitary surveys.

(b) Sanitary surveys conducted by the following individuals under the circumstances as listed, may be used by the Director for the above determinations:

(i) Division of Drinking Water personnel;

(ii) Utah Department of Environmental Quality District Engineers;

- (iii) local health officials;
- (iv) Forest Service engineers;
- (v) Utah Rural Water Association staff;
- (vi) consulting engineers; and
- (vii) other qualified individuals authorized in writing by the Director.

(3) Public water systems must provide the Director, at the Director's request, any existing information that will enable the State to conduct a sanitary survey.

(4) For the purposes of this subpart, a "sanitary survey", as conducted by the Director, includes but is not limited to, an onsite review of the water source(s) (identifying sources of contamination by using results of source water assessments or other relevant information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.

(5) The sanitary survey must include an evaluation of the applicable components listed in paragraphs (5)(a) through (h) of this section:

- (a) Source,
  - (b) Treatment,
  - (c) Distribution system,
  - (d) Finished water storage,
  - (e) Pumps, pump facilities, and controls,
  - (f) Monitoring, reporting, and data verification,
  - (g) System management and operation, and
  - (h) Operator compliance with State requirements.
- (6) CONDITIONS ON CONDUCT OF SANITARY SURVEYS

In order for the groups of individuals listed in R309-100-7(2)(b) to conduct sanitary surveys acceptable for consideration by the Director, the following criteria must be met:

(a) Surveys of all systems involving complete treatment plants must be performed by Division of Drinking Water staff or others authorized in writing by the Director;

(b) Local Health officials may conduct surveys of systems within their respective jurisdictions;

(c) U.S. Forest Service (USFS) engineers may conduct surveys of water systems if the system is owned and operated by the USFS or USFS concessionaires;

(d) Utah Rural Water Association staff may conduct surveys of water systems if the system's population is less than 10,000;

(e) Consulting Engineers under the direction of a Registered Professional Engineer;

(f) Other qualified individuals who are authorized in writing by the Director may conduct surveys.

(7) SANITARY SURVEY REPORT CONTENT

The Director will prescribe the form and content of sanitary survey reports and be empowered to reject all or part of unacceptable reports.

(8) ACCESS TO WATER FACILITIES

Department of Environmental Quality employees after reasonable notice and presentation of credentials, may enter any part of a public water system at reasonable times to inspect the facilities and water

quality records, conduct sanitary surveys, take samples and otherwise evaluate compliance with Utah's drinking water rules. All others who have been authorized by the Director to conduct sanitary surveys must have the permission of the water system owner or designated representative before a sanitary survey may be conducted.

(9) **CORRECTIVE ACTION**

Public water systems must comply with requirements found in R309-215-16(3)(a)(iii), R309-215-16(3)(a)(iv), R309-215-16(3)(a)(v), R309-215-16(3)(a)(vi), and R309-215-16(3)(a)(vii).

(10) Refer to R309-100-8 and R309-105-6 for further requirements.

**R309-100-12. Rating System.**

The Director shall assign a rating to each public water system in order to provide a concise indication of its condition and performance. The criteria to be used for determining a public water system's rating shall be as set forth in R309-400.

**R309-100-13. Orders and Emergency Actions.**

(1) In situations in which a public water system fails to meet the requirements of these rules, the Director may issue an order to a water supplier to take appropriate protective or corrective measures.

(2) Failure to comply with these rules or with an order issued by the Director may result in the imposition of civil penalties as provided in the Utah Safe Drinking Water Act.

(3) The Director may respond to emergency situations involving public drinking water, including emergency situations as described in R309-105-18, in a manner appropriate to protect the public health. The Director's enforcement actions may include the following:

(a) Issuing press releases to inform the public of any confirmed or possible hazards in their drinking water; and

(b) Ordering water suppliers to take appropriate measures to protect public health, including issuance of orders pursuant to 63G-4-502, if warranted.

**R309-100-14. Variances.**

(1) The Board may grant variances to the requirements to comply with a maximum contaminant level or treatment technique (R309-200 through R309-215) to water systems, which, because of characteristics of their raw water sources, cannot meet the required maximum contaminant levels despite the application of best technology and treatment techniques available (taking costs into consideration).

(2) The variance will be granted only if doing so will not result in an unreasonable risk to public health.

(2) A variance is not available for a national primary drinking water regulation for a microbial contaminant (including a bacterium, virus, or other organism) or an indicator or treatment technique for a microbial contaminant.

(3) The requirements of outlined in 40 CFR Section 142 Subpart E shall be followed in the consideration and issuance of any variance.

(4) The requirements of Section 1415 of the Federal Safe Drinking Water Act, PL 104-182, are hereby incorporated by reference.

**R309-100-15. Small System Variances.**

(1) The Board may grant a variance from the requirement to comply with a maximum contaminant level or treatment technique (R309-200 through R309-215) to systems serving fewer than 3,300 persons or fewer than 10,000, subject to U.S. EPA Administrator concurrence.

(2) A small system variance may be based on the affordability of compliance with the maximum contaminant level or treatment technique.

(3) The variance will be granted only if doing so will not result in an unreasonable risk to public health.

(4) A small system variance is not available for a national primary drinking water regulation for a microbial contaminant (including a bacterium, virus, or other organism), or an indicator or treatment technique for a microbial contaminant.

(5) A small system variance under this section is not available for compliance with a requirement specifying a maximum contaminant level or treatment technique for a contaminant with respect to which;

(a) a national primary drinking water regulation was promulgated on or after January 1, 1986; and

(b) The U.S. EPA Administrator has published a small system variance technology pursuant to Section 1412(b)(15) of the Federal Safe Drinking Water Act, PL 104-182.

(6) The procedural requirements of outlined in 40 CFR Section 142, Subpart K shall apply to any small system variance.

**R309-100-16. Exemptions.**

(1) The Board may grant an exemption from the requirements to comply with a maximum contaminant level or treatment technique (R309-200 through R309-215) if the following three elements are met:

(a) Due to compelling factors (which may include economic factors, including qualification of the public water system as a system serving a disadvantaged community pursuant to section 1452(d) of the Federal Safe Drinking Water Act), the public water system is unable to comply with contaminant level or treatment technique requirement or to implement measures to develop an alternative source of water supply; and

(b) The public water system was in operation on the effective date of such contaminant level or treatment technique requirement; and

(c) The granting of the exemption will not result in an unreasonable risk to public health.

(2) An exemption is not available for a national primary drinking water regulation for a microbial contaminant (including a bacterium, virus, or other organism) or an indicator or treatment technique for a microbial contaminant.

(3) The procedural requirements outlined in 40 CFR Section 142, Subpart F shall apply to the consideration of any request for any exemption.

(4) The requirements of Section 1416 of the Federal Safe Drinking Water Act, PL 104-182, are hereby incorporated by reference.

**KEY: drinking water, environmental protection, administrative**

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R309-100  
Existing Rule Text  
(Clean copy)

**R309. Environmental Quality, Drinking Water.**

**R309-100. Administration: Drinking Water Program.**

**R309-100-1. Purpose.**

The purpose of this rule is to set forth the water quality and drinking water standards for public water systems.

R309-100-2 Authority.

R309-100-3 Definitions.

R309-100-4 General.

R309-100-5 Approval of Plans and Specifications for Public Water System Projects.

R309-100-6 Feasibility Studies.

R309-100-7 Sanitary Survey and Evaluation of Existing Facilities.

R309-100-8 Rating System.

R309-100-9 Orders and Emergency Actions.

R309-100-10 Variances.

R309-100-11 Exemptions.

**R309-100-2. Authority.**

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104 of the Utah Code and in accordance with 63G-3 of the same, known as the Administrative Rulemaking Act.

**R309-100-3. Definitions.**

Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

**R309-100-4. General.**

These rules shall apply to all public drinking water systems within the State of Utah.

(1) A public drinking water system is a system, either publicly or privately owned, providing water for human consumption and other domestic uses, which:

(a) Has at least 15 service connections,

(i) Delivery of drinking water, such as by a single well, to a portion of a platted subdivision or a portion of a contiguous development, either of which is under the same ownership or control, shall be considered a single public drinking water system; and

(ii) A platted subdivision or other contiguous development of 15 or more lots, under the same ownership or control, is considered to have the corresponding number of connections as there are lots; or

(b) Serves an average of at least 25 individuals daily at least 60 days out of the year.

(i) A ratio of 3.13 persons per connection shall be used to calculate the individuals served unless, at the time of operation, more accurate information is available. The ratio is based on the statewide average persons per residence in the 2000 census.

(ii) Notwithstanding the threshold for the number of service connections set forth in (a), a drinking water system consisting of at least 8 service connections is considered to serve 25 people, based on the ratio in (b)(i), and consequently is classified as a public drinking water system, unless, at the time of operation, more accurate

data can be used.

(iii) The ratio in (b)(i) is only be used to determine whether, prior to construction or modification, any particular water system is considered to be a public water system.

(c) Any person or entity may request a review of the designation of a public water system by submitting documentation to the Director showing that the drinking water system, upon complete build out, falls below both thresholds listed in (a) and (b) above. All decisions made by the Director under this provision may be challenged as provided in Section 19-1-301.5 and R305-7.

(2) Submetered Properties.

(a) Submetered Properties means a billing process by which a property owner (or association of property owners, in the case of co-ops or condominiums) bills tenants based on metered total water use; the property owner is then responsible for payment of a water bill from a public water system.

(b) A property owner who installs submeters to track usage of water by tenants on his or her property shall not be subject to these rules solely as a result of taking the administrative act of submetering and billing.

(c) Owners of submetered properties shall receive all their water from a regulated public water system to qualify under the terms of R309-105-5 for exemption from monitoring requirements, except as to the selling of water.

(d) This is not intended to exempt systems where the property in question has a large distribution system (piping in excess of 500 feet in length and sized larger than the normal service lateral based on a fixture unit analysis) serves a large population or serves a mixed (commercial/residential) population (e.g. many military installations/facilities or large mobile home parks or P.U.D's) from regulation as a public drinking water system as pertains to notifying the Division of the persons indicated below in (5) or plan review of modifications or changes to their systems (refer to R309-500).

(3) The term public drinking water system includes collection, treatment, storage or distribution facilities under control of the operator and used primarily in connection with the system. Additionally, the term includes collection, pretreatment or storage facilities used primarily in connection with the system but not under such control (see 19-4-102 of the Utah Code Annotated).

(4) Categories of Public Drinking Water Systems

Public drinking water systems are divided into three categories, as follows:

(a) "Community water system" (CWS) means a public drinking water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(b) "Non-transient, non-community water system" (NTNCWS) means a public water system that is not a community water system and that regularly serves at least 25 of the same nonresident persons over six months per year. Examples of such systems are those serving the same individuals (industrial workers, school children, church members) by means of a separate system.

(c) "Transient non-community water system" (TNCWS) means a non-community public water system that does not serve 25 of the same nonresident persons per day for more than six months per year.

Examples of such systems are those, RV park, diner or convenience store where the permanent nonresident staff number less than 25, but the number of people served exceeds 25.

(d) The distinctions between "Community", "Non-transient, non-community", and "Transient Non-community" water systems are important with respect to monitoring and water quality requirements.

(5) Responsibility

(a) All public drinking water systems must have a person or organization designated as the owner of the system. The name, address and phone number of this person or organization shall be supplied, in writing, to the Director.

(b) The name of the person to be contacted on issues concerning the operation and maintenance of the system shall also be provided, in writing, to the Director.

**R309-100-5. Approval of Plans and Specifications for Public Water Supply Projects.**

(1) All engineering plans and specifications for public drinking water projects must be approved in writing prior to construction, in accordance with R309-105-6 and R309-500-6.

(2) A public water system shall obtain an Operating Permit prior to placing any public drinking water facility into operation as required in R309-500-9.

**R309-100-6. Sanitary Survey, Evaluation, and Corrective Action of Existing Facilities.**

(1) The Director, after considering information gathered during sanitary surveys and facility evaluations, may make determinations of regulatory significance including: monitoring reductions or increases, treatment, variances and exemptions.

(2) CONDUCTING SANITARY SURVEYS

(a) The Director shall ensure a sanitary survey is conducted at least every three years on all public water systems. The Director may reduce this frequency to once every five years based on outstanding performance on prior sanitary surveys.

(b) Sanitary surveys conducted by the following individuals under the circumstances as listed, may be used by the Director for the above determinations:

(i) Division of Drinking Water personnel;

(ii) Utah Department of Environmental Quality District Engineers;

(iii) local health officials;

(iv) Forest Service engineers;

(v) Utah Rural Water Association staff;

(vi) consulting engineers; and

(vii) other qualified individuals authorized in writing by the Director.

(3) Public water systems must provide the Director, at the Director's request, any existing information that will enable the State to conduct a sanitary survey.

(4) For the purposes of this subpart, a "sanitary survey", as conducted by the Director, includes but is not limited to, an onsite review of the water source(s) (identifying sources of contamination by using results of source water assessments or other relevant

information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.

(5) The sanitary survey must include an evaluation of the applicable components listed in paragraphs (5)(a) through (h) of this section:

- (a) Source,
  - (b) Treatment,
  - (c) Distribution system,
  - (d) Finished water storage,
  - (e) Pumps, pump facilities, and controls,
  - (f) Monitoring, reporting, and data verification,
  - (g) System management and operation, and
  - (h) Operator compliance with State requirements.
- (6) CONDITIONS ON CONDUCT OF SANITARY SURVEYS

In order for the groups of individuals listed in R309-100-7(2)(b) to conduct sanitary surveys acceptable for consideration by the Director, the following criteria must be met:

(a) Surveys of all systems involving complete treatment plants must be performed by Division of Drinking Water staff or others authorized in writing by the Director;

(b) Local Health officials may conduct surveys of systems within their respective jurisdictions;

(c) U.S. Forest Service (USFS) engineers may conduct surveys of water systems if the system is owned and operated by the USFS or USFS concessionaires;

(d) Utah Rural Water Association staff may conduct surveys of water systems if the system's population is less than 10,000;

(e) Consulting Engineers under the direction of a Registered Professional Engineer;

(f) Other qualified individuals who are authorized in writing by the Director may conduct surveys.

(7) SANITARY SURVEY REPORT CONTENT

The Director will prescribe the form and content of sanitary survey reports and be empowered to reject all or part of unacceptable reports.

(8) ACCESS TO WATER FACILITIES

Department of Environmental Quality employees after reasonable notice and presentation of credentials, may enter any part of a public water system at reasonable times to inspect the facilities and water quality records, conduct sanitary surveys, take samples and otherwise evaluate compliance with Utah's drinking water rules. All others who have been authorized by the Director to conduct sanitary surveys must have the permission of the water system owner or designated representative before a sanitary survey may be conducted.

(9) CORRECTIVE ACTION

Public water systems must comply with requirements found in R309-215-16(3)(a)(iii), R309-215-16(3)(a)(iv), R309-215-16(3)(a)(v), R309-215-16(3)(a)(vi), and R309-215-16(3)(a)(vii).

(10) Refer to R309-100-8 and R309-105-6 for further requirements.

**R309-100-7. Rating System.**

The Director shall assign a rating to each public water supply in order to provide a concise indication of its condition and performance. The criteria to be used for determining a water system's rating shall be as set forth in R309-400.

**R309-100-8. Orders and Emergency Actions.**

(1) In situations in which a public water system fails to meet the requirements of these rules, the Director may issue an order to a water supplier to take appropriate protective or corrective measures.

(2) Failure to comply with these rules or with an order issued by the Director may result in the imposition of penalties as provided in the Utah Safe Drinking Water Act.

(3) The Director may respond to emergency situations involving public drinking water, including emergency situations as described in R309-105-18, in a manner appropriate to protect the public health.

The Director's response may include the following:

(a) Issuing press releases to inform the public of any confirmed or possible hazards in their drinking water.

(b) Ordering water suppliers to take appropriate measures to protect public health, including issuance of orders pursuant to 63G-4-502, if warranted.

**R309-100-9. Variances.**

(1) Variances to the requirements of R309-200 of these rules may be granted by the Board to water systems which, because of characteristics of their raw water sources, cannot meet the required maximum contaminant levels despite the application of best technology and treatment techniques available (taking costs into consideration).

(2) The variance will be granted only if doing so will not result in an unreasonable risk to health.

(3) No variance from the maximum contaminant level for total coliforms are permitted.

(4) No variance from the minimum filtration and disinfection requirements of R309-525 and R309-530 will be permitted for sources classified by the Director as directly influenced by surface water.

(6) Within one year of the date any variance is granted, the Board shall prescribe a schedule by which the water system will come into compliance with the maximum contaminant level in question. The requirements of Section 1415 of the Federal Safe Drinking Water Act, PL 104-182, are hereby incorporated by reference. The Board shall provide notice and opportunity for public hearing prior to granting any variance or determining the compliance schedule. Procedures for giving notice and opportunity for hearing will be as outlined in 40 CFR Section 142.44.

**R309-100-10. Exemptions.**

(1) The Board may grant an exemption from the requirements of R309-200 or from any required treatment technique if:

(a) Due to compelling factors (which may include economic factors), the public water system is unable to comply with contaminant level or treatment technique requirements, and

(b) The public water system was in operation on the effective

date of such contaminant level or treatment technique requirement, and

(c) The granting of the exemption will not result in an unreasonable risk to health.

(2) No exemptions from the maximum contaminant level for total coliforms are permitted.

(3) No exemptions from the minimum disinfection requirements of R309-200-5(7) will be permitted for sources classified by the Director as directly influenced by surface water.

(4) Within one year of the granting of an exemption, the Board shall prescribe a schedule by which the water system will come into compliance with contaminant level or treatment technique requirement.

The requirements of Section 1416 of the Federal Safe Drinking Water Act, PL 104-182, are hereby incorporated by reference.

(5) The Board shall provide notice and opportunity for an exemption hearing as provided in 40 CFR Section 142.54.

**KEY: drinking water, environmental protection, administrative procedures**

**Date of Enactment or Last Substantive Amendment: November 8, 2017**

**Notice of Continuation: March 13, 2015**

**Authorizing, and Implemented or Interpreted Law: 19-4-104**

R309-100

# Word Comparison

**R309. Environmental Quality, Drinking Water.**

**R309-100. Administration: Drinking Water Program.**

**R309-100-1. Purpose.**

The purpose of this rule is to set forth the water quality and drinking water standards for public water systems in the state of Utah.

R309-100-2 Authority.

R309-100-3 Definitions.

R309-100-4 Public Water Systems, General Requirements.

R309-100-5 Prospective Public Water Systems; Coordination with Land Use Authorities.

R309-100-6 Public Water Systems Permitted by Rule.

R309-100-7 New Bulk Meters; Receiving System Requirements.

R309-100-8 Existing Bulk Meters and Receiving Systems; Terminus Determinations.

R309-100-9 Categories of Public Water Systems.

R309-100-10 Approval of Plans and Specifications for Public Water System Projects.

~~R309-100-6 Feasibility Studies~~.

~~R309-100-711~~ Sanitary Survey and Evaluation of Existing Facilities.

R309-100-~~812~~ Rating System.

R309-100-~~913~~ Orders and Emergency Actions.

R309-100-~~1014~~ Variances.

R309-100-~~1115~~ Small System Variances.

R309-100-16 Exemptions.

**R309-100-2. Authority.**

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104 of the Utah Code and in accordance with Section 63G-3 of the same, known as the Utah Administrative Rulemaking Act.

**R309-100-3. Definitions.**

Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

**R309-100-4. Public Water Systems, General Requirements.**

These rules shall apply to all public ~~drinking~~-water systems within the State of Utah.

(1) ~~A Pursuant to the Utah Safe Drinking Water Act, "public drinking water system-is" means a system, either publicly or privately owned, providing water for human consumption and other domestic uses, which that:~~

~~\_\_\_\_\_ (a) Has has at least 15 service connections, ; or~~  
~~\_\_\_\_\_ (i) Delivery of drinking water, such as by a single well, to a portion of a platted subdivision or a portion of a contiguous development, either of which is under the same ownership or control, shall be considered a single public drinking water system; and~~  
~~\_\_\_\_\_ (ii) A platted subdivision or other contiguous development of 15 or more lots, under the same ownership or control, is considered to have the corresponding number of connections as there are lots; or~~  
~~\_\_\_\_\_ (b) Serves \_\_\_\_\_ serves an average of at least 25 individuals daily for at least 60 days out of the year.~~

~~\_\_\_\_\_ (i) A ratio of 3.13 persons per connection shall be used to calculate the individuals served unless, at the time of operation, more accurate information is available. The ratio is based on the statewide average persons per residence in the 2000 census.~~

~~\_\_\_\_\_ (ii) Notwithstanding the threshold for the number of service connections set forth in (a), a drinking water system consisting of at least 8 service connections is considered to serve 25 people, based on the ratio in (b)(i), and consequently is classified as a public drinking water system, unless, at the time of operation, more accurate data can be used.~~

~~\_\_\_\_\_ (iii) The ratio in (b)(i) is only be used to determine whether, prior to construction or modification, any particular water system is considered to be a public water system.~~

~~\_\_\_\_\_ (c) Any person or entity may request a review of the designation of a public water system by submitting documentation to the Director showing that the drinking water system, upon complete build out, falls below both thresholds listed in (a) and (b) above. All decisions made by the Director under this provision may be challenged as provided in Section 19-1-301.5 and R305-7.~~

~~\_\_\_\_\_ (2) Submetered Properties.~~

~~\_\_\_\_\_ (a) Submetered Properties means a billing process by which a property owner (or association of property owners, in the case of co-ops or condominiums) bills tenants based on metered total water use; the property owner is then responsible for payment of a water bill from a public water system.~~

~~\_\_\_\_\_ (b) A property owner who installs submeters to track usage of water by tenants on his or her property shall not be subject to these rules solely as a result of taking the administrative act of submetering and billing.~~

~~\_\_\_\_\_ (c) Owners of submetered properties shall receive all their water from a regulated public water system to qualify under the terms of R309-105-5 for exemption from monitoring requirements, except as to the selling of water.~~

~~\_\_\_\_\_ (d) This is not intended to exempt systems where the property in question has a large distribution system (piping in excess of 500~~

~~feet in length and sized larger than the normal service lateral based on a fixture unit analysis) serves a large population or serves a mixed (commercial/residential) population (e.g. many military installations/facilities or large mobile home parks or P.U.D's) from regulation as a public drinking water system as pertains to notifying the Division of the persons indicated below in (5) or plan review of modifications or changes to their systems (refer to R309-500).~~

~~(3) The term public drinking water system includes~~(2)  
Pursuant to the Utah Safe Drinking Water Act, "public water system" also includes:

~~(a) a collection, treatment, storage, or distribution facilities~~facility under the control of the operator and used primarily in connection with the system. ~~Additionally, the term includes; and~~

~~(b) a collection, pretreatment, or storage facilities~~facility used primarily in connection with the system but not under ~~such~~the operator's control ~~(see 19-.~~

~~(3) Any platted subdivision or other contiguous development developed under the same ownership or control will be considered to be a single system for purposes of calculating the number of connections or population, regardless of the timing of construction or occupancy.~~

~~(4-102 of the Utah-) For purposes of calculating population, there is a rebuttable presumption that each residential service connection serves 3.16 persons. This presumption is based on the statewide average persons per residence based on U.S. Census Bureau data. Therefore, a drinking water system having 8 or more service connections is presumed to serve 25 people and, as a result, is classified as a public water system. This presumption may be rebutted by valid evidence submitted by the system owner or operator.~~

~~(5) For purposes of calculating population, there is a rebuttable presumption that each discrete recreational vehicle camp site that has a drinking water connection serves an average of [X] persons at least 60 days of the year. This presumption is based upon RV campground occupancy data provided by industry sources.~~

~~(6) For purposes of calculating population for campgrounds that serve drinking water, the Director may rely on campground occupancy data provided by the U.S. Forest Service, the Utah Department of Parks and Recreation, and other reliable sources. Based on such data, the Director may create guidance establishing a reasonable basis to calculate population for campground recreational uses.~~

~~(7) Section 1447a of the federal Safe Drinking Water Act, codified at 42 U.S.C. § 300j-6, provides, in substance, that where a state has achieved enforcement primacy under the federal act, then federal agencies are subject to the jurisdiction of the relevant state~~

agency. In directing federal facilities to be subject to and to comply with all state requirements "in the same manner, and to the same extent, as any non-governmental entity," the explicit language of the U.S. Code Annotated).provision cited above demonstrates Congressional intent that federal facilities be treated as any other public water system covered by the federal act and, in turn, the Utah Safe Drinking Water Act. As a result, all federally-controlled public water systems in Utah are subject to the jurisdiction of the Board and its rules in the same manner and to the same extent as any other public system in the state.

~~(4) Categories of Public Drinking Water Systems~~

~~Public~~(8) The owner or operator of each public water system shall designate and maintain at all times a person who is responsible for the system. The name, address, and phone number of the designated, responsible person shall be provided to the Director. A designated, responsible person may not resign unless a replacement is named. Public water systems shall ensure that the designated, responsible person's identity and contact information is current and valid at all times.

(9) Any public water system owner, operator, or user may request a review of the Director's findings and conclusions regarding the legal status of any given system in accordance with section 19-6-301 and R305-7.

**R309-100-5. Prospective Public Water Systems; Coordination with Land Use Authorities.**

(1) Whenever any person submits a land use application to any land use authority wherein such proposed development, when fully constructed as planned and approved, is reasonably anticipated to qualify as a public water system, then such person will be deemed to have submitted to the jurisdiction of the Board's rules and such system will be treated as a prospective public water system.

(2) The Director shall assert jurisdiction over all prospective public water systems to the same extent as any active public water system, except that routine sampling and monitoring requirements will not be imposed until after a prospective public water system is serving the minimum population or has the minimum number of connections as stated in the definition of public water system. Engineering plan review, drinking water source requirements (including source protection), will apply to all prospective public water systems from the outset of development.

(3) All prospective public water systems shall apply to the Director for, and enter into or otherwise become subject to, an order from the Director that governs how such prospective public water system will be regulated.

(4) The Board requests that land use authorities and local health departments refrain from issuing authorizations, such as building permits, occupancy permits, or business licenses, for projects involving a prospective drinking water system until the Director has entered an order relating to such system as provided in subsection (3). The Board also requests that land use authorities and local health departments keep the Director apprised of new land use applications, permits of occupancy, business licenses, and other material changes to development plans that involve prospective drinking water systems.

(5) Definitions. As used in R309-100-5, the following terms shall have the following definitions:

(a) "Land use application" means any "land use application" submitted to any "land use authority" for any "land use permit" or approval of any subdivision plat, all within the meaning of the Municipal Land Use, Development, and Management Act (Section 10-9a-102 et seq.) or the County Land Use, Development, and Management Act (Section 17-27a-101 et seq.) (the "land use acts").

(b) "Land use authority" shall have the same meaning as in the land use acts.

#### **R309-100-6. Public Water Systems Permitted by Rule.**

(1) The permit by rule status for public water systems is intended to cover situations that present low inherent risk for potential adverse public health impacts. Public water systems that are permitted by rule are deemed to be in compliance with the Drinking Water Rules, unless otherwise determined or ordered by the Director.

(2) Unless otherwise determined by the Director, the following public water systems are permitted by rule if they meet the requirements set forth in subsection (3):

(a) Distribution-only public water systems that have less than 500 feet of continuous underground piping; and

(b) Public water systems that are regulated by the Utah Department of Agriculture pursuant to R70-630.

(3) In order to qualify for permit by rule status, the additional requirements set forth in this subpart (3) apply. Any public water system that does not meet all of the following requirements is not entitled to permit by rule status unless otherwise determined in writing by the Director under subpart (4). The supplemental conditions are as follows:

(a) the system must receive all of its culinary water supply from an approved public water system; and

(b) the system must be constructed in conformance with all of the following: (i) the applicable plumbing code, (ii) the applicable construction standards provided in this Rule, and (iii) standards

required by the delivering public water system; and

(c) the system must not have storage or complex treatment.

(4) Upon application, the Director may grant permit by rule status to any public water system, or any defined portion thereof, upon a showing that permit by rule status is appropriate and is protective of public health. Such determinations may be subject to conditions and shall be made in writing signed by the Director. Upon application, the Director may also confirm that any given public water system falls within permit by rule status without further conditions apart from those specified in this Rule.

(5) At any time, if the Director finds that there exists an actual or potential threat to public health with respect to a public water system that is permitted by rule, the Director may take any appropriate action, including imposing specific requirements or otherwise revoking such system's permit by rule status. Factors the Director may consider in revoking or modifying permit by rule status include, for example, sensitive populations served, the age and condition of the infrastructure, the potential for water quality degradation, cross-connection control, water age, water pressure, and other relevant factors. The Director shall provide written notice of such determinations to such public water systems as well as to the public water system providing water to such system.

(6) As used in R309-100-6, the following terms shall have the following meanings:

(a) "Complex treatment" means any process that alters the physical, chemical, or other properties of finished culinary water. Examples of complex treatment include chemical additions (such as corrosion control or disinfection), aeration, and large-scale (non point-of-use) filtration. Complex treatment does not include processes that present low public health risks. Examples of treatment that do not usually present public health risks include most types of water softening, water heaters, and point of use filtration (such as individual tap and appliance filtration).

(b) "Storage" means any storage facility for finished culinary water that may give rise to a public health risk. "Storage" does not include emergency fire suppression storage with backflow-protected separate plumbing.

#### **R309-100-7. New Bulk Meters; Receiving System Requirements.**

(1) With respect to any bulk meter connected after [insert effective date], the public water system supplying the finished drinking water shall be deemed to be responsible for the receiving system (and the receiving system shall become part of the delivering system) as of the date that the bulk meter is connected unless one of the following conditions is met: (i) the receiving system is

authorized by the Director as an independent public water system under the drinking water rules; or (ii) the receiving system is permitted by rule, as provided in R309-100-6, at the time that the bulk meter is installed; or (iii) the receiving system does not qualify as a public water system or a prospective public water system.

(2) If a receiving system has permit by rule status at the time that the bulk meter is connected and the Director subsequently revokes such receiving system's permit by rule status under R309-100-6(5), the supplying public water system shall not be responsible for such Receiving System as provided in R309-100-7(1). Rather, such receiving system will be solely responsible for compliance with the board's rules and the Utah Safe Drinking Water Act.

(3) As used in R309-100-7, the following terms shall have the following meanings:

(a) "Bulk meter" means a point of delivery where a public water system delivers finished drinking water to any buyer where the buyer's system meets the definition of a public water system.

(b) "Receiving system" means the public water system or prospective public water system (as provided in R309-100-5) that purchases finished drinking water from any public water system through a bulk meter or equivalent point of delivery.

#### **R309-100-8. Existing Bulk Meters and Receiving Systems; Terminus Determinations.**

(1) With respect to bulk meters connected prior to [insert effective date], whenever the Director is required to make determinations as to the terminus of a public water system or the legal status of any Receiving System, the following guidelines shall be followed:

(a) The point of delivery will be deemed to be the point of terminus of the public water system supplying finished drinking water. There will be a rebuttable presumption that the established service connection (meter) is the point of delivery if one exists, or if a service connection (meter) does not exist, the legal property boundary.

(b) Public water system terminus determinations are committed to the Director's enforcement discretion. The Director may take into account other factors relating to the terminus determination, including legal arrangements between the parties, metering and billing practices, the parties' course of dealings, and the date that service connections or bulk meters were installed.

(c) The foregoing guidelines are not intended to, and do not, limit the Director's enforcement discretion.

(2) Terminus determinations and enforcement actions as to bulk

meters and associated receiving systems existing before [insert effective date] will be pursued as potential public health issues come to the attention of the Director.

### **R309-100-9. Categories of Public Water Systems.**

Public water systems are divided into three categories, as follows:

(a1) "Community water system" (CWS) means a public ~~drinking~~ water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. However, there is a rebuttable presumption that a water system with eight connections serves at least 25 persons.

(b2) "Non-transient, non-community water system" (NTNCWS) means a public water system that is not a community water system and that regularly serves at least 25 of the same nonresident persons over six months per year. Examples of such systems are those serving the same individuals (industrial workers, school children, church members) by means of a separate system.

(c3) "Transient non-community water system" (TNCWS) means a non-community public water system that does not serve 25 of the same nonresident persons per day for more than ~~six months per year, 180 days in any 12 month period.~~ Examples of such systems are ~~those, RV park, diner parks, diners~~ or convenience ~~store stores~~ where the number of permanent, nonresident staff number is less than 25, but the number of people served exceeds 25 per day.

(d4) The ~~distinctions between~~ Division shall use "Community", "Non-transient, non-community", and "Transient Non-community" water ~~systems are important with respect to system designations for purposes of identifying and enforcing applicable~~ monitoring and water quality requirements.

#### (5) Responsibility

~~(In order to qualify as a) All public seasonal system under this Rule, reasonable efforts shall be implemented to limit access to drinking water systems must have a person or organization designated as during the owner of time that the system. The name, address and phone number of this person or organization shall be supplied, in writing, to the Director seasonal system is closed.~~

~~(b) The name of the person to be contacted on issues concerning the operation and maintenance of the system shall also be provided, in writing, to the Director.~~

### **R309-100-510. Approval of Plans and Specifications for Public Water Supply Projects.**

(1) All engineering plans and specifications for public ~~drinking~~ water projects, including prospective public water systems

(as defined in R309-100-5), must be approved in writing prior to construction, in accordance with R309-105-6 and R309-500-6.

(2) A public water system shall obtain an Operating Permit prior to placing any public ~~drinking~~-water facility into operation as required in R309-500-9. The timing of the requirement for any prospective public water system to obtain an Operating Permit will be as required by the Director, I accordance with R309-100-5.

**R309-100-~~611~~. Sanitary Survey, Evaluation, and Corrective Action of Existing Facilities.**

(1) The Director, after considering information gathered during sanitary surveys and facility evaluations, may make determinations of regulatory significance including: monitoring reductions or increases, treatment, variances and exemptions.

(2) CONDUCTING SANITARY SURVEYS

(a) The Director shall ensure a sanitary survey is conducted at least every three years on all public water systems. The Director may reduce this frequency to once every five years based on outstanding performance on prior sanitary surveys.

(b) Sanitary surveys conducted by the following individuals under the circumstances as listed, may be used by the Director for the above determinations:

- (i) Division of Drinking Water personnel;
- (ii) Utah Department of Environmental Quality District Engineers;
- (iii) local health officials;
- (iv) Forest Service engineers;
- (v) Utah Rural Water Association staff;
- (vi) consulting engineers; and
- (vii) other qualified individuals authorized in writing by the Director.

(3) Public water systems must provide the Director, at the Director's request, any existing information that will enable the State to conduct a sanitary survey.

(4) For the purposes of this subpart, a "sanitary survey", as conducted by the Director, includes but is not limited to, an onsite review of the water source(s) (identifying sources of contamination by using results of source water assessments or other relevant information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.

(5) The sanitary survey must include an evaluation of the applicable components listed in paragraphs (5)(a) through (h) of this section:

- (a) Source,
  - (b) Treatment,
  - (c) Distribution system,
  - (d) Finished water storage,
  - (e) Pumps, pump facilities, and controls,
  - (f) Monitoring, reporting, and data verification,
  - (g) System management and operation, and
  - (h) Operator compliance with State requirements.
- (6) CONDITIONS ON CONDUCT OF SANITARY SURVEYS

In order for the groups of individuals listed in R309-100-7(2)(b) to conduct sanitary surveys acceptable for consideration by the Director, the following criteria must be met:

(a) Surveys of all systems involving complete treatment plants must be performed by Division of Drinking Water staff or others authorized in writing by the Director;

(b) Local Health officials may conduct surveys of systems within their respective jurisdictions;

(c) U.S. Forest Service (USFS) engineers may conduct surveys of water systems if the system is owned and operated by the USFS or USFS concessionaires;

(d) Utah Rural Water Association staff may conduct surveys of water systems if the system's population is less than 10,000;

(e) Consulting Engineers under the direction of a Registered Professional Engineer;

(f) Other qualified individuals who are authorized in writing by the Director may conduct surveys.

(7) SANITARY SURVEY REPORT CONTENT

The Director will prescribe the form and content of sanitary survey reports and be empowered to reject all or part of unacceptable reports.

(8) ACCESS TO WATER FACILITIES

Department of Environmental Quality employees after reasonable notice and presentation of credentials, may enter any part of a public water system at reasonable times to inspect the facilities and water quality records, conduct sanitary surveys, take samples and otherwise evaluate compliance with Utah's drinking water rules. All others who have been authorized by the Director to conduct sanitary surveys must have the permission of the water system owner or designated representative before a sanitary survey may be conducted.

(9) CORRECTIVE ACTION

Public water systems must comply with requirements found in R309-215-16(3)(a)(iii), R309-215-16(3)(a)(iv), R309-215-16(3)(a)(v), R309-215-16(3)(a)(vi), and R309-215-16(3)(a)(vii).

(10) Refer to R309-100-8 and R309-105-6 for further

requirements.

**R309-100-712. Rating System.**

The Director shall assign a rating to each public water supply system in order to provide a concise indication of its condition and performance. The criteria to be used for determining a public water system's rating shall be as set forth in R309-400.

**R309-100-813. Orders and Emergency Actions.**

(1) In situations in which a public water system fails to meet the requirements of these rules, the Director may issue an order to a water supplier to take appropriate protective or corrective measures.

(2) Failure to comply with these rules or with an order issued by the Director may result in the imposition of civil penalties as provided in the Utah Safe Drinking Water Act.

(3) The Director may respond to emergency situations involving public drinking water, including emergency situations as described in R309-105-18, in a manner appropriate to protect the public health. The Director's response enforcement actions may include the following:

(a) Issuing press releases to inform the public of any confirmed or possible hazards in their drinking water ~~;~~ and

(b) Ordering water suppliers to take appropriate measures to protect public health, including issuance of orders pursuant to 63G-4-502, if warranted.

**R309-100-914. Variances.**

(1) ~~Variances~~ The Board may grant variances to the requirements of to comply with a maximum contaminant level or treatment technique (R309-200 of these rules may be granted by the Board through R309-215) to water systems, which, because of characteristics of their raw water sources, cannot meet the required maximum contaminant levels despite the application of best technology and treatment techniques available (taking costs into consideration).

(2) The variance will be granted only if doing so will not result in an unreasonable risk to public health.

~~(3) No variance from the maximum contaminant level for total coliforms are permitted.~~

~~(4) No variance from the minimum filtration and disinfection~~  
(2) A variance is not available for a national primary drinking water regulation for a microbial contaminant (including a bacterium, virus, or other organism) or an indicator or treatment technique for a microbial contaminant.

~~(3) The requirements of R309-525 and R309-530 will be permitted for sources classified by the Director as directly influenced by~~

~~surface water.~~

~~(6) Within one year outlined in 40 CFR Section 142 Subpart E shall be followed in the consideration and issuance of the date any variance is granted, the Board shall prescribe a schedule by which the water system will come into compliance with the maximum contaminant level in question.~~

~~(4) The requirements of Section 1415 of the Federal Safe Drinking Water Act, PL 104-182, are hereby incorporated by reference. The Board shall provide notice and opportunity for public hearing prior to granting any variance or determining the compliance schedule. Procedures for giving notice and opportunity for hearing will be as outlined in 40 CFR Section 142.44.~~

### **R309-100-15. Small System Variances.**

~~(1) The Board may grant a variance from the requirement to comply with a maximum contaminant level or treatment technique (R309-200 through R309-215) to systems serving fewer than 3,300 persons or fewer than 10,000, subject to U.S. EPA Administrator concurrence.~~

~~(2) A small system variance may be based on the affordability of compliance with the maximum contaminant level or treatment technique.~~

~~(3) The variance will be granted only if doing so will not result in an unreasonable risk to public health.~~

~~(4) A small system variance is not available for a national primary drinking water regulation for a microbial contaminant (including a bacterium, virus, or other organism), or an indicator or treatment technique for a microbial contaminant.~~

~~(5) A small system variance under this section is not available for compliance with a requirement specifying a maximum contaminant level or treatment technique for a contaminant with respect to which;~~

~~(a) a national primary drinking water regulation was promulgated on or after January 1, 1986; and~~

~~(b) The U.S. EPA Administrator has published a small system variance technology pursuant to Section 1412(b)(15) of the Federal Safe Drinking Water Act, PL 104-182.~~

~~(6) The procedural requirements of outlined in 40 CFR Section 142, Subpart K shall apply to any small system variance.~~

### **R309-100-16. Exemptions.**

~~(1) The Board may grant an exemption from the requirements of R309-200 to comply with a maximum contaminant level or from any required treatment technique (R309-200 through R309-215) if the following three elements are met:~~

~~(a) Due to compelling factors (which may include economic factors, including qualification of the public water system as a system~~

servicing a disadvantaged community pursuant to section 1452(d) of the Federal Safe Drinking Water Act), the public water system is unable to comply with contaminant level or treatment technique ~~requirements, requirement or to implement measures to develop an alternative source of water supply;~~ and

(b) The public water system was in operation on the effective date of such contaminant level or treatment technique requirement ~~and~~

(c) The granting of the exemption will not result in an unreasonable risk to public health.

(2) ~~No exemptions from the maximum~~An exemption is not available for a national primary drinking water regulation for a microbial contaminant level for total coliforms are permitted.

~~(3) No exemptions from the minimum disinfection requirements of R309-200-5(7) will be permitted for sources classified by the Director as directly influenced by surface water.~~

~~(4) Within one year of the granting of (including a bacterium, virus, or other organism) or an exemption, the Board shall prescribe a schedule by which the water system will come into compliance with contaminant level indicator or treatment technique requirement for a microbial contaminant.~~

(3) The procedural requirements outlined in 40 CFR Section 142, Subpart F shall apply to the consideration of any request for any exemption.

(4) The requirements of Section 1416 of the Federal Safe Drinking Water Act, PL 104-182, are hereby incorporated by reference.

~~(5) The Board shall provide notice and opportunity for an exemption hearing as provided in 40 CFR Section 142.54.~~

**KEY: drinking water, environmental protection, administrative procedures**

**Date of Enactment or Last Substantive Amendment: November 8, 2017**

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R309-105

# Word Comparison

**R309. Environmental Quality, Drinking Water.**

**R309-105. Administration: General Responsibilities of Public Water Systems.**

**R309-105-1. Purpose.**

The purpose of this rule is to set forth the general responsibilities of public water systems, water system owners and operators.

- R309-105-2 Authority.
- R309-105-3 Definitions.
- R309-105-4 General.
- R309-105-5 Exemptions from Monitoring Requirements.
- R309-105-6 Construction of Public Drinking Water Facilities.
- R309-105-7 Source Protection Plans.
- R309-105-8 Existing Water System Facilities.
- R309-105-9 Minimum Pressure.
- R309-105-10 Operation and Maintenance Procedures.
- R309-105-11 Operator Certification.
- R309-105-12 Cross Connection Control.
- R309-105-13 Finished Water Quality.
- R309-105-14 Operational Reports.
- R309-105-15 Annual Reports.
- R309-105-16 Reporting Test Results.
- R309-105-17 Record Maintenance.
- R309-105-18 Emergencies.

**R309-105-2. Authority.**

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104 of the Utah Code and in accordance with 63G-3 of the same, known as the Administrative Rulemaking Act.

**R309-105-3. Definitions.**

Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

**R309-105-4. General.**

(1) Water suppliers are responsible for the quality of water delivered to their customers. In order to give the public reasonable assurance that the water which they are consuming is satisfactory, the Board has established rules for the design, construction, water quality, water treatment, contaminant monitoring, source protection, operation and maintenance of public water supplies.

(2) For compliance monitoring required by R309-200 through 215, public water systems must use a laboratory certified by the Utah Public Health Department in accordance with R444-14-4. The Federal Safe Drinking Water Act requires each analyte to be analyzed by a specific method. These methods are described in the July 1, 1992 through 2015, editions of 40 CFR Parts 141, 142, and 143 (Safe Drinking Water Act).

**R309-105-5. ~~[RESERVED] Exemptions from Monitoring Requirements.~~**

~~(1) The applicable requirements specified in R309-205, R309-210 and R309-215 for monitoring shall apply to each public water system, unless the public water system meets all of the following conditions:~~

~~(a) Consists only of distribution and storage facilities (and~~

~~does not have any collection and treatment facilities);~~

~~— (b) Obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply;~~

~~— (c) Does not sell water to any person; and~~

~~— (d) Is not a carrier which conveys passengers in interstate commerce.~~

~~— (2) When a public water system supplies water to one or more other public water systems, the Director may modify the monitoring requirements imposed by R309-205, R309-210 and R309-215 to the extent that the interconnection of the systems justifies treating them as a single system for monitoring purposes.~~

~~— (3) In no event shall the Director authorize modifications in the monitoring requirements which are less stringent than requirements established by the Federal Safe Drinking Water Act.~~

**R309-105-6. Construction of Public Drinking Water Facilities.**

The following requirements pertain to the construction of public water systems, including prospective public water systems as provided in R309-100-5.

####

Agenda Item

8(B)

**DRINKING WATER BOARD PACKET**  
**Revised Total Coliform Rule (RTCR) Review**

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# R309-100

## Word Comparison

Rule R309-100. Administration: Drinking Water Program

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R309-100-1. Purpose.

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R309-100-5. Approval of Plans and Specifications for Public Water Supply Projects.

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**R309-100-9. Variances.**

R309-100-10. Exemptions.

**R309-100-9. Variances.**

(1) Variances to the requirements of R309-200 of these rules may be granted by the Board to water systems which, because of characteristics of their raw water sources, cannot meet the required maximum contaminant levels despite the application of best technology and treatment techniques available as listed in 40 CFR 131.63(e), (taking costs into consideration).

(2) The variance will be granted only if doing so will not result in an unreasonable risk to health.

(3) No variance from the maximum contaminant level for total coliforms are permitted.

(4) No variance from the minimum filtration and disinfection requirements of R309-525 and R309-530 will be permitted for sources classified by the Director as directly influenced by surface water.

(6) Within one year of the date any variance is granted, the Board shall prescribe a schedule by which the water system will come into compliance with the maximum contaminant level in question. The requirements of Section 1415 of the Federal Safe Drinking Water Act, PL 104-182, are hereby incorporated by reference. The Board shall provide notice and opportunity for public hearing prior to granting any variance or determining the compliance schedule. Procedures for giving notice and opportunity for hearing will be as outlined in 40 CFR Section 142.44.

(7) Variances or exemptions from certain provisions of these regulations may be granted pursuant to sections 1415 and 1416 of the Act and subpart K of part 142 (for small system variances) by the entity with primary enforcement responsibility, except that variances or exemptions from the MCLs for total coliforms and E. coli and variances from any of the treatment technique requirements of subpart H of § 141.4(a) may not be granted.

(a) As provided in § 142.304(a), small system variances are not available for rules addressing microbial contaminants, which would include subparts H, P, S, T, W, and Y of § 141.4(a).

# R309-105

## Word Comparison

### Rule R309-105. Administration: General Responsibilities of Public Water Systems

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R309-105-14. Operational Reports.

R309-105-15. Report Submittal.

R309-105-16. Reporting Test Results.

R309-105-17. Record Maintenance.

R309-105-18. Emergencies.

**R309-105-4. General.**

(1) Water suppliers are responsible for the quality of water delivered to their customers. In order to give the public reasonable assurance that the water which they are consuming is satisfactory, the Board has established rules for the design, construction, water quality, water treatment, contaminant monitoring, source protection, operation and maintenance of public water supplies.

~~[(2) For compliance monitoring required by R309-200 through 215, public water systems must use a laboratory certified by the Utah Public Health Department in accordance with R444-14-4. The Federal Safe Drinking Water Act requires each analyte to be analyzed by a specific method. These methods are described in the July 1, 1992 through 2015, editions of 40 CFR Parts 141, 142, and 143 (Safe Drinking Water Act).]~~

# R309-110

## Word Comparison

Rule R309-110. Administration: Definitions

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R309-110-1. Purpose.

R309-110-2. Authority.

R309-110-3. Acronyms.

R309-110-4. Definitions.

**R309-110-4. Definitions.**

As used in R309:

~~["Clean compliance history" means a record of no MCL violations; and no coliform treatment technique trigger exceedances or treatment technique violations.]~~

# R309-200

## Word Comparison

### Rule R309-200. Monitoring and Water Quality: Drinking Water Standards

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R309-200-2. Authority.

R309-200-3. Definitions.

**R309-200-4. General.**

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R309-200-6. Secondary Drinking Water Standards for Community, Non-Transient Non-Community and Transient Non-Community Water.

R309-200-7. Treatment Techniques and Unregulated Contaminants.

R309-200-8. Approved Laboratories.

**R309-200-4. General.**

(1) Maximum contaminant levels (MCLs) and treatment techniques are herein established for those routinely measurable substances which may be found in water supplies. "Primary" standards and treatment techniques are established for the protection of human health. "Secondary" regulations are established to provide guidance in evaluating the aesthetic qualities of drinking water.

(2) The applicable "Primary" standards and treatment techniques shall be met by all public drinking water systems. The "Secondary" standards are recommended levels which should be met in order to avoid consumer complaint.

(3) The methods used to determine compliance with these maximum contaminant levels and treatment techniques are given in R309-205 through R309-215. Analytical techniques which shall be followed in making the required determinations shall be as given in 40 CFR 141 as published on July 1, 2008 by the Office of the Federal Register.

(4) Unless otherwise required by the Director, the effective dates on which new analytical methods shall be initiated are identical to the dates published in 40 CFR 141 on ~~July 1, 2008~~ February 13, 2013 by the Office of the Federal Register.

(5) If the water fails to meet these minimum standards, then certain public notification procedures shall be carried out, as outlined in R309-220. Water suppliers shall also keep analytical records in their possession, for a required length of time, as outlined in R309-105-17.

# R309-210

## Word Comparison

### Rule R309-210. Monitoring and Water Quality: Distribution System Monitoring Requirements

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R309-210-1. Purpose.

R309-210-2. Authority.

R309-210-3. Definitions.

R309-210-4. General.

R309-210-6. Lead and Copper Monitoring.

R309-210-7. Asbestos Distribution System Monitoring.

**R309-210-8. Disinfection Byproducts - Stage 1 Requirements.**

R309-210-9. Disinfection Byproducts - Initial Distribution System Evaluations.

R309-210-10. Disinfection Byproducts - Stage 2 Requirements.

**R309-210-8. Disinfection Byproducts - Stage 1 Requirements.**

(1) General requirements. The requirements in this sub-section establish criteria under which community and non-transient non-community water systems that add a chemical disinfectant to the water in any part of the drinking water treatment process, shall modify their practices to meet MCLs and MRDLs in R309-200-5(3)(c) and meet treatment technique requirements in R309-215-12 and 13. The requirements of this sub-section also establish criteria under which transient non-community water systems that use chlorine dioxide shall modify their practices to meet MRDLs for chlorine dioxide in R309-200-5(3)(c).

(a) Compliance dates.

(i) Community and Non-transient non-community water systems.

Surface water systems serving 10,000 or more persons must comply with this section beginning January 1, 2002. Surface water systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this section beginning January 1, 2004.

(ii) Transient non-community water systems. Surface water systems serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with any requirements for chlorine dioxide in this section beginning January 1, 2002. Surface water systems serving fewer than 10,000 persons and using chlorine dioxide as a disinfectant or oxidant and systems using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with any requirements for chlorine dioxide in this section beginning January 1, 2004.

(b) Systems must take all samples during normal operating conditions.

(c) Systems may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with approval from the Director.

(d) Failure to monitor in accordance with the monitoring plan required under paragraph (5) of this section is a monitoring violation.

(e) Failure to monitor will be treated as a violation for the entire period covered by the annual average where compliance is based on a running annual average of monthly or quarterly samples or averages and the system's failure to monitor makes it impossible to determine compliance with MCLs or MRDLs.

(f) Systems may use only data collected under the provisions of this section or the federal Information Collection Rule, (40 CFR, Part 141, Subpart M) to qualify for reduced monitoring.

(2) Monitoring requirements for disinfection byproducts.

(a) TTHMs and HAA5s

(i) Routine monitoring. Systems must monitor at the frequency indicated in the following:

(A) If a system elects to sample more frequently than the minimum required, at least 25 percent of all samples collected each quarter (including those taken in excess of the required frequency) must be taken at locations that represent the maximum residence time of the water in the distribution system. The remaining samples must be taken at locations representative of at least average residence time in

the distribution system.

(B) Surface water systems serving at least 10,000 persons shall take four water samples per quarter per treatment plant. At least 25 percent of all samples collected each quarter shall be at locations representing maximum residence time. The remaining samples taken at locations representative of at least average residence time in the distribution system and representing the entire distribution system, taking into account number of persons served, different sources of water, and different treatment methods.

(C) Surface water systems serving from 500 to 9,999 persons shall take one water sample per quarter per treatment plant at a locations representing maximum residence time.

(D) Surface water systems serving fewer than 500 persons shall take one sample per year per treatment plant during month of warmest water temperature at a location representing maximum residence time.

If the sample (or average of annual samples, if more than one sample is taken) exceeds the MCL, the system must increase monitoring to one sample per treatment plant per quarter, taken at a point reflecting the maximum residence time in the distribution system, until the system meets reduced monitoring criteria in paragraph (2)(a)(v) of this section.

(E) Systems using only ground water not under direct influence of surface water using chemical disinfectant and serving at least 10,000 persons shall take one water sample per quarter per treatment plant at a locations representing maximum residence time.

(F) Systems using only ground water not under direct influence of surface water using chemical disinfectant and serving fewer than 10,000 persons shall take one sample per year per treatment plant during month of warmest water temperature at a location representing maximum residence time. If the sample (or average of annual samples, if more than one sample is taken) exceeds the MCL, the system must increase monitoring to one sample per treatment plant per quarter, taken at a point reflecting the maximum residence time in the distribution system, until the system meets criteria in paragraph (2)(a)(v) of this section for reduced monitoring.

(ii) Systems may reduce monitoring, except as otherwise provided, if the system has monitored for at least one year and is in accordance with the following paragraphs. Any Surface water system serving fewer than 500 persons may not reduce its monitoring to less than one sample per treatment plant per year.

(A) A surface water system serving at least 10,000 persons which has a source water annual average TOC level, before any treatment, of less than or equal to 4.0 mg/L and has a TTHM annual average of less than or equal to 0.040 mg/L and has a HAA5 annual average of less than or equal to 0.030 mg/L may reduce monitoring to one sample per treatment plant per quarter at a distribution system location reflecting maximum residence time.

(B) A surface water system serving from 500 to 9,999 persons which has a source water annual average TOC level, before any treatment, of less than or equal to 4.0 mg/L and has a TTHM annual average of less than or equal to 0.040 mg/L and has a HAA5 annual average of less than or equal to 0.030 mg/L may reduce monitoring to one sample per treatment plant per year at a distribution system location reflecting maximum residence time during the month of warmest

water temperature.

(C) A system using only ground water not under direct influence of surface water using chemical disinfectant and serving at least 10,000 persons that has a TTHM annual average of less than or equal to 0.040 mg/L and has a HAA5 annual average of less than or equal to 0.030 mg/L may reduce monitoring to one sample per treatment plant per year at a distribution system location reflecting maximum residence time during the month of warmest water temperature.

(D) A system using only ground water not under direct influence of surface water using chemical disinfectant and serving fewer than 10,000 persons that has a TTHM annual average of less than or equal to 0.040 mg/L and has a HAA5 annual average of less than or equal to 0.030 mg/L for two consecutive years or has a TTHM annual average of less than or equal to 0.020 mg/L and has a HAA5 annual average of less than or equal to 0.015mg/L for one year may reduce monitoring to one sample per treatment plant per three year monitoring cycle at a distribution system location reflecting maximum residence time during the month of warmest water temperature, with the three-year cycle beginning on January 1 following the quarter in which the system qualifies for reduced monitoring.

(iii) Monitoring requirements for source water TOC in order to qualify for reduced monitoring for TTHM and HAA5 under paragraph (2)(a)(ii) of this section, surface water systems not monitoring under the provisions of paragraph (d) of this section must take monthly TOC samples every 30 days at a location prior to any treatment, beginning April 1, 2008 or earlier, if specified by the Director. In addition to meeting other criteria for reduced monitoring in paragraph (2)(a)(ii) of this section, the source water TOC running annual average must be equal to or less than 4.0 mg/L (based on the most recent four quarters of monitoring) on a continuing basis at each treatment plant to reduce or remain on reduced monitoring for TTHM and HAA5. Once qualified for reduced monitoring for TTHM and HAA5 under paragraph (2)(a)(ii) of this section, a system may reduce source water TOC monitoring to quarterly TOC samples taken every 90 days at a location prior to any treatment.

(iv) Systems on a reduced monitoring schedule may remain on that reduced schedule as long as the average of all samples taken in the year (for systems which must monitor quarterly) or the result of the sample (for systems which must monitor no more frequently than annually) is no more than 0.060 mg/L and 0.045 mg/L for TTHMs and HAA5, respectively. Systems that do not meet these levels must resume monitoring at the frequency identified in paragraph (2)(a)(i) of this section in the quarter immediately following the monitoring period in which the system exceeds 0.060 mg/L or 0.045 mg/L for TTHM or HAA5, respectively. For systems using only ground water not under the direct influence of surface water and serving fewer than 10,000 persons, if either the TTHM annual average is greater than 0.080 mg/L or the HAA5 annual average is greater than 0.060 mg/L, the system must go to the increased monitoring identified in paragraph (2)(a)(i) of this section in the quarter immediately following the monitoring period in which the system exceeds 0.080 mg/L or 0.060 mg/L for TTHMs or HAA5 respectively.

(v) Systems on increased monitoring may return to routine monitoring if, after at least one year of monitoring their TTHM annual

average is less than or equal to 0.060 mg/L and their HAA5 annual average is less than or equal to 0.045 mg/L.

(vi) The Director may return a system to routine monitoring when appropriate to protect public health.

(b) Chlorite. Community and non-transient non-community water systems using chlorine dioxide, for disinfection or oxidation, must conduct monitoring for chlorite.

(i) Routine monitoring.

(A) Daily monitoring. Systems must take daily samples at the entrance to the distribution system. For any daily sample that exceeds the chlorite MCL, the system must take additional samples in the distribution system the following day at the locations required by paragraph (2)(b)(ii) of this section, in addition to the sample required at the entrance to the distribution system.

(B) Monthly monitoring. Systems must take a three-sample set each month in the distribution system. The system must take one sample at each of the following locations: near the first customer, at a location representative of average residence time, and at a location reflecting maximum residence time in the distribution system. Any additional routine sampling must be conducted in the same manner (as three-sample sets, at the specified locations). The system may use the results of additional monitoring conducted under paragraph (2)(b)(ii) of this section to meet the requirement for monitoring in this paragraph.

(ii) Additional monitoring. On each day following a routine sample monitoring result that exceeds the chlorite MCL at the entrance to the distribution system, the system is required to take three chlorite distribution system samples at the following locations: as close to the first customer as possible, in a location representative of average residence time, and as close to the end of the distribution system as possible (reflecting maximum residence time in the distribution system).

(iii) Reduced monitoring.

(A) Chlorite monitoring at the entrance to the distribution system required by paragraph (2)(b)(i)(A) of this section may not be reduced.

(B) Chlorite monitoring in the distribution system required by paragraph (2)(b)(i)(B) of this section may be reduced to one three-sample set per quarter after one year of monitoring where no individual chlorite sample taken in the distribution system under paragraph (2)(b)(i)(B) of this section has exceeded the chlorite MCL and the system has not been required to conduct monitoring under paragraph (2)(b)(ii) of this section. The system may remain on the reduced monitoring schedule until either any of the three individual chlorite samples taken monthly in the distribution system under paragraph (2)(b)(i)(B) of this section exceeds the chlorite MCL or the system is required to conduct monitoring under paragraph (2)(b)(ii) of this section, at which time the system must revert to routine monitoring.

(c) Bromate.

(i) Routine monitoring. Community and nontransient noncommunity systems using ozone, for disinfection or oxidation, must take one sample per month for each treatment plant in the system using ozone. Systems must take samples monthly at the entrance to the

distribution system while the ozonation system is operating under normal conditions.

(ii) Reduced monitoring.

(A) Until March 31, 2009, systems required to analyze for bromate may reduce monitoring from monthly to once per quarter, if the system demonstrates that the average source water bromide concentration is less than 0.05 mg/L based upon representative monthly bromide measurements for one year. The system may remain on reduced bromate monitoring until the running annual average source water bromide concentration, computed quarterly, is equal to or greater than 0.05 mg/L based upon representative monthly measurements. If the running annual average source water bromide concentration is greater than or equal to 0.05 mg/L, the system must resume routine monitoring required by paragraph (2)(c)(i) of this section in the following month.

(B) Beginning April 1, 2009, systems may no longer use the provisions of paragraph (2)(c)(ii)(A) of this section to qualify for reduced monitoring. A system required to analyze for bromate may reduce monitoring from monthly to quarterly, if the system's running annual average bromate concentration is equal to or less than 0.0025 mg/L based on monthly bromate measurements under paragraph (2)(c)(i) of this section for the most recent four quarters, with samples analyzed using Method 317.0 Revision 2.0, 326.0 or 321.8. If a system has qualified for reduced bromate monitoring under paragraph (2)(c)(ii)(A) of this section, that system may remain on reduced monitoring as long as the running annual average of quarterly bromate samples is less than or equal to 0.0025 mg/L based on samples analyzed using Method 317.0 Revision 2.0, 326.0 or 321.8. If the running annual average bromate concentration is greater than 0.0025 mg/L, the system must resume routine monitoring required by (2)(c)(i) of this section.

(3) Monitoring requirements for disinfectant residuals.

(a) Chlorine and chloramines.

(i) Routine monitoring. Community and ~~[nontransient]non-transient [noncommunity]non-community~~ water systems that use chlorine or chloramines must measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in R309-211. Systems that use surface water of this part may use the results of residual disinfectant concentration sampling conducted in R309-215-10(4), in lieu of taking separate samples. [The Director may allow a public water system which uses both a surface water source or a ground water source under direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the State determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in paragraph (a)(1) of this section, may be measured in lieu of residual disinfectant concentration.]

(ii) In addition, ground water systems shall take the following readings at each facility a minimum of three times a week: the total volume of water treated; the type and amount of disinfectant used in treating the water (clearly indicating the weight if gas feeders

are used, or the percent solution and volume fed if liquid feeders are used); and the setting of the rotometer valve or injector pump.

Surface water systems may use the results of residual disinfectant concentration sampling conducted under R309-215-10(3) for systems which filter, in lieu of taking separate samples.

(iii) Reduced monitoring. Monitoring may not be reduced.

(b) Chlorine Dioxide.

(i) Routine monitoring. Community, nontransient noncommunity, and transient noncommunity water systems that use chlorine dioxide for disinfection or oxidation must take daily samples at the entrance to the distribution system. For any daily sample that exceeds the MRDL, the system must take samples in the distribution system the following day at the locations required by paragraph (3)(b)(ii) of this section, in addition to the sample required at the entrance to the distribution system.

(ii) Additional monitoring. On each day following a routine sample monitoring result that exceeds the MRDL, the system is required to take three chlorine dioxide distribution system samples. If chlorine dioxide or chloramines are used to maintain a disinfectant residual in the distribution system, or if chlorine is used to maintain a disinfectant residual in the distribution system and there are no disinfection addition points after the entrance to the distribution system (i.e., no booster chlorination), the system must take three samples as close to the first customer as possible, at intervals of at least six hours. If chlorine is used to maintain a disinfectant residual in the distribution system and there are one or more disinfection addition points after the entrance to the distribution system (i.e., booster chlorination), the system must take one sample at each of the following locations: as close to the first customer as possible, in a location representative of average residence time, and as close to the end of the distribution system as possible (reflecting maximum residence time in the distribution system).

(iii) Reduced monitoring. Chlorine dioxide monitoring may not be reduced.

(4) Bromide. Systems required to analyze for bromate may reduce bromate monitoring from monthly to once per quarter, if the system demonstrates that the average source water bromide concentration is less than 0.05 mg/L based upon representative monthly measurements for one year. The system must continue bromide monitoring to remain on reduced bromate monitoring.

(5) Monitoring plans. Each system required to monitor under this section must develop and implement a monitoring plan. The system must maintain the plan and make it available for inspection by the Director and the general public no later than 30 days following the applicable compliance dates in R309-210-8(1)(a). All Surface water systems serving more than 3300 people must submit a copy of the monitoring plan to the Director no later than the date of the first report required under R309-105-16(2). The Director may also require the plan to be submitted by any other system. After review, the Director may require changes in any plan elements. The plan must include at least the following elements.

(a) Specific locations and schedules for collecting samples for any parameters included in this subpart.

(b) How the system will calculate compliance with MCLs, MRDLs,

and treatment techniques.

(c) If approved for monitoring as a consecutive system, or if providing water to a consecutive system, the Director may modify the monitoring requirements treating the systems as a single distribution system, however, the sampling plan shall reflect the entire distribution system of all interconnected systems.

(6) Compliance requirements.

(a) General requirements.

(i) Where compliance is based on a running annual average of monthly or quarterly samples or averages and the system fails to monitor for TTHM, HAA5, or bromate, this failure to monitor will be treated as a monitoring violation for the entire period covered by the annual average. Where compliance is based on a running annual average of monthly or quarterly samples or averages and the system's failure to monitor makes it impossible to determine compliance with MRDLs for chlorine and chloramines, this failure to monitor will be treated as a monitoring violation for the entire period covered by the annual average.

(ii) All samples taken and analyzed under the provisions of this section shall be included in determining compliance, even if that number is greater than the minimum required.

(iii) If, during the first year of monitoring under R309-210-8, any individual quarter's average will cause the running annual average of that system to exceed the MCL, the system is out of compliance at the end of that quarter.

(b) Disinfection byproducts.

(i) TTHMs and HAA5.

(A) For systems monitoring quarterly, compliance with MCLs in R309-200-5(3)(c) shall be based on a running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of all samples collected by the system as prescribed by R309-210-8(2)(a).

(B) For systems monitoring less frequently than quarterly, systems demonstrate MCL compliance if the average of samples taken that year under the provisions of R309-210-8(2)(a) does not exceed the MCLs in R309-200-5(3)(c). If the average of these samples exceeds the MCL, the system shall increase monitoring to once per quarter per treatment plant and such a system is not in violation of the MCL until it has completed one year of quarterly monitoring, unless the result of fewer than four quarters of monitoring will cause the running annual average to exceed the MCL, in which case the system is in violation at the end of that quarter. Systems required to increase monitoring frequency to quarterly monitoring shall calculate compliance by including the sample which triggered the increased monitoring plus the following three quarters of monitoring.

(C) If the running annual arithmetic average of quarterly averages covering any consecutive four-quarter period exceeds the MCL, the system is in violation of the MCL and shall notify the public pursuant to R309-220, in addition to reporting to the Director pursuant to R309-105-16.

(D) If a PWS fails to complete four consecutive quarters of monitoring, compliance with the MCL for the last four-quarter compliance period shall be based on an average of the available data.

(ii) Chlorite. Compliance shall be based on an arithmetic average of each three sample set taken in the distribution system

as prescribed by R309-210-8(2)(b)(i)(B) and (2)(b)(ii). If the arithmetic average of any three sample sets exceeds the MCL, the system is in violation of the MCL and shall notify the public pursuant to R309-220, in addition to reporting to the Director pursuant to R309-105-16.

(iii) Bromate. Compliance shall be based on a running annual arithmetic average, computed quarterly, of monthly samples (or, for months in which the system takes more than one sample, the average of all samples taken during the month) collected by the system as prescribed by R309-210-8(2)(c). If the average of samples covering any consecutive four-quarter period exceeds the MCL, the system is in violation of the MCL and shall notify the public pursuant to R309-220, in addition to reporting to the Director pursuant to R309-105-16. If a PWS fails to complete 12 consecutive months' monitoring, compliance with the MCL for the last four-quarter compliance period shall be based on an average of the available data.

(c) Disinfectant residuals.

(i) Chlorine and chloramines.

(A) Compliance shall be based on a running annual arithmetic average, computed quarterly, of monthly averages of all samples collected by the system under R309-210-8(3)(a). If the average covering any consecutive four-quarter period exceeds the MRDL, the system is in violation of the MRDL and shall notify the public pursuant to R309-220, in addition to reporting to the Director pursuant to R309-105-16.

(B) In cases where systems switch between the use of chlorine and chloramines for residual disinfection during the year, compliance shall be determined by including together all monitoring results of both chlorine and chloramines in calculating compliance. Reports submitted pursuant to R309-105-16 shall clearly indicate which residual disinfectant was analyzed for each sample.

(ii) Chlorine dioxide.

(A) Acute violations. Compliance shall be based on consecutive daily samples collected by the system under R309-210-8(3)(b). If any daily sample taken at the entrance to the distribution system exceeds the MRDL, and on the following day one (or more) of the three samples taken in the distribution system exceed the MRDL, the system is in violation of the MRDL and shall take immediate corrective action to lower the level of chlorine dioxide below the MRDL and shall notify the public pursuant to the procedures for acute health risks in R309-220-5. Failure to take samples in the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system will also be considered an MRDL violation and the system shall notify the public of the violation in accordance with the provisions for acute violations under R309-220-5 in addition to reporting the Director pursuant to R309-105-16.

(B) Nonacute violations. Compliance shall be based on consecutive daily samples collected by the system under R309-210-8(3)(b). If any two consecutive daily samples taken at the entrance to the distribution system exceed the MRDL and all distribution system samples taken are below the MRDL, the system is in violation of the MRDL and shall take corrective action to lower the level of chlorine dioxide below the MRDL at the point of sampling

and will notify the public pursuant to the procedures for nonacute health risks in R309-220-6 in addition to reporting to the Director pursuant to R309-105-16. Failure to monitor at the entrance to the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system is also an MRDL violation and the system shall notify the public of the violation in accordance with the provisions for nonacute violations under R309-220-6 in addition to reporting to the Director pursuant to R309-105-16.

# R309-211

## Word Comparison

### Rule R309-211. Monitoring and Water Quality: Distribution System -- Total Coliform Requirements

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R309-211-7. Repeat Monitoring and E. coli Requirements.

R309-211-8. Coliform Treatment Technique Triggers and Assessment Requirements for Protection Against Potential Fecal Contamination.

R309-211-9. Violations.

R309-211-10. Invalidation of a Total Coliform Sample.

R309-211-11. Reporting and Recordkeeping.

**R309. Environmental Quality, Drinking Water.**

**R309-211. Monitoring and Water Quality: Distribution System -- Total Coliform Requirements.**

**R309-211-1. Purpose.**

The purpose of this rule is to outline the total coliform monitoring, MCL, and treatment technique requirements for public water systems. This rule applies to all public drinking water systems as specified herein.

**R309-211-2. Authority.**

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104 of the Utah Code and in accordance with 63G-3 of the same, known as the Administrative Rulemaking Act.

**R309-211-3. Definitions.**

Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

**R309-211-4. General Monitoring Requirements for All Public Water Systems.**

(1) Sample siting plans.

(a) Systems must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system. These plans are subject to Director review and revision. Systems must collect total coliform samples according to the written sample siting plan. Monitoring required by R309-211-5, 6 and 7 may take place at a customer's premise, dedicated sampling station, or other designated compliance sampling location. Routine and repeat sample sites and any sampling points necessary to meet the requirements of R309-215-16 must be reflected in the sampling plan.

(b) Systems must collect samples at regular time intervals throughout the month, except that systems that use only ground water and serve 4,900 or fewer people may collect all required samples on a single day if they are taken from different sites.

(c) Systems must take at least the minimum number of required samples even if the system has had an E. coli MCL violation or has exceeded the coliform treatment technique triggers in R309-211-8(1).

(d) A system may conduct more compliance monitoring than is required by this rule to investigate potential problems in the distribution system and use monitoring as a tool to assist in uncovering problems. A system may take more than the minimum number of required routine samples and must include the results in calculating whether the coliform treatment technique trigger in R309-211-8(1)(a)(i) and (ii) has been exceeded only if the samples are taken in accordance with the existing sample siting plan and are representative of water throughout the distribution system.

(e) Systems must identify repeat monitoring locations in the sample siting plan. Unless the provisions of paragraphs (1)(e)(i) or (1)(e)(ii) of this section are met, the system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one

repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one service connection away from the end of the distribution system, the system must still take all required repeat samples. However, the Director may allow an alternative sampling location in lieu of the requirement to collect at least one repeat sample upstream or downstream of the original sampling site. Except as provided for in paragraph (1)(e)(ii) of this section, systems required to conduct triggered source water monitoring under R309-215-16(2) must take ground water source sample(s) in addition to repeat samples required under ~~[this]~~ this rule.

(i) Systems may propose repeat monitoring locations to the Director that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The system must design its SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The Director may modify the SOP or require alternative monitoring locations as needed.

(ii) Ground water systems serving 1,000 or fewer people may propose repeat sampling locations to the Director that differentiate potential source water and distribution system contamination (e.g., by sampling at entry points to the distribution system). A ground water system with a single well required to conduct triggered source water monitoring may, with written Director approval, take one of its repeat samples at the monitoring location required for triggered source water monitoring under R309-215-16(2)(a) if the system demonstrates to the Director's satisfaction that the sample siting plan remains representative of water quality in the distribution system. If approved by the Director, the system may use that sample result to meet the monitoring requirements in both R309-215-16(2)(a) and this section.

(A) If a repeat sample taken at the monitoring location required for triggered source water monitoring is E. coli-positive, the system has violated the E. coli MCL and must also comply with R309-215-16(2)(a)(iii). If a system takes more than one repeat sample at the monitoring location required for triggered source water monitoring, the system may reduce the number of additional source water samples required under R309-215-16(2)(a)(iii) by the number of repeat samples taken at that location that were not E. coli-positive.

(B) If a system takes more than one repeat sample at the monitoring location required for triggered source water monitoring under R309-215-16(2)(a), and more than one repeat sample is E. coli-positive, the system has violated the E. coli MCL and must also comply with R309-215-16(3)(a)(i).

(C) If all repeat samples taken at the monitoring location required for triggered source water monitoring are E. coli-negative and a repeat sample taken at a monitoring location other than the one required for triggered source water monitoring is E.

coli-positive, the system has violated the E. coli MCL, but is not required to comply with R309-215-16(2)(a)(iii).

(f) The Director may review, revise, and approve, as appropriate, repeat sampling proposed by systems under paragraphs (1)(e)(i) and (ii) of this section. The system must demonstrate that the sample siting plan remains representative of the water quality in the distribution system. The Director may determine that monitoring at the entry point to the distribution system (especially for undisinfected ground water systems) is effective to differentiate between potential source water and distribution system problems.

(2) Special purpose samples. Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, must not be used to determine whether the coliform treatment technique trigger has been exceeded. Repeat samples taken pursuant to R309-211-7 are not considered special purpose samples, and must be used to determine whether the coliform treatment technique trigger has been exceeded.

(3) Invalidation of total coliform samples. A total coliform-positive sample invalidated under this paragraph (3) of this section does not count toward meeting the minimum monitoring requirements of this subpart.

(a) The Director may invalidate a total coliform-positive sample only if the conditions of paragraph (3)(a)(i), (ii), or (iii) of this section are met.

(i) The laboratory establishes that improper sample analysis caused the total coliform-positive result.

(ii) The Director, on the basis of the results of repeat samples collected as required under R309-211-7(1), determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The Director cannot invalidate a sample on the basis of repeat sample results unless all repeat sample(s) collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative (e.g., a Director cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the system has only one service connection).

(iii) The Director has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under R309-211-7(1), and use them to determine whether a coliform treatment technique trigger in R309-211-8 has been exceeded. To invalidate a total coliform-positive sample under this paragraph, the decision and supporting rationale must be documented in writing, and approved and signed by the supervisor of the Director who recommended the decision. The Director must make this document available to EPA and the public. The written documentation must state the specific cause of the total coliform-positive sample, and what action the system has taken, or will take, to correct this problem.

The Director may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total

coliform-negative.

(b) A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system must collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result.

The Director may waive the 24-hour time limit on a case-by-case basis.

Alternatively, the Director may implement criteria for waiving the 24-hour sampling time limit to use in lieu of case-by-case extensions.

(4) A public water system that uses inadequately treated surface water or inadequately treated ground water under the direct influence of surface water shall collect and analyze for total coliforms at least one sample each day the turbidity level of the source water, measured as specified in R309-215-9(2), exceeds 1 NTU. This sample shall be collected near the first service connection from the source.

The system shall collect the sample within 24 hours of the time when the turbidity level was first exceeded. The sample shall be analyzed within 30 hours of collection. Sample results from this coliform monitoring shall be included in determining total coliform compliance for that month. The Director may extend the 24 hour limitation if the system has a logistical problem that is beyond the system's control. In the case of an extension the Director shall specify how much time the system has to collect the sample.

#### **R309-211-5. Routine Monitoring Requirements for Water Systems Serving 1,000 or Fewer People.**

(1) General.

(a) The provisions of this section apply to water systems serving 1,000 or fewer people.

(b) Following any total coliform-positive sample taken under the provisions of this section, systems must comply with the repeat monitoring requirements and E. coli analytical requirements in R309-211-7.

(c) Once all monitoring required by this section and R309-211-7 for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in R309-211-8 have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by R309-211-8.

(2) Monitoring frequency for total coliforms. The monitoring frequency for total coliforms is one sample/month.

(3) Seasonal systems.

(a) All seasonal systems must demonstrate completion of a Director-approved start-up procedure, which may include a requirement for startup sampling prior to serving water to the public.

(b) A seasonal system must monitor every month that it is in

operation.

(c) The Director may exempt any seasonal system from some or all of the requirements for seasonal systems if the entire distribution system remains pressurized during the entire period that the system is not operating.

~~[(4) Additional routine monitoring the month following a total coliform-positive sample. Systems must collect at least three routine samples during the next month, except that the Director may waive this requirement if the conditions of paragraph 5(4)(a), (b), or (c) of this section are met. Systems may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Systems must use the results of additional routine samples in coliform treatment technique trigger calculations under R309-211-8(1).~~

~~—(a) The Director may waive the requirement to collect three routine samples the next month in which the system provides water to the public if the Director, or an agent approved by the Director, performs a site visit before the end of the next month in which the system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Director to determine whether additional monitoring and/or any corrective action is needed. The Director cannot approve an employee of the system to perform this site visit, even if the employee is an agent approved by the Director to perform sanitary surveys.~~

~~—(b) The Director may waive the requirement to collect three routine samples the next month in which the system provides water to the public if the Director has determined why the sample was total coliform-positive and has established that the system has corrected the problem or will correct the problem before the end of the next month in which the system serves water to the public. In this case, the Director must document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the Director who recommends such a decision, and make this document available to the EPA and public. The written documentation must describe the specific cause of the total coliform-positive sample and what action the system has taken and/or will take to correct this problem.~~

~~—(c) The Director may not waive the requirement to collect three additional routine samples the next month in which the system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. If the Director determines that the system has corrected the contamination problem before the system takes the set of repeat samples required in R309-211-7, and all repeat samples were total coliform-negative, the Director may waive the requirement for additional routine monitoring the next month.]~~

# R309-215

## Word Comparison

### Rule R309-215. Monitoring and Water Quality: Treatment Plant Monitoring Requirements

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**R309-215-10. Residual Disinfectant.**

Treatment plant management shall continuously monitor disinfectant residuals and report the following to the Division within ten days after the end of each month that the system serves water to the public, except as otherwise noted:

(1) For each day, the lowest measurement of residual disinfectant concentration in mg/L in water entering the distribution system, except that if there is a failure in the continuous monitoring equipment, grab sampling every 4 hours may be conducted in lieu of continuous monitoring, but for no more than 5 working days following the failure of the equipment. Systems serving 3,300 or fewer persons may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequencies listed in Table 215.2 below:

TABLE 215-2

RESIDUAL GRAB SAMPLE FREQUENCY	Samples/day
System size by population	
Less than 500	1
501 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

Note: The day's samples cannot be taken at the same time. The sampling intervals are subject to Director's review and approval.

(2) The date and duration of each period when the residual disinfectant concentration in water entering the distribution system fell below 0.2 mg/L and when the Division was notified of the occurrence. The system shall notify the Division as soon as possible, but no later than by the end of the next business day. The system also shall notify the Division by the end of the next business day whether or not the residual was restored to at least 0.2 mg/L within four hours.

(3) The following information on the samples taken in the distribution system in conjunction with total coliform monitoring pursuant to R309-211 and R309-210-8(3)(a)(i):

(a) number of instances where the residual disinfectant concentration is measured;

(b) number of instances where the residual disinfectant concentration is not measured but heterotrophic bacteria plate count (HPC) is measured;

(c) number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;

(d) number of instances where no residual disinfectant concentration is detected and where HPC is greater than 500/ml;

(e) number of instances where the residual disinfectant concentration is not measured and HPC is greater than 500/ml;

(f) for the current and previous month the system serves water to the public, the value of "V" in the formula,  $V = ((c+d+e)/(a+b)) \times 100$ , where a = the value in sub-section (a) above, b = the value in sub-section (b) above, c = the value in sub-section (c) above, d = the value in sub-section (d) above, and e = the value in sub-section

(e) above.

(4) The residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as the total coliforms are sampled as specified in R309-211. The State may allow a public water system which uses both a surface water source or a ground water source under direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the Director determines that such points are more representative of treated (disinfected) water quality within the distributions system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in paragraph R309-200-5(7)(b), may be measured in lieu of residual disinfectant concentration.

#### **R309-215-16. Groundwater Rule.**

(1) Applicability: This subpart applies to all public water systems that use ground water except that it does not apply to public water systems that combine all of their ground water with surface water or with ground water under the direct influence of surface water prior to treatment. For the purposes of this subpart, "ground water system" is defined as any public water system meeting this applicability, including consecutive systems receiving finished ground water.

(a) General requirements: Systems subject to this subpart must comply with the following requirements:

(i) Sanitary survey information requirements for all ground water systems as described in R309-100-7.

(ii) Microbial source water monitoring requirements for ground water systems that do not treat all of their ground water to at least 99.99 percent (4-log) treatment of viruses (using inactivation, removal, or an Director-approved combination of 4-log virus inactivation and removal) before or at the first customer as described in R309-215-16(2).

(iii) Treatment technique requirements, described in R309-215-16(3), that apply to ground water systems that have fecally contaminated source waters, as determined by source water monitoring conducted under R309-215-16(2), or that have significant deficiencies that are identified by the Director or that are identified by EPA under SDWA section 1445. A ground water system with fecally contaminated source water or with significant deficiencies subject to the treatment technique requirements of this subpart must implement one or more of the following corrective action options: correct all significant deficiencies; provide an alternate source of water; eliminate the source of contamination; or provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer.

(b) Ground water systems that provide at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer are required to conduct compliance monitoring to demonstrate treatment effectiveness, as described in R309-215-16(3)(b).

(c) If requested by the Director, ground water systems must

provide the Director with any existing information that will enable the Director to perform a hydrogeologic sensitivity assessment. For the purposes of this subpart, "hydrogeologic sensitivity assessment" is a determination of whether ground water systems obtain water from hydrogeologically sensitive settings.

(d) Compliance date: Ground water systems must comply, unless otherwise noted, with the requirements of this subpart beginning December 1, 2009.

(2) Ground water source microbial monitoring and analytical methods.

(a) Triggered source water monitoring.

(i) General requirements. A ground water system must conduct triggered source water monitoring if the conditions identified in paragraphs (a)(i)(A) and (a)(i)(B) of this section exist.

(A) The system does not provide at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for each ground water source; and

(B) The system is notified that a sample collected under R309-211 is total coliform-positive and the sample is not invalidated under R309-211-10.

(ii) Sampling Requirements. A ground water system must collect, within 24 hours of notification of the total coliform-positive sample, at least one ground water source sample from each ground water source in use at the time the total coliform-positive sample was collected under R309-211, except as provided in paragraph (a)(ii)(B) of this section.

(A) The Director may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the ground water source water sample within 24 hours due to circumstances beyond its control.

In the case of an extension, the Director must specify how much time the system has to collect the sample.

(B) If approved by the Director, systems with more than one ground water source may meet the requirements of this paragraph (a)(ii) by sampling a representative ground water source or sources. Systems must submit for Director approval a triggered source water monitoring plan that identifies one or more ground water sources that are representative of each monitoring site in the system's sample site plan under R309-211- 4(1) and that the system intends to use for representative sampling under this paragraph.

(C) A ground water system serving 1,000 or fewer people may use a repeat sample collected from a ground water source to meet both the requirements of ~~[R309-211-7(1)]~~R309-211 and to satisfy the monitoring requirements of paragraph (a)(ii) of this section for that ground water source only if the Director approves the use of E. coli as a fecal indicator for source water monitoring under this paragraph (a) and approves the use of a single sample for meeting both the triggered source water monitoring requirements in this paragraph (a) and the repeat monitoring requirements in R309-211-7. If the repeat sample collected from the ground water source is E.coli positive, the system must comply with paragraph (a)(iii) of this section.

(iii) Additional Requirements. If the Director does not require corrective action under R309-215-16(3)(a)(ii) for a fecal indicator-positive source water sample collected under paragraph

(a)(ii) of this section that is not invalidated under paragraph (c) of this section, the system must collect five additional source water samples from the same source within 24 hours of being notified of the fecal indicator-positive sample.

(iv) Consecutive and Wholesale Systems.

(A) In addition to the other requirements of this paragraph (a), a consecutive ground water system that has a total coliform-positive sample collected under R309-211 must notify the wholesale system(s) within 24 hours of being notified of the total coliform-positive sample.

(B) In addition to the other requirements of this paragraph (a), a wholesale ground water system must comply with paragraphs (a)(iv)(B)(I) and (a)(iv)(B)(II) of this section.

(I) A wholesale ground water system that receives notice from a consecutive system it serves that a sample collected under R309-211-5 and 6 is total coliform-positive must, within 24 hours of being notified, collect a sample from its ground water source(s) under paragraph (a)(ii) of this section and analyze it for a fecal indicator under paragraph (c) of this section.

(II) If the sample collected under paragraph (a)(iv)(B)(I) of this section is fecal indicator-positive, the wholesale ground water system must notify all consecutive systems served by that ground water source of the fecal indicator source water positive within 24 hours of being notified of the ground water source sample monitoring result and must meet the requirements of paragraph (a)(iii) of this section.

(v) Exceptions to the Triggered Source Water Monitoring Requirements. A ground water system is not required to comply with the source water monitoring requirements of paragraph (2)(a) of this section if either of the following conditions exists:

(A) The Director determines, and documents in writing, that the total coliform-positive sample collected under R309-211-5 and 6 is caused by a distribution system deficiency; or

(B) The total coliform-positive sample collected under R309-211-5 and 6 is collected at a location that meets Director criteria for distribution system conditions that will cause total coliform-positive samples.

(b) Assessment Source Water Monitoring. If directed by the Director, ground water systems must conduct assessment source water monitoring that meets Director-determined requirements for such monitoring. A ground water system conducting assessment source water monitoring may use a triggered source water sample collected under paragraph (a)(ii) of this section to meet the requirements of paragraph (b) of this section. Director-determined assessment source water monitoring requirements may include:

(i) collection of a total of 12 ground water source samples that represent each month the system provides ground water to the public,

(ii) collection of samples from each well unless the system obtains written Director approval to conduct monitoring at one or more wells within the ground water system that are representative of multiple wells used by that system and that draw water from the same hydrogeologic setting,

(iii) collection of a standard sample volume of at least 100 mL for fecal indicator analysis regardless of the fecal indicator

or analytical method used,

(iv) analysis of all ground water source samples in accordance with R309-210-4(1) and R309-200-4(3) for the presence of E. coli, enterococci, or coliphage,

(v) collection of ground water source samples at a location prior to any treatment of the ground water source unless the Director approves a sampling location after treatment, and

(vi) collection of ground water source samples at the well itself unless the system's configuration does not allow for sampling at the well itself and the Director approves an alternate sampling location that is representative of the water quality of that well.

(c) Invalidation of a fecal indicator-positive ground water source sample.

(i) A ground water system may obtain Director invalidation of a fecal indicator-positive ground water source sample collected under paragraph (a) of this section only under the conditions specified in paragraphs (c)(i)(A) and (B) of this section.

(A) The system provides the Director with written notice from the laboratory that improper sample analysis occurred; or

(B) The Director determines and documents in writing that there is substantial evidence that a fecal indicator-positive ground water source sample is not related to source water quality.

(ii) If the Director invalidates a fecal indicator-positive ground water source sample, the ground water system must collect another source water sample under paragraph (a) of this section within 24 hours of being notified by the Director of its invalidation decision and have it analyzed for the same fecal indicator using the analytical methods in paragraph (c) of this section. The Director may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Director must specify how much time the system has to collect the sample.

(d) Sampling location.

(i) Any ground water source sample required under paragraph (a) of this section must be collected at a location prior to any treatment of the ground water source unless the Director approves a sampling location after treatment.

(ii) If the system's configuration does not allow for sampling at the well itself, the system may collect a sample at a Director-approved location to meet the requirements of paragraph (a) of this section if the sample is representative of the water quality of that well.

(e) New Sources. If directed by the Director, a ground water system that places a new ground water source into service after November 30, 2009, must conduct assessment source water monitoring under paragraph (b) of this section. If directed by the Director, the system must begin monitoring before the ground water source is used to provide water to the public.

(f) Public Notification. A ground water system with a ground water source sample collected under paragraph (a) or (b) of this section that is fecal indicator-positive and that is not invalidated under paragraph (d) of this section, including consecutive systems served by the ground water source, must conduct public notification under R309-220-5.

(g) Monitoring Violations. Failure to meet the requirements of paragraphs (a)-(f) of this section is a monitoring violation and requires the ground water system to provide public notification under R309-220-7.

(3) Treatment technique requirements for ground water systems.

(a) Ground water systems with significant deficiencies or source water fecal contamination.

(i) The treatment technique requirements of this section must be met by ground water systems when a significant deficiency is identified or when a ground water source sample collected under R309-215-16(2)(a)(iii) is fecal indicator-positive.

(ii) If directed by the Director, a ground water system with a ground water source sample collected under R309-215-16(2)(a)(ii), R309-215-16(2)(a)(iv), or R309-215-16(2)(b) that is fecal indicator-positive must comply with the treatment technique requirements of this section.

(iii) When a significant deficiency is identified at a public water system that uses both ground water and surface water or ground water under the direct influence of surface water, the system must comply with provisions of this paragraph except in cases where the Director determines that the significant deficiency is in a portion of the distribution system that is served solely by surface water or ground water under the direct influence of surface water.

(iv) Unless the Director directs the ground water system to implement a specific corrective action, the ground water system must consult with the Director regarding the appropriate corrective action within 30 days of receiving written notice from the Director of a significant deficiency, written notice from a laboratory that a ground water source sample collected under R309-215-16(2)(a)(iii) was found to be fecal indicator-positive, or direction from the Director that a fecal indicator-positive collected under R309-215-16(2)(a)(ii), R309-215-16(2)(a)(iv), or R309-215-16(2)(b) requires corrective action. For the purposes of this subpart, significant deficiencies include, but are not limited to, defects in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that the Director determines to be causing, or have potential for causing, the introduction of contamination into the water delivered to consumers.

(v) Within 120 days (or earlier if directed by the Director) of receiving written notification from the Director of a significant deficiency, written notice from a laboratory that a ground water source sample collected under R309-215-16(2)(a)(iii) was found to be fecal indicator-positive, or direction from the Director that a fecal indicator-positive sample collected under R309-215-16(2)(a)(ii), R309-215-16(2)(a)(iv), or R309-215-16(2)(b) requires corrective action, the ground water system must either:

(A) have completed corrective action in accordance with applicable Director plan review processes or other Director guidance or direction, if any, including Director-specified interim measures; or

(B) be in compliance with a Director-approved corrective action plan and schedule subject to the conditions specified in paragraphs (a)(v)(B)(I) and (a)(v)(B)(II) of this section.

(I) Any subsequent modifications to a Director-approved

corrective action plan and schedule must also be approved by the Director.

(II) If the Director specifies interim measures for protection of the public health pending Director approval of the corrective action plan and schedule or pending completion of the corrective action plan, the system must comply with these interim measures as well as with any schedule specified by the Director.

(vi) Corrective Action Alternatives. Ground water systems that meet the conditions of paragraph (a)(i) or (a)(ii) of this section must implement one or more of the following corrective action alternatives:

(A) correct all significant deficiencies;

(B) provide an alternate source of water;

(C) eliminate the source of contamination; or

(D) provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source.

(vii) Special notice to the public of significant deficiencies or source water fecal contamination.

(A) In addition to the applicable public notification requirements of R309-220-5, a community ground water system that receives notice from the Director of a significant deficiency or notification of a fecal indicator-positive ground water source sample that is not invalidated by the Director under R309-215-16(2)(d) must inform the public served by the water system under R309-225-5(8) of the fecal indicator-positive source sample or of any significant deficiency that has not been corrected. The system must continue to inform the public annually until the significant deficiency is corrected or the fecal contamination in the ground water source is determined by the Director to be corrected under paragraph (a)(v) of this section.

(B) In addition to the applicable public notification requirements of R309-220-5, a non-community ground water system that receives notice from the Director of a significant deficiency must inform the public served by the water system in a manner approved by the Director of any significant deficiency that has not been corrected within 12 months of being notified by the Director, or earlier if directed by the Director. The system must continue to inform the public annually until the significant deficiency is corrected. The information must include:

(I) The nature of the significant deficiency and the date the significant deficiency was identified by the Director;

(II) The Director-approved plan and schedule for correction of the significant deficiency, including interim measures, progress to date, and any interim measures completed; and

(III) For systems with a large proportion of non-English speaking consumers, as determined by the Director, information in the appropriate language(s) regarding the importance of the notice or a telephone number or address where consumers may contact the system to obtain a translated copy of the notice or assistance in the appropriate language.

(C) If directed by the Director, a non-community water system with significant deficiencies that have been corrected must inform

its customers of the significant deficiencies, how the deficiencies were corrected, and the dates of correction under paragraph (a)(vii)(B) of this section.

(b) Compliance monitoring.

(i) Existing ground water sources. A ground water system that is not required to meet the source water monitoring requirements of this subpart for any ground water source because it provides at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for any ground water source before December 1, 2009, must notify the Director in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for the specified ground water source and begin compliance monitoring in accordance with paragraph (b)(iii) of this section by December 1, 2009. Notification to the Director must include engineering, operational, or other information that the Director requests to evaluate the submission. If the system subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for a ground water source, the system must conduct ground water source monitoring as required under R309-215-16(2).

(ii) New ground water sources. A ground water system that places a ground water in service after November 30, 2009, that is not required to meet the source water monitoring requirements of this subpart because the system provides at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source must comply with the requirements of paragraphs (b)(ii)(A), (b)(ii)(B) and (b)(ii)(C) of this section.

(A) The system must notify the Director in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source. Notification to the Director must include engineering, operational, or other information that the Director requests to evaluate the submission.

(B) The system must conduct compliance monitoring as required under R309-215-16(3)(b)(iii) of this subpart within 30 days of placing the source in service.

(C) The system must conduct ground water source monitoring under R309-215-16(2) if the system subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source.

(iii) Monitoring requirements. A ground water system subject to the requirements of paragraph (b)(i) or (b)(ii) of this section must monitor the effectiveness and reliability of treatment for that ground water source before or at the first customer as follows:

(A) Chemical disinfection.

(I) Ground water systems serving greater than 3,300 people. A ground water system that serves greater than 3,300 people must

continuously monitor the residual disinfectant concentration using analytical methods specified in R444-14-4 at a location approved by the Director and must record the lowest residual disinfectant concentration each day that water from the ground water source is served to the public. The ground water system must maintain the Director-determined residual disinfectant concentration every day the ground water system serves water from the ground water source to the public. If there is a failure in the continuous monitoring equipment, the ground water system must conduct grab sampling every four hours until the continuous monitoring equipment is returned to service. The system must resume continuous residual disinfectant monitoring within 14 days.

(II) Ground water systems serving 3,300 or fewer people. A ground water system that serves 3,300 or fewer people must monitor the residual disinfectant concentration using analytical methods specified in R444-14-4 at a location approved by the Director and record the residual disinfection concentration each day that water from the ground water source is served to the public. The ground water system must maintain the Director-determined residual disinfectant concentration every day the ground water system serves water from the ground water source to the public. The ground water system must take a daily grab sample during the hour of peak flow or at another time specified by the Director. If any daily grab sample measurement falls below the Director-determined residual disinfectant concentration, the ground water system must take follow-up samples every four hours until the residual disinfectant concentration is restored to the Director-determined level. Alternatively, a ground water system that serves 3,300 or fewer people may monitor continuously and meet the requirements of paragraph (b)(iii)(A)(I) of this section.

(B) Membrane filtration. A ground water system that uses membrane filtration to meet the requirements of this subpart must monitor the membrane filtration process in accordance with all Director-specified monitoring requirements and must operate the membrane filtration in accordance with all Director-specified compliance requirements. A ground water system that uses membrane filtration is in compliance with the requirement to achieve at least 4-log removal of viruses when:

(I) The membrane has an absolute molecular weight cut-off (MWCO), or an alternate parameter that describes the exclusion characteristics of the membrane, that can reliably achieve at least 4-log removal of viruses;

(II) The membrane process is operated in accordance with Director-specified compliance requirements; and

(III) The integrity of the membrane is intact.

(C) Alternative treatment. A ground water system that uses a Director-approved alternative treatment to meet the requirements of this subpart by providing at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer must:

(I) Monitor the alternative treatment in accordance with all Director-specified monitoring requirements; and

(II) Operate the alternative treatment in accordance with all compliance requirements that the Director determines to be necessary to achieve at least 4-log treatment of viruses.

(c) Discontinuing treatment. A ground water system may discontinue 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for a ground water source if the Director determines and documents in writing that 4-log treatment of viruses is no longer necessary for that ground water source. A system that discontinues 4-log treatment of viruses is subject to the source water monitoring and analytical methods requirements of R309-215-16(2) of this subpart.

(d) Failure to meet the monitoring requirements of paragraph (b) of this section is a monitoring violation and requires the ground water system to provide public notification under R309-220-7.

(4) Treatment technique violations for ground water systems.

(a) A ground water system with a significant deficiency is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Director) of receiving written notice from the Director of the significant deficiency, the system:

(i) Does not complete corrective action in accordance with any applicable Director plan review processes or other Director guidance and direction, including Director specified interim actions and measures, or

(ii) Is not in compliance with a Director-approved corrective action plan and schedule.

(b) Unless the Director invalidates a fecal indicator-positive ground water source sample under R309-215-16(2)(d), a ground water system is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Director) of meeting the conditions of R309-215-16(3)(a)(i) or R309-215-16(3)(a)(ii), the system:

(i) Does not complete corrective action in accordance with any applicable Director plan review processes or other Director guidance and direction, including Director-specified interim measures, or

(ii) Is not in compliance with a Director-approved corrective action plan and schedule.

(c) A ground water system subject to the requirements of R309-215-16(3)(b)(iii) that fails to maintain at least 4-log treatment of viruses (using inactivation, removal, or a Director-approved combination of 4-log virus inactivation and removal) before or at the first customer for a ground water source is in violation of the treatment technique requirement if the failure is not corrected within four hours of determining the system is not maintaining at least 4-log treatment of viruses before or at the first customer.

(d) Ground water system must give public notification under R309-220-6 for the treatment technique violations specified in paragraphs (a), (b) and (c) of this section.

(5) Reporting and recordkeeping for ground water systems.

(a) Reporting. In addition to the requirements of R309-105-16, a ground water system regulated under this subpart must provide the following information to the Director:

(i) A ground water system conducting compliance monitoring under R309-215-16(3)(b) must notify the Director any time the system fails to meet any Director-specified requirements including, but not limited to, minimum residual disinfectant concentration, membrane operating criteria or membrane integrity, and alternative treatment

operating criteria, if operation in accordance with the criteria or requirements is not restored within four hours. The ground water system must notify the Director as soon as possible, but in no case later than the end of the next business day.

(ii) After completing any corrective action under R309-215-16(3)(a), a ground water system must notify the Director within 30 days of completion of the corrective action.

(iii) If a ground water system subject to the requirements of R309-215-16(2)(a) does not conduct source water monitoring under R309-215-16(2)(a)(v)(B), the system must provide documentation to the Director within 30 days of the total coliform positive sample that it met the Director criteria.

(b) Recordkeeping. In addition to the requirements of R309-105-17, a ground water system regulated under this subpart must maintain the following information in its records:

(i) Documentation of corrective actions. Documentation shall be kept for a period of not less than ten years.

(ii) Documentation of notice to the public as required under R309-215-16(3)(a)(vii). Documentation shall be kept for a period of not less than three years.

(iii) Records of decisions under R309-215-16(2)(a)(v)(B) and records of invalidation of fecal indicator-positive ground water source samples under R309-215-16(2)(d). Documentation shall be kept for a period of not less than five years.

(iv) For consecutive systems, documentation of notification to the wholesale system(s) of total-coliform positive samples that are not invalidated under R309-211-10. Documentation shall be kept for a period of not less than five years.

(v) For systems, including wholesale systems, that are required to perform compliance monitoring under R309-215-16(3)(b):

(A) Records of the Director-specified minimum disinfectant residual. Documentation shall be kept for a period of not less than ten years.

(B) Records of the lowest daily residual disinfectant concentration and records of the date and duration of any failure to maintain the Director-prescribed minimum residual disinfectant concentration for a period of more than four hours. Documentation shall be kept for a period of not less than five years.

(C) Records of Director-specified compliance requirements for membrane filtration and of parameters specified by the Director for Director-approved alternative treatment and records of the date and duration of any failure to meet the membrane operating, membrane integrity, or alternative treatment operating requirements for more than four hours. Documentation shall be kept for a period of not less than five years.

Agenda Item

8(C)



UTAH DEPARTMENT *of*  
**ENVIRONMENTAL  
QUALITY**

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**2018 INTERIM SESSION**  
**WATER TOUR**

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## State Revolving Funds

Utah's Clean Water SRF and Drinking Water SRF programs provide low interest rate loans to communities for water quality and drinking water infrastructure projects. Grants from the EPA with a 20% state match are invested in related infrastructure by the Water Quality Board and the Drinking Water Board.

These Boards also administer limited Hardship Grant Programs to communities with demonstrated economic hardship and otherwise would be unable to finance clean water and drinking water projects.

### **SRF Past project assistance**

Utah's CWSRF has provided nearly \$1 Billion in support of \$1.5 Billion in wastewater related infrastructure funding. Utah DWSRF has provided \$395 Million in drinking water related infrastructure funding.

### **SRF future outlook**

The Statewide Infrastructure Plan (SWIP) and the SRF needs surveys estimate a future wastewater infrastructure need of \$4 Billion by 2040 and \$6 Billion in drinking water infrastructure need by 2040. These investments further DEQ's mission of safeguarding and improving Utah's Water through improved facilities and technology to meet the Utah's growing water needs now and into the future.

### **SRF ongoing challenge**

- Capitalization funding declines while new infrastructure costs are escalating dramatically.
- Important projects are delayed and emergencies are under served because of federal funding requirements, restrictions, and grant fund deficiencies.
- Communities are unprepared and underfunded to satisfy their long-term infrastructure needs.

### **What is needed**

- Remove Water Development Security Fund (UCA 73-10c-5) funding cap on DEQ to better align growing economy with growing water infrastructure financing needs.
- Assist SRF programs to provide affordable and flexible funding.
- Provide additional money for emergency and hardship funding program.
- Support long-term financial planning by counties and cities.

August 2018

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# *Utah Nonpoint Source Management Plan for Abandoned Mines*

## ***Background Information***

- Abandoned mines are facilities or sites where no permit was filed with the State or federal land managing agency
- Utah's Abandoned Mine Reclamation has closed approximately 6,000 of the estimated 17,000 mine openings across Utah
- Most mining-related NPS pollution results from abandoned mines. Possible negative impacts to water quality include: heavy metal contamination & leaching, soil erosion, and acid main drainage
- 15% of rivers assessed in Utah are impaired due to metals contamination (2016 303(d) List)
- Sources of metals include: mines, processing plants, waste rock disposal areas, haul roads, and tailings

## ***Program Goals***

1. Watershed reconnaissance studies
2. Protect surface & groundwater
3. Build long-term partnerships
4. Educate & inform

## ***Program Details***

- Mining Technical Advisory Committee of the Utah Nonpoint Source Task Force oversees this plan. It was updated in 2018.
- Seek solutions reliant upon technologies that are practical and cost effective
- Best Management Practices include: hydrologic controls and passive treatment technologies
- Examples of NPS funded mine projects: Little Cottonwood Creek (Columbus Rexall mine), Mineral Basin in American Fork Canyon, and Silver Creek outside of Park City

Division of Water Quality  
Mission:

*Protect, maintain and enhance  
the quality of Utah's surface  
and underground waters for  
appropriate beneficial uses*

*Protect the public health  
through eliminating and  
preventing water related health  
hazards which can occur as a  
result of improper disposal of  
human, animal or industrial  
wastes while giving reasonable  
consideration to the economic  
impact*

**August 2018**

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## Utah Nonpoint Source Management Program Overview

### Program Goal

*Protect, restore, and enhance the waters of the State of Utah through the reduction of nonpoint source (NPS) pollution by means of voluntary implementation of best management practices.*

- Nonpoint sources of water pollution include agricultural runoff, stormwater, septic systems, degradation of riparian areas, hydrologic modifications, and upland soil erosion.
- The Nonpoint Source Pollution Program receives ~\$1,700,000/yr to help address NPS pollution statewide using a voluntary, incentive based approach, working with private landowners and other state, federal, and local agencies to implement best management practices.
- Since 1990 the NPS program has assisted over 540 projects totaling more than \$39.1 Million in NPS grants. This is made up of \$28.1 million in federal funding and \$11 million in State funding.
- For every \$1 of NPS funding invested, \$4 of additional funding or match is generated to implement these projects.
- 44% of NPS grants are used to restore riparian areas throughout the state on private and public property. An additional 12% is used to assist agricultural producers decrease NPS pollution originating from their operations. The remaining funding is used to fund a wide variety of other types of water quality projects including educational efforts.

### Example: Wallsburg Watershed

- The Main Creek watershed contributes 8% of water flow to Deer Creek Reservoir yet accounts for a disproportionate 17% of the Total Phosphorous (TP) load.
- In 2010, Main Creek's uses were identified as impaired due to elevated levels of *E. coli* (recreation) and water temperature (cold water fishery).
- UDWQ partnered with stakeholders, including the Wasatch Conservation District, to develop a watershed plan to address these water quality concerns (Wallsburg Coordinated Resource Management Plan, 2012).
- Since 2013, over 16 agencies and stakeholder groups contributed over \$2.5 million to restore water quality within the watershed. UDWQ has contributed over \$700,000 (2013 – 2017) through the NPS program.
- Recent monitoring data shows over a 50% decrease in both *E. coli* and TP pollutant loading since project work commenced. In 2014, Main Creek's temperature impairment was removed on 303(d) List due to a decrease in water temperature.

Division of Water Quality  
Mission:

*Protect, maintain and enhance the quality of Utah's surface and underground waters for appropriate beneficial uses*

*Protect the public health through eliminating and preventing water related health hazards which can occur as a result of improper disposal of human, animal or industrial wastes while giving reasonable consideration to the economic impact*

August 2018

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UTAH DEPARTMENT of  
ENVIRONMENTAL QUALITY  
**DRINKING  
WATER**

# *Drinking Water Source Protection and Extraterritorial Jurisdiction*

## ***Drinking Water Source Protection***

Protecting wells, springs, and surface water intakes from contamination is vitally important in a state as arid as Utah. The Source Protection program requires Public Water Systems (PWSs) to:

- Delineate source protection zones for their sources
- Identify potential sources of contamination
- Plan strategies to protect sources from contamination

## ***Extraterritorial Jurisdiction***

Section 10-8-15 currently grants all cities, regardless of class, the authority to protect their surface and groundwater sources, within or without the city limits, from injury and pollution, for a distance of 300 feet on each side of the source and 15 miles upstream.

- Cities of the first-class (population > 100,000) have the added authority to protect their entire watershed(s).
- Over 90 municipalities have enacted drinking water source protection ordinances using this authority.

**Next Step: A working group of subject matter experts has been appointed to study the issue during the 2018 interim session and will provide recommendations to the Executive Director of DNR and to the Natural Resources, Agriculture, and Environment Interim Committee by mid-September 2018.**

Division of Drinking Water  
Mission:

*To protect public health by  
ensuring the quality and  
quantity of Utah's drinking  
water supply*

*To ensure the continued  
protection of drinking water  
sources in Utah*

August 2018

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# *Septic Systems in Ground Water Recharge Areas*

## ***Increasing growth in sensitive areas***

- Valley benches and high mountain valleys, where many culinary sources are recharged, are increasingly desirable for development.
- Rapid growth is occurring across the state in areas without public sewers and where septic systems are required (see Table 1).
- Aging septic systems, like any other aging infrastructure, have higher costs and risks of failure, contributing to pollution of aquifers.

## ***Impact on water quality and drinking water sources***

- By design, septic systems introduce biological and chemical contaminants to the subsurface for treatment and disposal.
- Septic systems rely on natural processes to safely treat these pollutants; high wastewater volumes and concentrated development can undermine this treatment.
- Keeping source waters free from contamination is vital for protection of current and future uses including drinking water.
- Growth and development have increased pressure on public water systems to protect their culinary sources.
- More than 90 municipalities and 16 counties have passed land use ordinances prohibiting certain activities, including septic systems, within drinking water source protection zones.
- Necessity to protect drinking water sources often clashes with citizens' rights to develop or build on their property.

## ***Potential solutions***

- Incentives for counties and water districts to evaluate regional septic system densities protective of water supplies, plan for quality growth, protect and manage important recharge areas and source waters for a prosperous and healthy Utah.
- Support public management of septic systems in recharge areas with adoption of septic tank density studies.

August 2018

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**Typical Septic System**



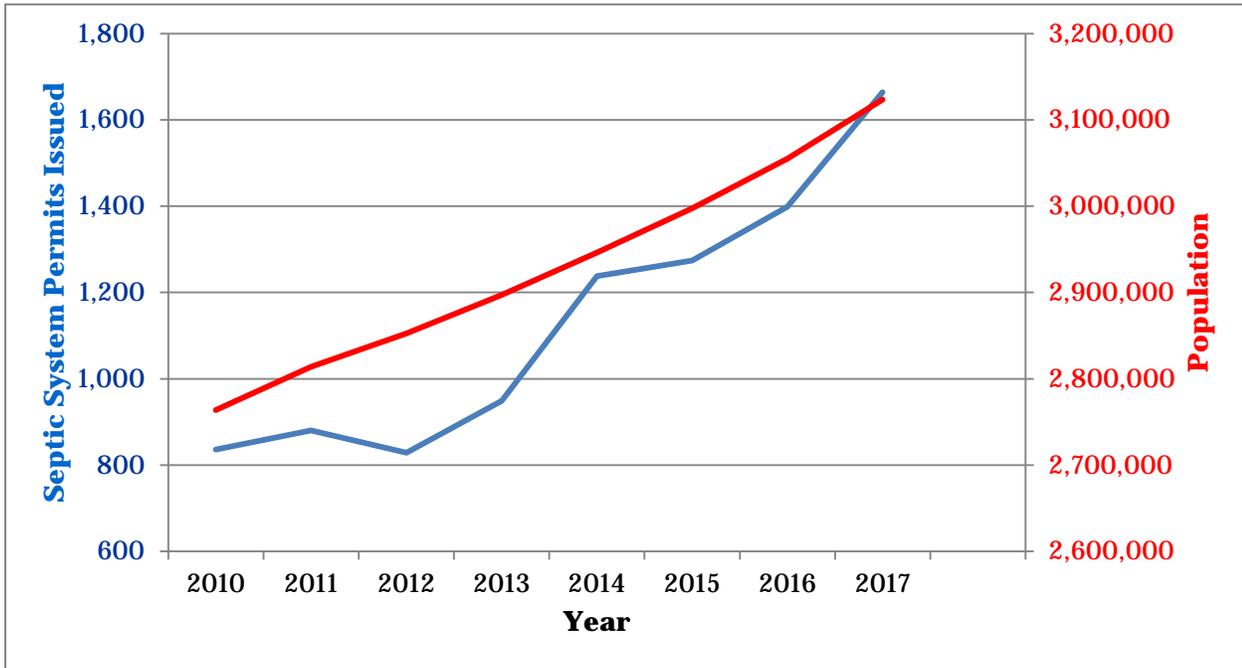
- Encourage Alternative technology and clustered alternative septic systems that are adaptable to future community development needs

**Table 1: Total number of septic systems approved in Utah, 2010-2017**

Year	2010	2011	2012	2013	2014	2015	2016	2017
Number of Septic Systems Permitted	836	880	829	949	1,238	1,274	1,399	1,664

Data obtained from local health department annual reports to the Utah Department of Environmental Quality

**Table 2: Septic system permits issued compared to population growth in Utah, 2010-2017**



Data obtained from:

Utah's Long-term Demographic and Economic Projections (2017. University of Utah Kem C. Gardner Policy Institute.) Retrieved Thursday, August 9, 2018 from the Web site: <http://gardner.utah.edu/wp-content/uploads/Kem-C.-Gardner-County-Detail-Document.pdf>

2010 Census (2010. U.S. Census Bureau.) Retrieved Thursday, August 9, 2018 from the Web site: <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

Utah's Population (2014. Office of Legislative Research and General Counsel.) Retrieved Thursday, August 9, 2018 from the Web site: <https://le.utah.gov/lrgc/briefings/PopulationBriefing2014.pdf>



# *Determining Public Drinking Water System Boundaries*

## ***Safe Drinking water is an expectation.***

Utah residents and visitors have the expectation and right to safe drinking water from every tap throughout the state. Especially, when the water is provided by a public water system:

- No matter the size of the system
- Whether they live in a single family home, condo or apartment complex
- Whether they are in their home, their place of work or recreating at one of our recreation sites served by a public water system.

## ***What is a public water system?***

Any water served through a piped conveyance to 25 people for 60 days or greater is public.

## ***Identifying GAPS in public health protection***

Ensure safe drinking water is provided where the public consumes or uses the water to avoid exposure to waterborne illness.

- Boundaries of the public water system (terminus) have legally been established as the **meter** or **property line**. Situations behind large bulk meters that cause public health issues and compromise the public's expectation of safe drinking water include:
  - Treatment of water other than in an individual home
  - Large developments (larger than a city block) with distribution pipes not maintained by public water system
  - Large Storage vessels other than those dedicated to fire protection.
- Proliferation of small-scale developments for which there are no infrastructure requirements.

## ***Strategies to minimize public health GAPS***

- Engaged in stakeholder workgroup to address this issue through a collaborative regulation process.
- Establish clear public water system boundaries (terminus).
- Work with local health and planning departments to prevent creation of new bulk metered connections, establish clear ownership, and ongoing responsible party at time of build out.

**Next Step: Present rule language changes to the Drinking Water Board and set implementation schedule.**

Division of Drinking Water  
Mission:

*To protect public health by ensuring the quality and quantity of Utah's drinking water supply*

*To provide construction standards for a safe and reliable drinking water infrastructure*

August 2018

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## *Lead in Schools*

### ***EPA Guidance and Oversight of lead in schools***

2017 letter to state superintendent:

- Asks schools to sample for lead in drinking water
- Communicate results to parents, teachers, and staff
- Remediate in the event of a high result

2018 EPA lead action plan requests states to account for what we have done to protect children from exposure to lead in the drinking water at their schools.

### ***Utah' Response to EPA request***

- DDW worked with schools to conduct 2017 pilot study
  - 1,699 samples collected
  - 75% of schools participated
  - 92% had detectible levels of lead
  - 2% Over the EPA Action Level of 15 ppb  
**(Approximately 13,000 children)**
  - 40% between 1 ppb and 15 ppb
- Data published at lead in schools website: [leadinwater.utah.gov](http://leadinwater.utah.gov)
- DDW assisted and advised remediation efforts
- Creation of a partnership for lead-free schools
- Distribution of lead in schools flier for 2018-2019 school year
- Published webinar for administrators and superintendents on lead in schools

### ***Goals for Lead in Schools***

- Create buy-in for flushing and sampling programs
- Develop a recommendation for schools to test for lead in water ongoing
- Determine who has authority to oversee ongoing program

### Division of Drinking Water Mission:

*To protect public health by  
ensuring the quality and  
quantity of Utah's drinking  
water supply*

*To ensure the health and  
safety of Utah children  
through establishing  
measures to protect their  
drinking water*

August 2018

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# Drinking Water Storage Requirement

## **Drinking Water Storage and Protecting Public Health**

A public water system needs to operate properly and maintain adequate water pressure and supply even when its water source capacity cannot meet the peak demands placed on the water system.

- Providing adequate storage volume for drinking water is critical in protecting public health, especially in existing water systems with aging infrastructure that are susceptible to contamination.
- Providing adequate storage volume should be included in planning and design of future subdivisions or developments.

## **Drinking Water Storage**

Utah's water systems are required to provide water storage for Equalization, Fire Suppression, and Emergencies:

- **Minimum Equalization Storage:** this volume provides storage needed to compensate for the difference between the source capacity and the peak demand of a water system
- **Fire Suppression Storage:** the required volume is determined by the local fire code official
- **Emergency Storage:** this volume is determined by an individual water system and is optional

Regulatory criteria for minimum storage vary from state to state. Utah sets the minimum equalization storage requirement at a value equivalent to an average day demand. However, each water system must evaluate its system demand pattern, source capacity and reliability, system configuration, and unique operation needs. In some cases, a water system's actual storage need may exceed the minimum volume required by the state.

Division of Drinking Water  
Mission:

*To protect public health by ensuring the quality and quantity of Utah's drinking water supply*

*To provide construction standards for a safe and reliable drinking water infrastructure*

August 2018

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# Current News

**DRINKING WATER BOARD PACKET**  
**Current News**

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# Controversial water rule put on hold in Utah, 10 other states

By: Amy Joi O'Donoghue, Deseret News; June 12, 2018; [deseretnews.com](http://deseretnews.com)

<https://www.deseretnews.com/article/900021406/controversial-water-rule-put-on-hold-in-utah-10-other-states.html>

SALT LAKE CITY — Utah Attorney General Sean Reyes is praising a 26-page ruling from a federal judge in Georgia that exempts Utah and 10 other states from a controversial regulation involving water.

Utah was among an 11-state coalition that filed for a temporary injunction to halt implementation of the so-called Waters of the United States rule, or WOTUS, because of its expansion of regulatory oversight.

"We are encouraged that the federal district court has agreed with the merits of our challenge. The WOTUS rule vastly and unnecessarily expands federal regulatory powers in a way that threatens the sovereignty of states, the liberty of citizens and the viability of businesses," said Utah Attorney General Sean Reyes in a statement released Tuesday.

"The federal government has no business regulating ponds in our backyards or the water hazards on every back nine. I'm proud of the work Utah contributed to this case. This is a victory not only for our state, but for all who believe that the role of the federal government should be carefully limited and clearly defined."

In the late Friday ruling, Judge Lisa Godbey Wood from the U.S. District Court of the Southern District of Georgia agreed with the states' contention that implementation of the 2015 rule will cause irreparable harm.

"An injunction of the WOTUS rule favors the public interest," she wrote, noting that farmers, homeowners and small-business owners will need to devote time and expense to obtaining federal permits — all to comply with a rule she predicts will likely be invalidated.

The rule's actual implementation is not until 2020, but it is being challenged in the courts and the U.S. Environmental Protection Agency indicated it is reconsidering the rule.

Wood said the rule, by expanding the Clean Water Act to include certain waters not previously regulated, usurps state sovereignty.

"Once the rule takes effect, the states will lose their sovereignty over certain intrastate waters that will become subject to the scope of the Clean Water Act," she wrote. "Loss of sovereignty is an irreparable harm."

Farmers and ranchers worried the reach of the EPA and U.S. Army Corps of Engineers on navigable waters could be extended to ditches and farmyard ponds.

In July, EPA Administrator Scott Pruitt visited Utah and toured a ranch as part of a review of the rule.

At the time, he said regulating dry creek beds and puddles would impact land use across the country.

Federal courts have now issued injunctions against the rule in 24 states.

# Colorado River Reservoirs Expected To Be Less Than Half Full, Headed Toward Historic Low

By: Luke Runyon, KUER; June 15, 2018; kuer.org

<http://kuer.org/post/colorado-river-reservoirs-expected-be-less-half-full-headed-historic-low#stream/0>

Reservoirs that store water along the Colorado River are projected to be less than half full later this year, potentially marking a historic low mark for the river system that supplies water to seven U.S. states and Mexico.

Forecasters with the U.S. Bureau of Reclamation expect the river's reservoirs -- Lakes Mead and Powell among them -- to be at a combined 48 percent of capacity by the end of September. That would be one of the lowest points ever for the combined water storage.

Without significant rainfall this summer and fall and above average snow this upcoming winter the combined reservoir storage could dip to 44 percent of capacity by April 2019 according to Reclamation models.

The previous low point for total system water storage came after the two driest consecutive years in the watershed on April 1, 2014, when the river's reservoirs were at 47 percent of capacity.

"We're in uncharted territory for the system," says Jeff Kightlinger, general manager of the Metropolitan Water District of Southern California, the water wholesaler for the greater Los Angeles area, which relies on the Colorado River for a portion of its supplies.

"Everything is new, and it is all bleak. None of it is positive," Kightlinger says.

The root cause of this problem is two-fold: Low snowpack this past winter is causing reservoirs already sapped by 18 years of dry conditions to dip even lower. And the river itself is over-allocated, where more water exists on paper in the form of water rights, than what exists in reality.

Lake Powell, the water savings account for Colorado, Wyoming, New Mexico and Utah, is taking the brunt of this year's dry weather, says Rick Clayton, a Salt Lake City-based Bureau of Reclamation engineer.

"Lake Powell is not getting a very significant inflow and we're making a pretty large release," he says.

Inflow to Lake Powell, provided by the Colorado River's main channel and the San Juan River, is projected to be 39 percent of average. That places 2018 among the driest years on record for the river basin.

The river's reservoirs have remained low for nearly the entirety of the 21st century, Clayton says.

“When a reservoir system is half full [it] isn't necessarily a reason to panic,” Clayton says. “It is not uncommon for the Colorado River reservoir system to be nearly half empty, especially during the recent protracted drought we have been experiencing since 2001.”

Colorado, Wyoming, Utah, New Mexico, Arizona, Nevada, California and the country of Mexico all claim some portion of the Colorado River's flow. The river provides water for about 40 million people in the southwest and irrigates 1.7 million acres of farmland.

# As More Western Cities Turn To Recycled Water, They May Face A Curious Obstacle: The Ick Factor

By: Rae Ellen Bichell, KUER; July 13, 2018, kuer.org

<http://kuer.org/post/more-western-cities-turn-recycled-water-they-may-face-curious-obstacle-ick-factor#stream/0>

*According to the EPA, less than 10 percent of the country's daily wastewater effluent gets recycled for other uses. That could soon change.*

Between growing populations and changing climate conditions, our water sources are only expected to get more crunched. Communities in some very dry states have had to get creative about where to get their water, sometimes purifying sewage into drinking water. More western cities are beginning to get on board, too. But there's a problem: the ick factor.

Listen

Listening...

Paul Rozin has spent the last few decades testing what's behind the feeling of disgust.

The University of Pennsylvania psychologist has asked people to drink a glass of water that had a sterilized cockroach dipped in it and to drink apple juice from a bedpan. In one experiment, he asked people if they would put on a sweater that Hitler had worn.

"And almost everybody says 'no,'" says Rozin.

Rozin asked them a few more questions: How about if he thoroughly cleaned the sweater? Or dyed it to look completely different? Or even unraveled the yarn and made it into a new one? Then would they put it on?

"And most people don't want anything to do with it, even if you do all that stuff," he says.

But there was something that could get people to reconsider: Mother Teresa. If Mother Teresa put on the sweater first, then some people would consider putting it on, too. In some way, her goodness would cancel out Hitler's badness.

That study might sound like the stuff of academic ivory towers. But, says Brent Haddad, a water resources economist at the University of California Santa Cruz, "it really caught the attention of the water industry."

It was the late 90s in California. Haddad says water engineers had come up with amazing ways to turn wastewater -- all the stuff flowing down drains, sinks and toilets from homes -- into clean, drinkable water. It was almost as if they'd found a way to turn trash into gold.

"The industry had reached this stopping point where it had identified technologies, methods and regulatory approaches that could provide safe recycled water to the public and the public would have nothing to do with it," he says.

Haddad was attending a lot of water industry meetings. He says the engineers there were complaining "with some emotion in their voices" about an unexpected, seemingly insurmountable obstacle: human psychology.

One major problem was that people associated recycled water with excrement. Slogans like "toilet to tap," invented by opponents of water recycling, had made sure of that. Haddad reached out to Rozin to figure out how they could conquer people's squeamishness.

"And he was the right man for the job," says Haddad.

Together, Rozin and Haddad did a series of studies on people's attitudes toward water. Here's what they found.

"There's two strategies. One is to tell them they've been drinking toilet water all their lives," says Rozin. "Your toilet water goes down to the ocean, so does everybody else's toilet water, and then it's coming back in rain."

And what, he says, do you think river water is? A lot of it is just treated sewage from towns upstream.

But that tactic -- the whole-world-is-gross tactic -- doesn't work for everyone. Others need help ignoring the water's gross past. Haddad says we do this mental trick all the time, like when we sleep in hotel rooms.

"There's a really good chance that that pillow was in places and in contact and having experiences that would just be appalling to the next person who comes to the room," says Haddad.

But in our heads, we tell ourselves that the cleaning crew came through and now everything is clean, he says, "and we're perfectly fine sleeping on that bed. We frame out any history of that hotel room."

Explaining to people exactly how water gets cleaned can have a similar effect -- especially if you emphasize the fact that treated wastewater often goes back into a natural place, like an aquifer or a stream, and mixes with other water there before getting pulled back out and retreated again to drinking quality. The process is called "indirect potable reuse," and it's already used by some cities across the U.S. — though the Environmental Protection Agency says only about 7 percent of the wastewater effluent produced each day in the U.S. gets recycled.

Haddad says that extra step in nature isn't necessary. Existing technology can make wastewater safe and drinkable straightaway, just like it does on the International Space Station, in Windhoek, Namibia, and in some cities in Texas. In fact, he says, treated wastewater is often cleaner than the water it intermingles with in aquifers and streams. But the idea of the water

spending time in nature helps people ignore its less appealing past, just like they can ignore the hotel room's past.

"People can easily say, 'Oh, well I'm getting the fresh stuff,'" he says.

Another thing that helps is to show people that it's safe by pointing to other people who drink purified wastewater, like astronauts, whose drinking water comes from their own breath, sweat and urine.

"They're game," says Haddad. "Otherwise they don't go up there."

Urgent need can speed up the process, as in the case of Windhoek, Namibia and Big Spring, Texas. Both experienced severe droughts that led local authorities to declare water crises. In 2011, Texas experienced the worst drought in the state's history. In Big Spring, Haddad says, "It was getting to the point where they were making plans of how to shut down the city." So, they turned to recycling their wastewater.

Austa Parker, a water reuse technologist with the environmental engineering firm Carollo Engineers, wants residents of states like Colorado to embrace recycled water reuse – whether indirect or direct -- before they hit such a drastic turning point.

"We need to be doing this. If we keep seeing decreasing water supplies over time and we keep seeing population increases in certain areas then we're going to need more water eventually," she says.

Parker works with the WaterReuse Association of Colorado, a trade organization focused on water recycling. The group teamed up with utility Denver Water to set up a demonstration space where Parker spent a few months showing people the water purification process and getting them to taste water samples (which she refers to simply as "purified water").

When the demo wrapped up, Parker took the remaining purified water and brought it to Declaration Brewing Company in Denver. While there might not be a single Mother Teresa antidote for recycled water, beer comes pretty close.

A Pilsner called Centurion, made with recycled water, is already on tap there.

"It's a very crispy, refreshing, clean, nice, dry finish. Exactly what you'd expect out of a very classic example of an American Pilsner," says brewery founder Mike Blandford as he sips a glass of Centurion.

Blandford and his colleagues at Declaration Brewing want to help prepare people for that future before they run into urgent need like in Big Spring, Texas. Easing them in gently with a recycled Pilsner just might do the trick.

"Water is water. You get the right elements in it and it's fine," he says.

Spokespeople with Denver Water say the city could be drinking reclaimed water in about 40 years. The surrounding municipalities of Aurora and Parker already recycle wastewater into

drinking water indirectly. The nearby town of Castle Rock is currently designing upgrades to its water treatment plant that should allow for indirect potable reuse by 2020.

Mark Marlowe, director of Castle Rock Water, says the town currently gets about 80 percent of its water from groundwater in the Denver Basin.

"We're depleting it faster than it's being replenished," he says.

The town started looking into renewable water options about a decade ago, spurred by a drought and by the fact that that it has fewer water rights than older municipalities like Denver. Marlowe says Castle Rock is gearing up to be like Big Spring, Texas.

"The upgrades that we are designing to our water plan are the same upgrades that would be needed if we were going to do direct potable reuse," says Marlowe.

He points out that with indirect reuse, the town could risk losing a lot of its water during a drought by including that extra step of discharging the water to a creek that's in the process of drying up.

"Ultimately we do want to be able to do direct potable reuse," says Marlowe. "If you have a serious drought, it's much more reliable."

# Flash flooding contaminates Panguitch water source

By: Wendy Leonard, Deseret News; July 14, 2018; deseretnews.com

<https://www.deseretnews.com/article/900024842/flash-flooding-contaminates-panguitch-water-source.html>

*Residents are being asked not to drink or use any culinary water, as it has been contaminated following a storm.*

PANGUITCH — Residents are being asked not to drink or use any culinary water, as it has been contaminated following a storm.

Garfield County Sheriff James Perkins said the water is murky and muddy and unusable.

High potential contamination levels were detected at the city's water source on Saturday after a flash flood caused sediment and other toxins to run into the watershed and damage one of the spring collection boxes, allowing mud into the main water system. The levels exceed the short-term dosage level for human consumption, according to the sheriff's office.

Perkins said water should not be used in food, for brushing teeth, showering or drinking.

Bottled water is available at the sheriff's office and the city park. One case of water per household is also available at Silver Eagle, 575 S. Center Street, in Panguitch. A water truck has been stationed at the city park for residents to fill buckets and jugs with culinary water for dish washing or spot baths.

Officials reported Saturday evening the city's tanks have been cleaned and are being refilled. City leaders are "hoping to be to a boil order by the end of this weekend," the sheriff's office reported on social media.

"The city employees, along with many other people, are working very hard to get the water back in good condition," the sheriff's office said.

# **‘Panguitch City: DO NOT USE DRINKING WATER,’ deputies warn of watershed contamination**

By: Elle Thomas, Fox 13 News; July 14, 2018; fox13now.com

<https://fox13now.com/2018/07/14/deputies-warn-panguitch-residents-to-not-drink-the-water-due-to-contamination/>

PANGUITCH CITY, Utah – Residents warned not to use culinary water after detecting high potential contamination levels at the Panguitch City water source.

Garfield County Sheriff’s Office said the contamination levels found in the water source exceed the short term dosage level for humans in drinking water.

The water should not be used for any drinking purposes, food preparation, brushing teeth, showering and drinking.

The contamination was caused by a flash flood that passed over the Panguitch City watershed, damaging one of the spring collection boxes, according to GCSO.

The damage allowed mud and contaminants from last year’s Brian Head Fire to get into the local water supply.

The water tanks have been cleaned and crews are now in the process of refilling them, according to GCSO.

Officials hope to be at a “boil order” by the end of the weekend, but for now Panguitch residents should use bottled water.

The Garfield County Sheriff’s Office is providing one case of bottled water to each household.

The sheriff’s office added, one case of water per household will also be available (at no charge) from the Silver Eagle, located at 575 South Center.

There is a water truck located at the city park north of town.

Panguitch’s Mayor said residents can bring a five gallon bucket or water jug to fill with culinary water for dish washing, spit baths and other needs.

# Crude oil spill cleanup continues in Price River

By: Taylor Hartman, Fox 13 News; July 16, 2018; fox13now.com

<https://fox13now.com/2018/07/16/crude-oil-spill-cleanup-continues-in-price-river/>

CARBON COUNTY, Utah – Crews took advantage of cooler weather to continue cleaning up a crude oil spill from a tanker that rolled into the Price River in Carbon County Thursday.

According to the Utah Department of Environmental Quality (DEQ), the local health department, the DEQ, and Maverick all worked together to clean up the spill before hotter weather rolls in, possibly making cleanup more difficult.

The DEQ said that cooler weather had kept the crude oil “globbed together,” making its removal from the river easier.

“A storm surge in the Gordon Creek drainage area Sunday night wiped out one containment boom,” the DEQ wrote in an update Monday. “Another boom was set up downstream at Wellington to address the surge. Teams are monitoring the river there and It appears no serious amounts of oil made it past the second boom.”

The Division of Drinking Water was dispatched to the Green River today to monitor the drinking water to make sure it was not contaminated.

“Sample results have come back from the lab and are encouraging,” the DEQ wrote.

Crews hoped to have the water cleaned up by Wednesday.

# Watchdog urges EPA to bolster oversight after Flint crisis

By: Ellen Knickmeyer and John Flesher, Standard-Examiner; July 19, 2018; standard.net  
<http://www.standard.net/National/2018/07/19/Watchdog-urges-EPA-to-bolster-oversight-after-Flint-crisis.html?printFriendly=201807190067>

WASHINGTON (AP) — A federal watchdog is urging the Environmental Protection Agency to strengthen its oversight of state drinking water systems in the wake of the lead crisis in Flint, Michigan.

The EPA's Office of Inspector General says in a report that the agency must take steps now to be able to react more quickly in times of public health emergencies.

Flint's tap water became contaminated with lead in 2014 after officials switched from the Detroit system to the Flint River to save money.

Afterward, some children were found to have elevated lead levels in their blood.

A whistleblower in the EPA's Chicago office warned colleagues about the crisis in early 2015 but the agency didn't act until months later.

The EPA says it agrees with the recommendations and is adopting them.

# Homes Are Using More And More Water In The Mountain West

By: Ali Budner, KUER; July 19, 2018; kuer.org

<http://kuer.org/post/homes-are-using-more-and-more-water-arid-mountain-west#stream/0>

Westerners in many states are using less water. However that's not the case in the Mountain West. In Colorado, Wyoming, Utah and Idaho, home usage went up; in Montana it stayed the same. Experts say these figures are based less on population growth and more on state water policies.

Residential water usage in the United States is going down according to the most recent 5-year report from the U.S. Geological Survey. Cheryl Dieter with the USGS said, "a lot of those reductions can be attributed to federal, state or local policies focused on water and energy efficiency."

Taylor Graham with the conservation non-profit Utah Rivers Council agreed. He said that a lack of smart water policies could explain why Mountain West states are bucking the downward trend.

"Residential water use makes up a much smaller portion of the pie than say agricultural water use," Graham said. "But it's something that we as residents of the West can really make a difference in pretty easily."

Graham said as the Mountain West continues to grow, states will have to start setting more policies to reduce water use, like increasing price rates and promoting more efficient technologies.

# Whose pipeline is it anyway? Scrutiny increases on cities and water

By: Amy Joi O'Donoghue, Deseret News; July 21, 2018; [deseretnews.com](http://deseretnews.com)

<https://www.deseretnews.com/article/900025596/whose-pipeline-is-it-anyway.html>

SALT LAKE CITY — When you turn on the tap, rinse out the sink or do a load of dishes, do you know where the water is coming from and if the provider will fix a water main if it breaks?

The answers may not be that simple.

Over the years, cities have bought up other water systems, extended delivery of water outside their boundaries and often charge higher rates to residents who don't live within the city.

Sen. Daniel Thatcher, a Republican legislator from West Valley City, told his colleagues the last thing he wants to do is get entangled in water law, but to him, this is a matter of fair play among cities.

"We don't want to go down the rabbit holes of water law, but I do believe we have a very specific interest in how the public is being treated by political subdivisions and how the political subdivisions are interfacing with each other," Thatcher said during a legislative meeting last week.

There is a level of discomfort for us because as water experts we are being asked to look at some political issues. There will obviously be political decisions within these recommendations that will affect political subdivisions.

Mike Styler, executive director of the Utah Department of Natural Resources

Thatcher is chair of the Political Subdivisions Interim Committee, which heard a presentation Wednesday on a water transparency issue that is among four water-related topics under intense scrutiny this summer. Multiple working groups are coming up with a list of recommendations for the Legislature by September.

The work has been complex but productive, said Mike Styler, executive director of the Utah Department of Natural Resources.

While the committees include a bevy of water law experts, Styler said the questions popping up have long-range political implications.

"There is a level of discomfort for us because as water experts we are being asked to look at some political issues," Styler said. "There will obviously be political decisions within these recommendations that will affect political subdivisions."

Rep. Kim Coleman, who ran a water transparency bill last session only to see it mired down with questions, said current practices don't protect ratepayers from cost and service abuses if they live outside a city's boundaries.

"People are at the mercy of that municipality," said Coleman, R-West Jordan, adding some residents are part of "surplus" water contracts that can be terminated at any time with little notice.

Evelyn Everton, Sandy City's deputy mayor who also spoke on behalf of the Utah League of Cities and Towns, said it is historic practice for cities to acquire water rights and have enough supply on hand to survive drought and plan for future growth.

My concern is residents who are being served water but don't know who is clearly responsible and who owns that infrastructure that is delivering that water to them.

Marie Owens, director of the Utah Division of Drinking Water

Everton added that Salt Lake City recently informed Sandy City that its supply will be curtailed in light of the Inland Port and new prison developments slated to come online. The city is now shopping for water elsewhere.

She rejected the notion that cities "hoard" water at the expense of others.

"These agreements among cities have been working."

Coleman, however, said she believes there is a water grab going on.

"There is a 100-year-old law on the books that allows cities of the first class to have near endless ability to grab water," she said. "We have seen fairly aggressive movements that way. The ability for emerging cities to acquire water appropriation outright is precluded and leaves them dependent on cities that have already gone out and grabbed water."

She said the law may have made sense for that period of time in Utah's history, but she wonders if it is good law now.

"We question if that still makes sense. We have a lot of cities emerging as cities of the first class."

Nancy Carlson-Gotts, president of the Association of Community Councils Together, urged support of Coleman's transparency bill in the coming session.

The group includes 16 community councils representing more than 140,000 residents.

A Millcreek resident, Carlson-Gotts, said she went to a Salt Lake City Council meeting to question a rate increase and was rebuffed and directed outside the chambers to look at a budget document.

"We want to know what we are being charged and where (those fees) are going," she said.

Marie Owens, director of the Utah Division of Drinking Water, said greater transparency is needed among water delivery systems. "My concern is residents who are being served water but don't know who is clearly responsible and who owns that infrastructure that is delivering that water to them."

# Deadly Toxins in Water Supply a ‘Wake-Up Call’ for Local U.S. Authorities

By: Emma Penrod, Newsweek; August 7, 2018; newsweek.com

<https://www.newsweek.com/deadly-toxins-water-supply-wake-call-local-us-authorities-1058555>

The swimmers and kayakers of Oregon are no strangers to algae. In recent years, warnings of infestations in ponds and lakes have become routine. When an early-summer algal bloom developed on Detroit Lake near Salem this May, state and city officials knew exactly what tests to run and advisories to issue.

But city leaders hadn’t anticipated a threat to drinking water. Detroit Lake drains into the North Santiam River, and from there, water runs into the municipal system. On May 31, a few days after the algae was first detected in the system, Salem toxicologists found potentially deadly toxins in the water supply. That same day, the city warned its nearly 200,000 residents that tap water was off-limits for children under the age of 6, people with existing liver or kidney conditions, pregnant and nursing women, the elderly and pets. The advisory remained in place for more than a month.

It was the first time Oregon had detected algal toxins in treated water. “This was a real wake-up call for us, that, yeah, it can get into drinking water systems,” says Jonathan Modie, a communications officer for the Oregon Health Authority.

Because of the lack of data, experts don’t know for certain whether toxic algae outbreaks are increasing in frequency or simply being reported more often. But warmer temperatures do encourage the growth of algae and algal blooms, and that can come with a potentially deadly threat.

Most algae are harmless, but certain species of the blue-green variety, also called cyanobacteria, produce toxins strong enough to poison large mammals, including humans, with potentially fatal consequences. In 2001, the EPA and the Water Research Foundation surveyed 45 drinking water sources in the U.S. and Canada. Four in five, they found, were contaminated with microcystin, which attacks the liver and kidneys. Although most people make full recoveries, life can become pretty unpleasant, and the symptoms—fever, nausea and diarrhea—can be confused with food poisoning.

One expert estimates that more than 90 percent of lakes, rivers and reservoirs used as drinking water sources in the United States are vulnerable to algal blooms. Equally troubling: The majority of water treatment plants aren’t equipped to remove toxins, which require pricey treatment methods like ozone disinfection. When the algae interfere with drinking supplies, timely remedies can be hard to come by, leaving some towns with no choice but to order the residents to stop using tap water, sometimes for weeks at a time. Although municipal water managers are reluctant to talk publicly about the issue, “they’re very worried,” says Deepak Mishra, an associate professor of geography at the University of Georgia who studies the global distribution of harmful algal blooms.

So far, nobody has died from algal toxins in the U.S., but the possibility looms. A high enough dose of microcystin could cause liver or kidney failure, says David Farrer, a public health toxicologist with the Oregon Health Authority. A combination of microcystin and cylindrospermopsin, another potentially deadly toxin, is thought to have killed 52 people in Brazil in 1996, though they were dialysis patients who suffered intravenous exposure to contaminated tap water during treatment.

Comprehensive data on algae contamination in the U.S. is lacking, largely because municipalities are not required to test for it. Some states and townships began testing a decade or so ago, but the benchmarks water administrators use to determine if the water is safe to drink are largely preliminary—the Environmental Protection Agency implemented its first trial protocol just this year.

Norton, Kansas, had an algae scare on June 19. Pond scum on Sebelius Lake, a reservoir, contaminated a treatment plant with a specific kind of cyanobacteria known to produce anatoxin, which targets the brain and can cause seizures, loss of muscle control and even death.

When lab results confirmed the species of the algae, the response was swift. The town of Norton immediately stopped drawing water from the reservoir, and the Kansas National Guard arrived hours later to hand out bottled water. Shutting down the reservoir strained the rest of the water system, and when it failed, health officials ordered roughly 3,000 residents to boil their water before drinking it. Officials later confirmed no toxins had entered the public supply.

Boiling water, however, isn't a solution. Filters will catch the algae themselves—blooms are prone to causing problems by physically blocking filters—but the toxins flow through. And chemical disinfectants like chlorine, which kill algae, can actually make the problem worse, because cyanobacteria release intense bursts of toxins when they die. “There’s really not a lot that you can do,” says Farrer.

Greenfield, Iowa, experienced a similar scare in mid-July when potentially harmful algae from a bloom on Greenfield Lake managed to slip through a filter in the town water treatment plant. Greenfield Municipal Utilities ordered its 12,000 customers to avoid their tap water until lab results determined whether toxins were indeed present; tests eventually revealed they were not.

But toxins don't have to enter the water system to cause disruption. In Utah in 2016, a massive algal bloom on Utah Lake tainted the water that residents in three counties use as untreated “secondary water” for their lawns and gardens. Officials were unable to determine if food grown with the contaminated water was safe to eat. As the algae spread, one secondary system after another opted to exercise an abundance of caution and close its valves. Residents switched to watering their lawns with drinking water, causing citywide shortages.

Algal toxins in drinking water is not a rare event, Mishra says. “They’re always there,” he says. “It’s just that a lot of them go undetected.” The question is whether low-level consumption is harmful. Mishra suspects that if the exposure is long-term, there could be cumulative damage to the liver and brain. Unfortunately, with research focused on trying to understand how, and when, these toxins kill, there are few studies on public health consequences.

The lack of good treatment options has led the Water Research Foundation to recommend a multistage approach combining several methods of decontamination. That could require treatment plant renovations that run into the millions of dollars. Many states are taking aim at the algal blooms themselves, attempting to starve the cyanobacteria by reducing nutrients like nitrogen and phosphorus, present in fertilizers and discharge from sewage plants. Kansas has an annual budget of over \$5 million dedicated to limiting the amount of fertilizer and wastewater in waterways used as drinking water sources.

But Oregon isn't taking any chances; cities in the state are already investing in expensive new treatment plants. "This appears to be a new normal for us," says Modie.

# How Does a Hospital Stay Open When Its Water Supply is Cut?

By: IHC Communications, Intermountain Healthcare; July 31, 2018;  
intermountainhealthcare.org

<https://intermountainhealthcare.org/news/2018/07/how-does-a-hospital-stay-open-when-its-water-supply-is-cut/>

The first time in Utah's history a healthcare facility had to use an emergency water filtration system it was a success, all due to exceptional communication, collaboration, and cooperation.

Early Saturday morning, July 14, flash flood waters that ran over the site of the 2017 Brian Head fire in Utah overwhelmed and contaminated the spring water collection boxes that feed into the Panguitch, Utah culinary water system. It caused the rural city of 1,800 to declare an immediate "No Water Use" order for culinary water. What that meant is: absolutely no water use, even if boiled.

What did this mean for 14-bed [Intermountain Garfield Memorial Hospital](#), managed by Utah's Intermountain Healthcare system, who used the city's culinary water? Water is used in so many ways inside a hospital, not just for drinking or bathing. There's food preparation, dishwashing, laundry services, hand washing, and sterilization of instruments.

The Intermountain Healthcare Emergency Preparedness team was ready. They immediately responded to the notification, putting into action the water disruption emergency response plan for the hospital. The hospital needed both bottled water and filtrated water, and not knowing how long the "No Water Use" order would be in place, also needed water filtration systems.

The Southwest Utah Healthcare Preparedness Coalition was contacted for help. This coalition is comprised of healthcare representatives from five southwest Utah counties, and includes six hospitals, three of which are Intermountain hospitals. This coalition was formed to pool knowledge, resources, and support in case of emergencies. The Coalition had used federal grant funds to purchase low and high-density water filtration systems. Neither filtration system had ever been made fully operational, but coalition members had previously trained on how to use them. These filtration systems were transported to Intermountain Garfield Memorial.

By 3 p.m. Saturday afternoon, the filtration systems were fully hooked up, filtering water through a four-stage process. Before the filtrated water was used, a water sample was taken by the [Southwest Utah Public Health Department](#) and tested to make sure the filtration system was functioning properly. The testing showed the water was clean and safe to use, so the filtrated water was used for drinking, handwashing, bathing and food service operations.

Thousands of bottles of water were sent from other Intermountain hospitals as well as food service items like disposable plates, cups, bowls and cutlery, as dishwashers couldn't be used.

Intermountain Garfield Memorial's chef created six-day food plans for all the inpatient, caregiver and long-term care residents, and coordinated how foods would be prepared and managed without use of culinary water.

Another issue to solve was laundry services. Intermountain Garfield Memorial washes their laundry on-site. Another rural facility, [Intermountain Sevier Valley Hospital](#) (about 100 miles away) coordinated with Intermountain Garfield Memorial to do their laundry, keeping the hospital supplied with clean linens.

Sunday afternoon, July 15, Panguitch City moved from the "No Use Water" order to "Boil Water" order. But the "Boil Water" order did not mean it was yet okay to use the culinary water system at the hospital. Even though the water could be boiled for use elsewhere in the city, the hospital still only used bottled or filtrated water.

The "Boil Water" order for Panguitch was lifted on Wednesday, July 18. At this point, it was time to fully clean the hospital's water system. The process was a highly systematic, thorough one. Water was fully drained out of pipes, filled with chlorinated water, allowed to sanitize for several hours, then fully flushed out of the system. Once that was done, the water was tested once again to ensure it was clean and safe.

Alberto Vasquez, administrator at Intermountain Garfield Memorial, said, "I am so proud of our team and how our hospital has responded. When a hospital has never experienced something like this before in our state, it's hard to know what to expect and there are so many elements that must be considered and handled proactively for the safety of all. And having been able to ensure the safety of all has been a testament to the above-and-beyond attitude of all involved, along with the training, foresight, and everyone working together."