Drinking Water Board Packet July 18, 2014

Agenda

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF DRINKING WATER
Kenneth H. Bousfield, P.E.
Director

DRINKING WATER BOARD MEETING

Friday, July 18, 2014
1:00 pm
Multi Agency State Office Building
Room 1015
195 N 1950 W
Salt Lake City, Utah 84116

Ken Bousfield's Cell Phone #: (801) 674-2557

1. Call to Order – Chairman Hansen
2. Roll Call – Ken Bousfield
3. Introductions – Chairman Hansen
4. Approval of the Minutes:
   - A. May 9, 2014 Board Meeting
   - B. June 17, 2014 Board Meeting
5. Financial Assistance Committee Report
   - A. Status Report – Michael Grange
   - B. Project Priority List – Michael Grange
   - C. SRF Applications
     - i. STATE:
     - ii. FEDERAL:
       - a) White Hills Water Company – Michael Grange
       - b) Marble Hills Water Company – Michael Grange
     - iii. OTHER:
6. Selection of Financial Assistance Committee Members
7. Authorization for a Change in Proposed Rule – Tammy North
   - A. R309-545 Drinking Water Storage Tanks
   - B. R309-550 Transmission and Distribution Pipelines

8. Authorization to Initiate Rule Revision – Rules Section Staff

   A. R309-400 Water System Rating Criteria

9. Rural Water Association Report – Dale Pierson

10. Chairman's Report

11. Directors Report

    A. The Division's proposed FY2016 fee schedule
    B. EPA Audit Letter

12. Next Board Meeting:

Date:	August 27, 2014
Time:	2:00 pm
Place:	Davis Conference Center Zephyr Room 1651 North 700 West Layton, Utah 84041

13. Other

14. Adjourn

In compliance with the American Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Dana Powers, Office of Human Resources, at: (801) 499-2117, TDD (801) 536-4414, at least five working days prior to the scheduled meeting.

Agenda Item 4(A)

State of Utah
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DIVISION OF DRINKING WATER
Kenneth H. Bousfield, P.E.
Director

DRINKING WATER BOARD MEETING
Friday, May 9, 2014 - 1:30 pm
Bear River Water Conservancy District Offices
102 W Forest Street
Brigham City, Utah 84302

DRAFT MINUTES

❖ **A tour of the Beaver Dam Water System was conducted prior to the Board meeting. Neither discussion of any agenda item nor any Board actions were conducted during the tour.**

Board Members present: Paul Hansen, Betty Naylor, Brett Chynoweth, Brad Johnson

Division Staff present: Ken Bousfield, Michael Grange, Heather Bobb, Marianne Booth, Jesse Johnson

1. Call to Order – Chairman Hansen

Paul Hansen, Board Chairman, called the meeting to order at 1:32 pm.

2. Roll Call – Ken Bousfield

Board Members present: Paul Hansen, Betty Naylor, Brett Chynoweth and Brad Johnson. Tage Flint arrived at 2:05 pm and left at 3:15 pm, being present for all actions taken by the Board that involved a vote.

Board Members excused: David Stevens and Mark Stevens

Division Staff present: Ken Bousfield, Heather Bobb, Michael Grange, Marianne Booth, Jesse Johnson, Tammy North, Bernie Clark, and Ying Ying Macauley

3. Introductions – Chairman Hansen

Paul Hansen, Board Chairman, welcomed everyone and expressed appreciation to Voneen Jorgensen of Bear River Water Conservancy District and her staff for their hospitality. He

then requested that those in attendance introduce themselves.

Those in attendance were:

- Dale Pierson, Brian Pattee, Terry Smith and Curtis Ludvigson, representing the Rural Water Association of Utah.
- Rick Moser, Mayor of Apple Valley, Harold Meritt, Chairman Apple Valley Service District, and Rod Mills, representing the Big Plains Water and Sewer Special Service District:
- Marcus Simons, JUB Engineering, and Marla Trowbridge representing the town of Trenton.
- John Iverson, Sunrise Engineering, representing Gunnison City.
- Connie Reed, President of Boulder Farmstead Water Corporation, Ryan Jolley, Jones & DeMille Engineering, and Randy Catmull representing the Boulder Farmstead Water Corporation.
- Alane Boyd representing the Intermountain Section of AWWA.

- Chairman Paul Hansen suggested that the agenda be rearranged and informational items only be presented first; allowing time for Board member Tage Flint to arrive and be present for all items needing a vote.

7. AWWA Intermountain Section Report – Alane Boyd

Alane Boyd, Executive Director, Intermountain Section of the American Water Works Association, thanked Ken Bousfield and the Division staff for their support and attendance at their Mid-Year Conference. She stated that the sessions for Operator Certification were very successful and she appreciated the assistance of Ying Ying Macauley and Kim Dyches. Alane also mentioned that their Annual Conference will be held September 10th through the 12th at the Dixie Center in St. George, where Ken Bousfield and Division staff will also attend to offer support and assist with operator training and testing. She went on to state that Wednesday is operator day and Friday will be student and young professional's day, and that there will also be a lot of focus on public officials and members of various boards.

Alane then reported on Water Week and the many events that are scheduled throughout the state including the Division of Water Resources calendar contest. She noted that the Intermountain Section of AWWA takes part in a library program, where they send out a water related children's book to all of the libraries in Utah and Southeast Idaho, and the librarians host a book reading. This year's book was Follow the Water from Brook to Ocean by Arthur Dorros. Alane also informed the Board that this year they have a photo contest and a video contest. The winning presentation was entitled "Water: From Our Mountains to My Home – Celebrate Safe Water" that was produced by a student at Salt Lake Community College and is available to watch on youtube.com.

8. Rural Water Association Report - Dale Pierson

Dale Pierson, Executive Director of the Rural Water Association of Utah (RWAU), informed the Board that they were in the process of making some internal changes of staff members and as a result Brian Pattee is the new Circuit Rider that will work with DDW to help systems become compliant. Dale then asked Brian to give some background

information on himself. Brian Pattee stated that he worked for Logan City Water for over 30 years, the last 10 of which were primarily taking care of their regulatory compliance and drinking water quality.

Dale then went on to introduce Curtis Ludvigson (Curt) and asked him to report on his new position in the development program that RWAU does in conjunction with the counties throughout the state. Curt began by saying that he has been in this position for about five months now and he believes that some progress is being made in the program. Curt stated that he has met with Michael Grange of DDW and together they went through the priority list and identified Box Elder County and the Six County Area, which is comprised of Sanpete, Sevier, Juab, Millar, Piute and Wayne Counties, as a starting point for his work. Curt went on to state that he has now met with representatives from all of those counties water systems and has provided training and feels they are very receptive to it. He also stated that he has been working with John Chartier, Central Utah District Engineer, to put together a Non-Public Water System Ordinance and will hopefully be adopted into county ordinances and regulations and administered by the local health departments. Curt also stated this was patterned after an ordinance that was adopted in Uintah Basin with the help of Tri-County District Engineer Scott Hacking and he hopes to see this be used as a model ordinance for other small counties as well.

Dale also informed the Board that Clyde Watkins, who was in the development program, has now moved into RWAU's fee based training position.

9. Chairman's Report

Paul Hansen, Board Chairman, let the rest of the Board know that he and Betty Naylor had the pleasure of being able to join DDW staff at their annual planning meeting. He stated that he believed it was very successful with regards to prospective work in the coming year.

Paul also updated the Board on the presentation of two names from the Governor to the Senate for confirmation to the Board on May 21, 2014. They are David L. Sakrisan, Mayor or Moab City and Roger G. Fridal, Mayor of Tremonton

Paul then thanked Voneen Jorgensen and the staff of Bear River Water Conservancy District for their hospitality.

10. Directors Report

Ken Bousfield, Director of DDW, introduced the Division's newest staff member, Bernie Clark. Bernie is in our Engineering Section under the supervision of Ying Ying Macauley. He then invited Bernie to give some background on himself. Bernie started by saying that he has worked as an Environmental Scientist with the surface water program and as a manager of the drinking water program with the EPA in Ohio. Bernie stated that he most recently worked in New Mexico as an engineering consultant project manager.

A. Legislative Audits

Ken Bousfield, Director of DDW, then informed the Board that DDW was the recipient of two legislative audits. Ken stated that one of the audits is to investigate the combining of

water agencies within the State Government and so far they are just asking general questions about the DDW's scope of work. Ken went on to state that the second audit regards the Divisions' rules pertaining to source capacity and their impact on water systems. He went on to state that it is a more extensive audit and has a lot more interest from independent groups and individuals who are concerned that the Board's requirements are excessive. Ken informed the Board that he feels the auditors are very diligent in wanting to learn about water systems and in talking with individual water systems to gather data.

Paul Hansen stated that in his dealings with the auditors that he felt the questions were focused on the 800 gallon storage number, not really the water rights, and wondered if that focus had shifted. Ken let him know that they are looking specifically at the water right associated with the sources as well as the source capacity. Tage Flint stated that he believes the concern is more that the interpretation of the capacity is being used in different ways in different communities. Tage stated that he has heard it is being used as an annual volume requirement in some places and in some cases the feeling is that it locks up too much water by a municipality.

Ken concluded by stating that the audits are a good thing and that upon completion the Division will have the opportunity give an agency response which will be a part of the final report.

B. EPA Audits

Ken informed the Board that the Division also participated in two audits conduct by the EPA. Ken stated that the first audit was looking into the Federal Safe Drinking Water Act and that the Division is meeting their expectations on implementing that Act. The finding of the audit showed that the Division is meeting the requirement of the delegated program and that significant improvement, from the last audit, was made by the Division in implementing the Arsenic and Lead/Copper Rules.

Ken went on to state that the second audit was looking into the SRF program that is authorized by the Board, and noted that the EPA found the accounting in order and requirements of administering this program were followed.

C. Energy Efficiency

Ken reported to the Board on the Energy Efficiency Initiative. Ken stated that he has met with Doug Evans, Manager of the Mountain Regional Water System, who has experience in energy savings, and Steve Jones of Hansen, Allen and Luce, who has perfected the use of hydraulic modeling; and together they are going to develop a guidance document for water systems on energy efficiency.

Ken then went on to state that the Division is working with Frances Bernards, Environmental Scientist with the Executive Directors Office of DEQ, to develop case studies; where water systems have done significant work in saving money and energy, as part of the Pollution Prevention Program; which will be presented at the League of Cities and Towns Annual Conference in September.

4. Approval of the Minutes:

A. February 27, 2014 Board Meeting

B. April 16, 2014 Board Meeting

- Tage Flint moved to approve both sets of minutes. Betty Naylor seconded. The motion was carried unanimously by the Board.

5. Financial Assistance Committee Report

A. Status Report – Michael Grange

Michael Grange, Construction Assistance Section Manager with the Division of Drinking Water (DDW; the Division), reported that by March 31, 2015 the Division is expecting to have about $6 million dollars in the State Loan Funds available for water improvement projects. Michael updated the Board on the upcoming projects and loan closing dates for Snowville, Price River Water Conservancy District and Woodland Hills; as well as current construction projects for Payson City and Wood Cross City. He also informed the Board that Axtell community which is still showing has been de-authorized and will be removed from the report.

Michael Grange reported that the Federal Program currently has about $22 million and over the course of the next year Staff is expecting an additional $16.5 million for a total of almost $39 million. Michael reported that there are currently $19.5 million in projects that are waiting to close, $700,000 in partially disbursed loans, other advancements and agreements, and $1.5 million in loans and grants for planning. He also reported that the Division is continuing to look for ways to promote the program and encourage the improvement of water systems.

The Board inquired as to whether any of the projects would need an extension or re-authorization for their project. Michael informed them that the loans closest to needing extensions would be for Duchesne County and Herriman. Michael explained that Herriman was authorized just over $4.5 million, but they are using a special assessment area for their funding, which means they can't bond until they know how much they have actually spent and they are currently getting interim funding until completion of their project. Michael also reported that Herriman has had some set-backs but he expects that they will close late summer to fall of 2015. He then went on to explain that Duchesne is very close to closing, however they have one property they are trying to get an easement for, which has 11 owners, some of which have passed away. He stated that they are working diligently to secure the necessary legal documents to secure this final easement and then they will be ready to move forward.

B. Project Priority List – Michael Grange

Michael Grange, Construction Assistance Section Manager with DDW, proposed to the Board that one new project, Boulder Farmstead Water Company (Boulder), be added to the Project Priority List. He went on to state that Boulder scored 50 points and that their project consists of waterline replacement, repairing pressure reducing stations, new transmission lines, spring collection box repair and a chlorination facility. The Financial

Assistance Committee (FAC) recommends the Board approve the updated Project Priority List.

- Paul Hansen moved to approve the updated Project Priority List. Brett Chynoweth seconded. The motion was carried unanimously by the Board.

C. SRF Applications

i. STATE:

(a) **Leamington / De-authorization – Michael Grange**

Michael Grange, Construction Assistance Section Manager with DDW, stated that on August 28, 2013 the Drinking Water Board authorized $56,000 in construction assistance to the town of Leamington to help repair damage to their transmission line and spring that were affected by flooding as a direct result of wildfires in the area. Since that time, Leamington has applied for and been authorized funding by the Community Impact Board. Leamington is now requesting that the Board de-authorize the $56,000 construction loan. Division staff recommends the Board de-authorize the $56,000 construction loan to Leamington town.

- Tage Flint moved to de-authorize the $56,000 construction loan to Leamington. Paul Hansen seconded. The motion was carried unanimously by the Board.

(b) Trenton Town – Michael Grange

Michael Grange, Engineering Manager with DDW, informed the Board that the town of Trenton is requesting financial assistance of $290,075 to redevelop the Thompson spring. He went on to report that this project has been determined to be an emergency after investigations discovered deep rooted vegetation in the spring collection area which have entered into the collection pipeline, restricting available flow and causing BACT contamination The total project is estimated to be $422,130, and Trenton has been authorized a community development block grant of $132,064. Michael went on to report that the local MAGI for Trenton is $31,259 or 83% of the state MAGI and their current water bill is approximately $64 a month, or 2.47% or their local MAGI and that doing a full loan would increase their water bill to approximately $82 or 3.14% of their local MAGI, and based on this Trenton does qualify for consideration of additional subsidization. He also explained that these numbers are a little different than those that the FAC saw previously due to a second application being submitted with updated financial information. Division staff recommends the Board authorize a loan of $145,000 at 1.5% interest for 30 years with another $145,075 in grant.

Marla Trowbridge, of Trenton, addressed the reason for the differing financial information by stating that in 2011 Trenton wrote off about $33,000 in past due water bills and then in 2012 Trenton spent about $20,000 to have Val Cotter clean and sanitize equipment, and inspect and take video of the spring collection lines, during which time it was determined that the lines had vegetation intrusion. She went on to state that in normal operating years, Trenton has $116,000 in operating expenses and loan repayments and brings in about $126,000 a year. Marla also stated that they have a CDBG grant to repair the Goody spring,

but now they also have the Thompson spring which needs repair as well as a mile and a half of transmission line. Marla also informed the Board that Trenton has a shared spring, known as the Big Birch Complex, which will need repair in the near future. There was some discussion between the Board and Marla regarding this complex.

- Tage Flint moved to authorize a loan of $145,000 at 1.5% interest for 30 years and another $145,075 in grant to Trenton town. Paul Hansen seconded. The motion was carried unanimously by the Board.

ii. FEDERAL:
(a) Big Plains – Jesse Johnson

Jesse Johnson, Environmental Engineer for DDW, informed the Board that the Big Plains Water and Sewer Special Service District (BPWSSSD) is requesting $83,000 to do an aquifer investigation within the Cedar Point water system. Jesse stated that currently there are only 2 of their 5 wells in functioning condition and this investigation would hopefully identify a new potential water source. Jesse reminded the Board that they had previously authorized BPWSSSD a loan to purchase Apple Valley and Cedar Point water systems, at which time Cedar Points issues were known to simply be monitoring issues while Apple Valleys' issues were known to be infrastructure and pressure issues. Jesse also noted that the BPWSSSD had submitted samples for both water systems since the FAC meeting was held. The FAC recommended that BPWSSSD explain the situation in detail before the Board makes a motion.

Rick Moser, Mayor of Apple Valley, took the lead in explaining the situation to the Board. He started by explaining that the water samples not being submitted on time was due to a communication error and since protocols have been put into place that include the water master, Mayor, Chairman and engineers. Mayor Moser also informed the Board that for Apple Valley they have received funds through Rural Development and have awarded a contract to put in a new system and hope to have that project started by early June of 2014. He then moved onto the Cedar Point system informing the Board that since purchasing the water system they have had mechanical failures, needed to replace pumps, and the depth of the water in the wells is now decreasing. Mayor Moser stated that Cedar Point is currently producing only ½ of the water out of the two remaining wells that are functioning. He went on to state that they are requesting this funding to do a study on the aquifer and see if it is possible to rehab the two functioning wells and make them deeper to obtain the water necessary to keep Cedar Point system operating.

The Board inquired as to the plan for the entire process of getting the Cedar Point water system fixed. Harold Meritt explained that through previous funding from the Board BPWSSSD was able to purchase the two water systems, which included infrastructure and water rights, and there is currently funding from Rural Development to put in a new part of the system. Harold went on to state that the funding they are asking for today would be to find the best way to develop new sources for their system; and then with some funds remaining from the purchase they would be able to develop those sources.

The Board also had questions as to whether BPWSSSD was eligible to receive a grant. Jesse Johnson noted that their estimated water bill is projected to be over $85 a month,

which is 3.17% of their MAGI, which does qualify them to receive a grant, so in the packet there are two scenarios, one for loan and one for grant.

- Paul Hansen moved to authorize a loan of $41,500 at 0% interest for 5 years and another $41,500 in principal forgiveness to BPWSSSD. Brett Chynoweth seconded. The motion was carried unanimously by the Board.

(b) Boulder Farmstead – Jesse Johnson

Jesse Johnson, Environmental Engineer for DDW, presented to the Board a request for $2 million for Boulder Farmstead (Boulder) to replace waterlines, fix pressure issues, add new transmission line, repair a spring box and add a new chlorination facility to their system. Jesse stated that Boulders MAGI is $19,779 and their current water bill is $31.79 which is over the 1.75% threshold. The Board also noted that Boulder is a hardship community. The FAC and Division staff recommends the Board authorize a $1 million loan with 0% interest with an additional $1 million in principle forgiveness to Boulder Farmstead.

There was discussion between the Board and Boulder Farmstead as to what this funding would be for. Randy Catmull, a system operator for Boulder, informed the board that they have been working on the system for the last 5 years and with this funding they would be able to achieve compliance.

- Tage Flint moved to authorize a loan of $1 million at 0% interest for 30 years and an additional $1 million in principal forgiveness. Brett Chynoweth seconded. The motion was carried unanimously by the Board.

(c) Gunnison City – Michael Grange

Michael Grange, Construction Assistance Section Manager with DDW, reminded the Board that they had authorized a loan of $2.5 million at 0% interest for 30 years with $250,000 in principal forgiveness at the February 27, 2014 Board meeting. Michael stated that funding, along with $4 million received from Rural Development, was to be used for a new well, a new tank, chlorination facilities, extensive waterline replacement, new fire hydrants, new valves for approximately 600 services, and to address arsenic contamination through blending of water from the new well with water from the existing well. He went on to report that since that time, a test well has been drilled; however the water is too high in arsenic to be used for blending purposes. Based on these findings, Gunnison City (Gunnison) has made the decision to construct a water treatment plant to remove the arsenic and be able to come into compliance. Gunnison has received additional funding from Rural Development, yet due to the new American Iron and Steel provisions, it only leaves them with a 1.5% contingency. Michael went on to state that based on this Gunnison is requesting an increase of $646,000 to provide for the contingency, which would increase their water bill to $71.78 or 2.48% of their MAGI. . The FAC and Division staff recommends the Board authorize a change in scope and an increase in funding of $646,000 at the same terms, for a total of $3.146 million loan with 0% interest for 30 years with $315,000 in principal forgiveness to Gunnison City.

There was some additional discussion on the American Iron and Steel provision and the impact it is having on prior bids.

- Brett Chynoweth moved to authorize a change in project scope and increase funding of $646,000 as the same terms, for a total of a $3.146 million loan at 0% interest for 30 years with $315,000 in principal forgiveness. Paul Hansen seconded. The motion was carried unanimously by the Board.

iii. OTHER:

6. Authorization to Initiate Rule Revision- Tammy North

A. R309-545 Drinking Water Storage Tanks

B. R309-550 Transmission and Distribution Pipelines

- Tage Flint, having read the proposal and due to time constraints, moved to approve initiation of the rulemaking process with subsequent explanation to follow the motion. Betty Naylor seconded. The motion was carried unanimously by the Board.

Tammy North, Environmental Engineer with DDW, then informed the remaining Board members, that the Engineering Section of DDW is systematically updating their rules. She reminded them that at the February Board Meeting, they were included as an informational item. Tammy went on to state that since February DDW has had an informal comment period available to the public on their website, and has now taken those comments into consideration and updated the rules, and these are now ready to be sent to the Division of Administrative Rules where a formal comment period will commence.

The Board had questions as to what kind of comments DDW had received during the informal comment period. Tammy stated that the biggest concern was the addition of a PRV requirement which has not been included previously. She noted that included was a 120 psi limit and there were concerns on that limitation, specifically on existing systems where they are exceeding that pressure already and in some mountainous areas where that might not be appropriate. Tammy went on to state that due to those concerns, it had been changed to 150 psi and will only apply to new systems, not existing systems. Paul Hansen, Board Chairman, also noted that the Executive Secretary of the Board has the discretion of allowing modification to the rule on a case by case basis.

Tammy also pointed out that included as a packet item were two sets of rules, one being the Division of Administrative Rules and the second being formatted by DDW with guidance paragraphs to help explain what the intention of the rules are.

11. Date of Next Drinking Water Board Meeting:

Date: July 18, 2014
Time: 1:00 PM
Location: Multi Agency State Office Building
Room 1015
195 North 1950 West
Salt Lake City, Utah 84116

12. Other

13. Adjourn

- Betty Naylor moved to adjourn the Drinking Water Board Meeting. Brett Chynoweth seconded. The motion was carried unanimously by the Board.

Meeting adjourned at 3:22 pm.

In compliance with the American Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Brooke Baker, Office of Human Resources, at: (801) 536-4412, TDD (801) 536-4424, at least five working days prior to the scheduled meeting.

Agenda Item 4(B)

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF DRINKING WATER
Kenneth H. Bousfield, P.E.
Director

DRINKING WATER BOARD MEETING
Tuesday, June 17, 2014 - 9:00 am
195 North 1950 West
Salt Lake City, Utah 84116
Teleconference 1-877-820-7831 Pin#: 878776#

DRAFT MINUTES

1. **Call to Order – Chairman Hansen**

Paul Hansen, Board Chairman, called the meeting to order at 9:07 am.

2. **Roll Call – Ken Bousfield**

Board Members present: Mark Stevens

Board Members attending telephonically: Paul Hansen, Betty Naylor, Brad Johnson, David Sakrison, and David Stevens. Roger Fridal joined at approximately 9:09 am and Brett Chynoweth joined at approximately 9:10 am.

Board Members excused: Tage Flint

Division Staff present: Ken Bousfield, Michael Grange, Heather Bobb, and Marianne Booth

3. **Introductions – Chairman Hansen**

Paul Hansen, Board Chairman, welcomed everyone, expressed appreciation to all those that were in attendance, and acknowledged the newest Board Members, Mayor David Sakrison and Mayor Roger Fridal. He then requested that others in attendance introduce themselves.

Those in attendance were:

- Joseph Santos, SE, Epic Engineering, representing Wooden Shoe Water Company, telephonically.

4. **Financial Assistance Committee Report**

A. SRF Applications

i. FEDERAL:

a) Wooden Shoe Water Company – Michael Grange

Michael Grange, Construction Assistance Section Manager with the Division of Drinking Water (DDW; the Division) informed the Drinking Water Board (DWB; the Board) that on July 13, 2012 a $201,000 loan with 1% interest for 30 years had been authorized for Wooden Shoe Water Company (WSWC). He then let the Board know that WSWC is under an administrative order from the United States Environmental Protection Agency (EPA) and currently has 325 points on its improvement priority system (IPS) report and therefore is rated as non-approved. He went on to state that WSWC has had significant delays with its project stemming from water rights issues and the securing of easements; and that WSWC also lacks the proper amount of storage, inadequate pressure to connections, and a spring source that is under the direct influence of surface water. Michael stated that the scope of the project; which will resolve WSWC's deficiencies and bring them back into compliance; has been put out for bid, and that those bids have come in higher than were anticipated in 2012, therefore WSWC is requesting an additional $121,850 in principal forgiveness to cover the increase in costs. WSWC's local MAGI is $35,933, which is about 97% of the state MAGI. They have recently increased their water rates to approximately $54 per month, which is 1.76% of the local MAGI and therefore qualifies them to be considered a disadvantaged community. The Financial Assistance Committee (FAC) recommends the Board authorize a $322,850 loan at 1% interest for 30 years with $121,850 in principal forgiveness to WSWC.

The Board verified that there are sufficient federal funds to authorize the requested additional funding and still be able to assist future applicants that may have similar principal forgiveness needs. They also clarified that this is not an additional loan but a modification to the July 13, 2012 authorized loan and will be sufficient to complete the project.

- Paul Hansen moved to modify the July 13, 2012 authorization for funding to the WSWC from a $201,000 construction loan at 1% interest for 30 years to a $322,850 loan at 1% interest for 30 years with $121,850 in principal forgiveness. Mark Stevens seconded. <u>The motion was carried unanimously by the Board.</u>

ii. OTHER:

a) Big Plains Water and Sewer Special Service District Modification of Board Motion – Michael Grange

Michael Grange, Construction Assistance Section Manager with DDW, explained that during the May 9, 2014 meeting the Board had authorized a loan to Big Plains Water and Sewer Special Service District (BPWSSSD) in the amount of $83.000 at 0% interest for 5 years with $41,500 in principal forgiveness; however under statute all bonds by the DWB must be valued in even $1,000 increments; therefore the loan authorized to BPWSSSD is invalid. Division staff notified the FAC of this during the June 11, 2014 FAC teleconference meeting. The FAC recommends that the Board modify the May 9, 2014 authorization to BPWSSSD from an

$83,000 loan with 0% interest for 5 years with $41,500 in principal forgiveness to an $83,000 loan at 0% interest for 5 years with $42,000 in principal forgiveness.

- Paul Hansen moved to modify the prior authorization to an $83,000 loan at 0% interest for 5 years with $42,000 in principal forgiveness. Brett Chynoweth seconded. The motion was carried unanimously by the Board.

5. **Next Drinking Water Board Meeting:**

Date: July 18, 2014
Time: 1:00 pm
Place: Multi Agency State Office Building
Room 1015
195 North 1950 West
Salt Lake City, Utah 84116

6. **Other**

Paul Hansen, Board Chairman, informed everyone that the minutes from the May 9, 2014 Board Meeting and this meeting will be up for approval at the July 18, 2014 meeting.

Paul Hansen also let everyone know that there is tentatively going to be a board member training class and a tour of the Jordan Valley Reverse Osmosis Treatment Plant prior to the meeting. Michael Grange stated that as soon as those plans are certain he will let everyone know of the schedule.

7. **Adjourn**

- Paul Hansen moved to adjourn the Drinking Water Board Meeting. Betty Naylor seconded. The motion was carried unanimously by the Board.

Meeting adjourned at 9:21 am.

In compliance with the American Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Brooke Baker, Office of Human Resources, at: (801) 536-4412, TDD (801) 536-4424, at least five working days prior to the scheduled meeting.

Agenda Item 5(A)

DIVISION OF DRINKING WATER

STATE LOAN FUNDS

AS OF June 30, 2014

	SUMMARY		
	Total State Fund:	$2,677,516	
	Total State Hardship Fund:	$848,704	
	Subtotal:	$3,526,220	
LESS AUTHORIZED	Less:		
	Authorized Loans & Closed loans in construction:	$4,058,000	*(see Page 2 for details)*
	Authorized Hardship:	$338,400	
	Subtotal:	$4,396,400	
	Total available after Authorized deducted	**-$870,180**	
PROPOSED	**Proposed Loan Project(s):**	**$40,000**	*(see Page 2 for details)*
	Proposed Hardship Project(s):	**$0**	
	Subtotal:	**$40,000**	
AS OF:			
June 30, 2014	**TOTAL REMAINING STATE LOAN FUNDS:**	**-$1,420,484**	
	TOTAL REMAINING STATE HARDSHIP FUNDS:	**$510,304**	

Total Balance of ALL Funds: **-$910,180**

Projected Receipts Next Twelve Months:			
and Sales Tax Revenue			
Annual Maximum Sales Tax Projection	**$3,587,500**		
	$0		
Less State Match for 2015 Federal Grant	($1,514,000)		
Less Appropriation to DDW	($800,000)		
Less Administration Fees	($145,700)		
SUBTOTAL Sales Tax Revenue including adjustments:		$1,127,800	
Payment:			
Interest on Investments (Both Loan and Hardship Accounts)		$24,000	
Principal payments		$3,492,722	**Receive 80% in January**
Interest payments		$1,023,526	
Total Projections:		$5,668,048	

Total Estimated State SRF Funds Available through 7-01-2015	**$4,757,868**

DIVISION OF DRINKING WATER
STATE LOAN FUNDS
PROJECTS AUTHORIZED BUT NOT YET CLOSED
AS OF June 30, 2014

Community	Loan #	Cost Estimate	Date Authorized	Date Closed/Anticipated	Authorized Funding		
					Loan	Grant	Total
							0
							0
Snowville 0% int 30 yrs (payoff $560K)	3S182	610,000	Feb-13	Jul-14	575,000		575,000
Trenton Town 1.5% int 30 yrs	3S196	422,139	May-14		145,000	145,075	290,075
							0
Subtotal Loans and Grants Authorized					720,000	145,075	865,075
PLANNING LOANS / GRANTS IN PROCESS							
Henrieville Town 0% int 5 yrs	3S189P	36,000	Jun-13	Sep-13	36,000		36,000
Tabiona	3S192P	32,000	Sep-13	??	32,000		32,000
Coalville pl loan 5 yrs 0% int	3S186P	32,000	Jul-13	Sep-13	32,000		32,000
Fairview	3S198P	38,000	Jun-14		38,000		38,000
Garden City grant	3S176P	40,000	Nov-12	Feb-13		33,525	33,525
Hildale pl grant	3S194P	40,000	Jan-14	Mar-14		40,000	40,000
West Erda Imp Dist - pl grnt	3S197P	39,800	Jun-14			39,800	39,800
Hanksville	3S199P	40,000	Jul-14			40,000	40,000
Glen Canyon/Big Water	3S200P	40,000	Jul-14			40,000	40,000
					138,000	193,325	331,325
CLOSED LOANS (partially disbursed)							
Payson, 3.46% int, 20 yrs	3S170	3,404,000	Nov-11	Apr-12	908,000		908,000
Woods Cross 0% int 20 yrs	3S195	3,275,000	Jul-13	Feb-13	2,292,000		2,292,000
							0
							0
Subtotal Planning Loans/Grants Auth					3,200,000	0	3,200,000
Total authorized or closed but not yet funded					$4,058,000	$338,400	$4,396,400
PROPOSED PROJECTS for May 2014							
Cedarview Montwell	3S201P	40,000			40,000	0	40,000
		0			0	0	0
		0			0	0	0
							0
Total Proposed Projects					40,000	0	40,000

DIVISION OF DRINKING WATER
STATE LOAN FUNDS
AS OF June 30, 2014

	5235 Loan Funds	5240 Interest (use for Grants)	Total
Cash:	$2,677,516	$848,704	$3,526,220
Less:			
Loans & Grants authorized but not yet closed (schedule attached)	(858,000)	(338,400)	(1,196,400)
Loans & Grants closed but not fully disbursed (schedule attached)	(3,200,000)	0	(3,200,000)
Proposed loans & grants	(40,000)	0	(40,000)
Administrative quarterly charge for entire year	(145,700)		(145,700)
Appropriation to DDW	(800,000)		(800,000)
	0		0
FY 2015 Federal SRF 20% match of $7,570,000	(1,514,000)		(1,514,000)
	(3,880,184)	**510,304**	**(3,369,880)**
Projected repayments during the next twelve months			
Thru 07-01-2015			
Principal	3,492,722		3,492,722
Interest		1,023,526	1,023,526
Projected annual investment earnings on invested cash balance		24,000	24,000
Sales Tax allocation thru Jul-01-2015	3,587,500		3,587,500
Total	**$3,200,038**	**$1,557,830**	**$4,757,868**
* All interest is added to the Hardship Fee account.			

DIVISION OF DRINKING WATER
FEDERAL SRF
AS OF June 30, 2014

FIRST ROUND FUND	
1997 thru 2014 SRF Grants	
Net Federal SRF Grants:	$144,595,581
Total State Matches:	$31,540,300
Closed Loans:	-$170,321,789
Total Grant Dollars:	**$5,814,092**

FEDERAL SECOND ROUND FUND	
Principal Repayments	
Principal (P):	$33,311,435
Interest (I):	$9,035,943
Total P & I:	**$42,347,378**

Earnings on Invested Cash Balance	
Total:	**$1,153,926**

Hardship Fund	
Total:	**$2,711,149**

SUMMARY	
Total Federal State Revolving Fund:	$49,315,396
Total Federal Hardship Fund:	$2,711,149
Subtotal:	$52,026,546

LESS AUTHORIZED & PARTIALLY DISBURSED		
Less:		
Authorized & Partially Disbursed Closed Loans:	$20,042,850	*(see Page 2 for details)*
Authorized Federal Hardship:	$594,975	
Subtotal:	$20,637,825	

PROPOSED		
Proposed Federal Project(s):	**$1,075,167**	*(see Page 2 for details)*
Proposed Federal Hardship Project(s):	**$0**	
Subtotal:	**$1,075,167**	

AS OF:	**June 30, 2014**		
		TOTAL REMAINING LOAN FUNDS:	**$28,197,379**
		TOTAL REMAINING HARDSHIP FUNDS:	**$2,116,174**

Total Balance of ALL Funds after deducting proposed actions: $30,313,553

Projected Receipts thru July 1, 2015		
2015 Fed SRF Grant	$0	
2015 State Match	$0	
Interest on Investments	$199,200	
Principal Payments	$5,682,246	**Receive 60% in January**
Interest	$1,420,667	
Hardship & Technical Assistance fees	$423,843	
Total:	$15,295,956	

Total Estimated Federal SRF Funds Available through: 7/1/2015 **$45,609,509**

DIVISION OF DRINKING WATER
FEDERAL STATE REVOVING FUND
PROJECTS AUTHORIZED BUT NOT YET CLOSED
AS OF June 30, 2014

COMMUNITY	Project			Authorized Date	Closing Date Scheduled	Authorized From Loan Funds (1st or 2nd Round)			Hardship Fund
	Total Project	Terms	Loan #			Loan	Forgiveness	Total	
Duchesne County	22,000,000	0% int 30 yrs 700K pf	3F142	Mar-10	Aug-14	3,300,000	700,000	4,000,000	
Herriman	8,375,000	2.25% hgf, 20 yrs	3F194	Mar-12	Sep-15	4,682,000		4,682,000	
Woodenshoe Water	201,000	1% int, 30 yr	3F197	Jul-12	Aug-14	201,000	121,850	322,850	
Bear River WCD-Collinston	3,700,000	.6% int, 30 yrs	3F214	Jul-13	Jul-14	2,865,000	735,000	3,600,000	
Greendale Water Co	1,385,000	3.92 int/hgf, 20 yrs	3F213	Jul-13	Mar-15	1,145,000		1,145,000	
Sheep Creek Cove HOA	90,000	4.82% int, 20 yr	3F218	Jan-14		90,000		90,000	
Pleasant View City	2,327,000	3.75% int, 20 yrs	3F219	Jan-14		1,977,000		1,977,000	
Forest Glen A	1,418,000	0% int, 30 yrs	3F222	Feb-14	Aug-14	986,000	432,000	1,418,000	
Big Plains - Cedar Point	83,000	100% PF	3F224P	May-14		41,000	42,000	83,000	
Boulder Farmstead	2,000,000	0% INT, 30 yrs	3F225	May-14		1,000,000	1,000,000	2,000,000	
								0	
					TOTAL CONSTRUCTION AUTHORIZED:	**$ 16,287,000**	**$ 3,030,850**	**$ 19,317,850**	**$ -**
COMMITTED PLANNING ADVANCES / AGREEMENTS or PARTIALLY DISBURSED CLOSED 2ND ROUND AGREEMENTS:									
					Date Closed				
								0	0
Kane Co-Zion View	1,400,000	4.71% int, 30 yrs	3F185	Mar-12	Jul-12	725,000		725,000	0
Rural Water Assn of Utah 2013	124,758	5 yr contract for Development Specialist	Ongoing	Nov-12	Jan-13			0	474,169
Woodland Mutual Wtr Co.	37,000	Planning Loan 0% 5 yrs	3F206P	Nov-12	May-13			0	37,000
Boulder Farmstead	40,000	100% principal forgiveness	3F215P	Sep-13	Oct-13			0	18,000
Willow Creek Water Co	37,500	Planning Grant	3F221P	Jan-14	Mar-14			0	21,606
Rockville Pipeline Co	36,700	Planning Grant	3F220P	Feb-14	Mar-14			0	36,700
Lizard Bench Wtr Association	15,000	Planning Grant	3F223P	Feb-14	Mar-14			0	7,500
					TOTAL PLANNING AUTHORIZED:	**$725,000**	**$0**	**$725,000**	**$594,975**
				TOTAL CONSTRUCTION & PLANNING:				**$20,042,850**	**$594,975**
					AVAILABLE PROJECT FUNDS:				**$29,272,546**
					AVAILABLE HARDSHIP FUNDS:				**$2,116,174**
PROPOSED PROJECTS FOR JULY 2014:									
								0	
White Hills	1,047,000		3F226			547,000	500,000	1,047,000	
Marble Hills	28,167		3F227				28,167	28,167	
					TOTAL PROPOSED PROJECTS FOR THIS MEETING:	**$547,000**	**$528,167**	**$1,075,167**	**$0**
*RWAU hardship grant is being disbursed monthly									
					TOTAL FUNDS AFTER PROPOSED PROJECTS ARE FUNDED:				**$28,197,379**
					TOTAL FUNDS AFTER PROPOSED HS PROJECTS ARE FUNDED:				**$2,116,174**
NOTES OF LOAN CLOSINGS SINCE LAST BOARD MEETING:									
Total Recent Loan Closings						**$0**	**$0**	**$0**	**$0**

DIVISION OF DRINKING WATER
FEDERAL SRF LOAN FUNDS
AS OF June 30, 2014

	Loan Funds 1st Round	Loan Payments 2nd Round Principal	Loan Payments 2nd Round Interest	Loan Payments Hardship Fund	TOTAL
Federal Capitalization Grants and State 20% match thru 2013	$176,135,881				
Earnings on Invested 1st Round Funds			1,153,926		
Repayments (including interest earnings on 2nd round receipts)		33,311,435	9,035,943	2,711,149	222,348,335
Less:					
Closed loans and grants	-170,321,789				-170,321,789
SUBTOTAL of Funds Available	**$5,814,092**	**$33,311,435**	**$10,189,869**	**$2,711,149**	**$52,026,546**
Loans & Grants authorized but not yet closed or fully disbursed	-16,537,850	-3,505,000	0	-594,975	-20,637,825
SUBTOTAL of Funds Available less Authorized	**-$10,723,758**	**$29,806,435**	**$10,189,869**	**$2,116,174**	**$31,388,720**
Future Estimates:					
Proposed Loans/Grants for current board package	-1,075,167			0	-1,075,167
SUBTOTAL of Funds Available less Proposed Loans & Grants	**-$11,798,925**	**$29,806,435**	**$10,189,869**	**$2,116,174**	**$30,313,553**
PROJECTIONS THRU July-2015					
2015 Grant proceeds estimate (inc state match)	7,570,000				
2014 Grant $9,000,000 less set-asides	0				
2014 State Match for Grant	0				
Projected repayments & revenue during the next twelve months		5,682,246	1,420,667	423,843	7,526,756
Projected annual investment earnings on invested cash balance		180,000	12,000	7,200	199,200
TOTAL	**-$4,228,925**	**$35,668,681**	**$11,622,536**	**$2,547,217**	**$45,609,509**

Agenda Item 5(B)

DRINKING WATER BOARD
PACKET FOR PROJECT PRIORITY LIST

There are two new project being added to the Project Priority List:

Marble Hills Water Company is being added to the project priority list with 100 points. Their project consists of replacing the pump in their well, which was struck by lightning.

White Hills Water Company is being added to the project priority list with 25.4 points. Their project consists of waterline replacement, tank rehabilitation and a new PRV.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board approve the updated Project Priority List.

June 23, 2014

Utah Federal SRF Program

Project Priority List

Total Unmet Needs: **$237,840,548** **Total Needs, incl. Recent funding** **$259,453,548** **Authorized** **$210,785,090**

	date	type	%Green	Priority Points	System Name	County	Pop.	ProjectTitle	Project Total	Request DWB	Funds Authorized
N				22.5	White Hills Water	Utah	419	Waterline replacement, tank rehad, new PRV	$1,047,168	1,047,168	
A				75.8	Wooden Shoe Water Co.	Summit	76	Well, well house, tank	$202,424	$202,424	$201,000
A				50.0	Boulder Farmstead	Garfiled	226	Waterline, spring upgrades and chlorination	$2,000,000	$2,000,000	$2,000,000
A				47.4	Duchesne County	Duchesne	3,585	Supply line to 3 existing districts	$22,000,000	$4,000,000	$4,000,000
A				37.2	Gunnison	Sanpete	3,285	New well, Tank, Chlorination bldg, waterlines	$6,575,000	2,500,000	$2,500,000
A				20.5	Forest Glen A	Salt Lake	58	Spring redevelopment, tank, waterline replacement	$1,458,780	1,417,280	$1,418,000
A				13.7	Greendale	Daggett	500	New Water treatment system, 50,000 gal tank	$1,384,444	$1,144,444	$1,145,000
A				12.5	Bear River WCD- Collinston	Box Elder	50,104	1-MG tank, transmission line, pump station	$3,400,000	$3,300,000	$3,600,000
A				8.9	Herriman	Salt Lake	24,000	New 3 MG tank and pump station	$8,325,000	$5,000,000	$4,682,000
A				6.0	Sheep Creek HOA	Cache	75	New source and treatment	$90,000	$90,000	$90,000
A				3.4	Pleasant View	Weber	6,500	New well and reservoir	$2,326,263	$2,126,263	$1,977,000

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

N				100	Trenton Town	Cache	466	Spring Re-development	$401,150.00	$241,150	
N				100	Mrble Hills	Box Elder	250	pump replacement	$152,167.00	$28,170	

POTENTIAL PROJECTS

P				125.2	Soldier Summit SSD-2nd home sub	Utah	33	waterline upgrade	$530,303	$530,303	
P				36.4	Santa Clara (on hold)	Washington	8,000	Waterline upgrades	$6,419,202	$6,354,202	
P				35.0	CUWCD-Utah Valley	Utah		Treatment plant upgrades	$39,369,500	$36,950,000	
P				24.4	Jordan Valley WCD	Salt Lake	82,500	Treatment	$3,200,000		
P				20.0	Pinon Forest	Duchesne	n/a	New system- residents haul water	$21,247,000		
P				17.9	Wendover	Tooele	1,600	Waterline upgrades	$833,000		

June 23, 2014

Utah Federal SRF Program

Project Priority List

											Authorized
				Priority Points	Total Unmet Needs:		$237,840,548	Total Needs, incl. Recent funding		$259,453,548	$210,785,090
	date	type	%Green		System Name	County	Pop.	ProjectTitle	Project Total	Request DWB	Funds Authorized
P				17.5	Draper City	Salt Lake	15,000	Storage and distribution upgrades	$35,789,000		
P				17.1	East Zion SSD	Kane	49	waterline	$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, waterline 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	Waterline 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, waterline	$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	Waterline upgrades	$692,026		
P				13.5	Riverdale	Weber	8,200	New well and tank, waterline 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 waterlines	$3,600,000		
P				12.6	Enterprise	Washington	1,500	New tank, upgrade waterlines	$1,917,100		
P				12.6	Price River	Carbon	7,659	New tank, waterlines, treatment	$2,750,000		
P				11.6	Manila Culinary Water Co.	Utah	2,450	Treatment and waterline 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	Waterline upgrades	$746,000	$746,000	
P				11.3	Farmington	Davis	15,000	New well, new tank, waterline 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	Waterline 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, waterline replacement	$500,000		
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	Waterline replacement and new tank	$5,047,899		

June 23, 2014

Utah Federal SRF Program

Project Priority List

											Authorized
					Total Unmet Needs:		$237,840,548		Total Needs, incl. Recent funding	$259,453,548	$210,785,090
	date	type	%Green	Priority Points	System Name	County	Pop.	ProjectTitle	Project Total	Request DWB	Funds Authorized
P				7.6	Harmony Farms Water User Assoc.	Washington	300	Waterline Replacement	$3,000		
P				6.8	Hooper Water Improvement District	Weber	16,520	Storage, waterlines, treatment	$2,887,000		
P				6.7	Centerville City	Davis	16,000	Replacement well, waterline 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	Waterline	$180,000		
P				3.4	Highland City	Utah	15,066	New well houses	$650,000		

Agenda Item 5(C)(ii)(a)

White Hills Water Company
Presented to the Drinking Water Board
July 18, 2014

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION LOAN

APPLICANT'S REQUEST:

White Hills Water Company (WHWC) is requesting $1,037,000 to replace approximately 4,000 linear feet of 10-inch steel pipeline, install air/vac stations at high points in system to improve operations, install a PRV station to improve service to White Hills Country Estates area, add security fencing around both the well heads and well control building and Rehab two above ground steel tanks both interior and exterior.

STAFF COMMENTS:

The service area of the WHWC has been annexed into the Eagle Mountain City corporate limits. WHWC and Eagle Mountain City have negotiated a transfer agreement whereby the WHWC facilities will be conveyed to Eagle Mountain City for ownership, operations, and maintenance. One condition of the agreement is completing improvements to the existing water facilities.

In 2010 White Hills Water Company received an $895,000 loan at 1.0% interest for 25 years with $273,000 in principal forgiveness. WHWC currently holds a balance of $580,000 on the loan with approximately $28,000 in annual installments. At the time of this funding request WHWC told the Board it was in negotiations with Eagle Mountain to merge the two water systems.

White Hills Water Company has a local MAGI of $47,386, which is approximately 120% of the State's MAGI. The Company's current water bill is approximately $56.06, 1.42% of local MAGI. A $1,037,000 loan with 1.0% interest and $518,000 in principal forgiveness would allow WHWC to maintain a water bill of $84.51, 2.14% of local MAGI.

White Hills Water Company 2012 MAGI: $47,386
State Of Utah 2012 MAGI: $39,325
System % of State AGI: 120%
Current Water Bill: $56.06 (1.42% of local MAGI)

FINANCIAL ASSISSTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a $1,037,000 construction loan to White Hills Water Company at 1.00% Interest or Fee per annum, for 30 years, with $518,000 in principal forgiveness with the condition that they resolve all issues on their compliance report. This authorization is subject to the availability of funds.

APPLICANT'S LOCATION:

White Hills Water Company is located in Utah County approximately 2 miles south of Cedar Fort along SR73.

MAP OF APPLICANT'S LOCATION:

PROJECT DESCRIPTION:

The WHWC service area is located in Utah County approximately 2 miles south of Cedar Fort along SR73. The WHWC is a private water company which provides culinary water service to 124 residential connections within the White Hills and White Hills Country Estates subdivision. The water facilities were constructed in 1978. The system facilities include 10-inch spiral-weld steel pipeline, 10-inch schedule 80 PVC pipeline, 6-inch schedule 80 PVC pipeline, 3/4" residential service laterals and meters, a 220,000 gallon and a 550,000 gallon above ground steel tanks, and (2) ground water wells with capacity of approximately 1,700 gpm each.

The service area of the WHWC has been annexed into the Eagle Mountain City corporate limits. WHWC and Eagle Mountain City have negotiated a transfer agreement whereby the WHWC facilities will be conveyed to Eagle Mountain City for ownership, operations, and maintenance. One condition of the agreement is completing improvements to the existing water facilities.
These improvements include:

a. Replacement of approximately 4,000 lineal feet of 10-inch steel pipeline. The steel pipeline has been susceptible to corrosion, pin holes, and leaks.
b. Addition of air/vac stations at high points in system to improve operations.
c. Installation of PRV station to improve service to White Hills Country Estates area.
d. Security fencing around well heads and well control building.
e. Rehabilitation of (2) above ground steel tanks both interior and exterior.

The costs for these improvements total approximately $1,016,000.00. The transfer agreement between WHWC and Eagle Mountain City contemplates the costs for these improvements are borne by the present WHWC customers and not by existing Eagle Mountain City water customers. It is not practical for the 124 connections to fund these costs directly. For this reason an application for financial assistance through the SRF is requested. Once the funding is in place for the improvements the facilities will be accepted by Eagle Mountain City and the City will begin to operate and maintain the water system as construction begins on the improvements. Repayment of loan through SRF would be part of water rate structure of current WHWC customers. This water system is isolated from the Eagle Mountain City water system by approximately 4 miles.

POPULATION GROWTH:

According to the Governor's Office of Planning and Budget, White Hills Water Company is expected to grow at an average annual rate of change of 1.5% through 2030.

IMPLEMENTATION SCHEDULE:

Apply to DWB for Construction Funds:	May 2014
FA Committee Conference Call:	June 2014
DWB Funding Authorization:	July 2014
Complete Design:	August 2014
Plan Approval:	August 2014
Advertise for Bids:	August 2014
Begin Construction:	September 2014
Complete Construction:	October 2014
Receive Operating Permit:	November 2014

COST ESTIMATE:

Legal – Bonding	$10,000
Engineering- Planning	$8,000
Engineering- Design	$30,000
Engineering- CMS	$6,000
Construction- Storage Tanks	$302,000
Construction- Distribution Lines	$557,550
Construction- Well Site Fencing	$7,310
Construction- PRV, Air/Vac's, Master Meter	$26,500
Contingency-Construction 10%	$89,336
Total Project Cost	**$1,037,000**

CONTACT INFORMATION:

APPLICANT:	White Hills Water Company 1099 West South Jordan Parkway South Jordan, UT 84095 801-495-3414 Email: jwesthoff@egimgmt.com
PRESIDING OFFICIAL & CONTACT PERSON:	Jarred Westoff-Treasurer 1099 West South Jordan Parkway South Jordan, UT 84095 801-495-3414 Email: jwesthoff@egimgmt.com
CONSULTING ENGINEER:	Steven Jackson Jackson Engineering 3376 Stonehill Lane Cottonwood Heights, UT 84121 801-558-5293 Email: steve@jackson-engineering.com
CITY ATTORNEY:	Mabey, Wright & James LLC 801-359-3663

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: White Hills Water
COUNTY: Salt Lake
PROJECT DESCRIPTION: Transmission Line and Storage Tank Rehabilitation

FUNDING SOURCE: Federal SRF

50 % Loan & 50 % P.F.

ESTIMATED POPULATION:	419	NO. OF CONNECTIONS:	124 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	$56.06 *			PROJECT TOTAL:	$1,037,000
CURRENT % OF AGI:	1.42%	FINANCIAL PTS:	51	LOAN AMOUNT:	$519,000
ESTIMATED MEDIAN AGI:	$47,386			PRINC. FORGIVENESS:	$518,000
STATE AGI:	$39,325			TOTAL REQUEST:	$1,037,000
SYSTEM % OF STATE AGI:	120%				

	@ ZERO % RATE	@ RBBI MKT RATE		AFTER REPAYMENT PENALTY & POINTS
	0%	4.79%		1.00%
SYSTEM				
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	4.79%		1.00%
REQUIRED DEBT SERVICE:	$17,300.00	$32,957.83		$20,110.27
*PARTIAL COVERAGE (15%):	$0.00	$0.00		$0.00
*ADD. COVERAGE AND RESERVE (10%):	$1,730.00	$3,295.78		$2,011.03
ANNUAL NEW DEBT PER CONNECTION:	$153.47	$292.37		$178.40
O & M + FUNDED DEPRECIATION:	$63,068.00	$63,068.00		$63,068.00
OTHER DEBT + COVERAGE:	$35,000.00	$35,000.00		$35,000.00
REPLACEMENT RESERVE ACCOUNT:	$5,418.40	$6,201.29		$5,558.91
ANNUAL EXPENSES PER CONNECTION:	$834.57	$840.88		$835.70
TOTAL SYSTEM EXPENSES	$122,516.40	$140,522.91		$125,748.21
TAX REVENUE:	$0.00	$0.00		$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	$82.34	$94.44		$84.51
% OF ADJUSTED GROSS INCOME:	2.09%	2.39%		2.14%

* Equivalent Residential Connections

R309-700-5

White Hills Water
Salt Lake
June 1, 2014

TABLE 2
FINANCIAL CONSIDERATIONS

		POINTS	
1. COST EFFECTIVENESS RATIO (SELECT ONE)			
A. Project cost $0 to $500 per benefitting connection		16	
B. $501 to $1,500		14	
C. $1,501 to $2,000		11	
D. $2,001 to $3,000		8	
E. $3,001 to $5,000		4	
F. $5,001 to $10,000		1	X
G. Over $10,000		0	
	$8,363		
2. CURRENT LOCAL MEDIAN ADJUSTED GROSS INCOME (AGI) (SELECT ONE)			
A. Less than 70% of State Median AGI		19	
B. 71 to 80% of State Median AGI		16	
C. 81 to 95% of State Median AGI		13	
D. 96 to 110% of State Median AGI		9	
E. 111 to 130% of State Median AGI		6	X
E. 131 to 150% of State Median AGI		3	
F. Greater than 150% of State Median AGI		0	
	120%		
3. PROJECT FUNDING CONTRIBUTED BY APPLICANT (SELECT ONE)			
a. Greater than 25% of project funds		17	
b. 15 to 25% of project funds		14	
c. 10 to 15% of project funds		11	
c. 5 to 10% of project funds		8	
d. 2 to 5% of project funds		4	
e. Less than 2% of project funds		0	X
	0.0%		
4. ABILITY TO REPAY LOAN			
4. WATER BILL (INCLUDING TAXES) AFTER PROJECT IS BUILT RELATIVE TO LOCAL MEDIAN ADJUSTED GROSS INCOME (SELECT ONE)			
a. Greater than 2.50% of local median AGI		16	
b. 2.01 to 2.50% of local median AGI		12	X
c. 1.51 to 2.00% of local median AGI		8	
d. 1.01 to 1.50% of local median AGI		3	
e. 0 to 1.00% of local median AGI		0	
	2.14%		
5. SPECIAL INCENTIVE POINTS Applicant: (Mark all that apply)			
A. has a replacement fund receiving annual deposits of 5% of the system's drinking water budget been established, and has already accumulated a minimum of 10% of said annual DW budget in this reserve fund.		5	X
B. Has a replacement fund equal to at least 15% or 20% of annual DW budget.		5	X
C. Is creating or enhancing a regionalization plan		16	X
D. Has a rate structure encouraging conservation		6	X
TOTAL POINTS FOR FINANCIAL NEED		51	
TOTAL POSSIBLE POINTS FOR FINANCIAL NEED		100	

White Hills Water

PROPOSED BOND REPAYMENT SCHEDULE

50 % Loan & 50 % P.F.

PRINCIPAL	$519,000.00	ANTICIPATED CLOSING DATE	25-Sep-14
INTEREST	1.00%	P&I PAYMT DUE	01-Sep-16
TERM	30	REVENUE BOND	
NOMIN. PAYMENT	$20,110.27	PRINC PREPAID:	$0.00

YEAR	BEGINNING BALANCE	DATE OF PAYMENT	PAYMENT		PRINCIPAL	INTEREST	ENDING BALANCE	PAYM NO.
2015	$519,000.00		$1,384.00	*	$0.00	$1,384.00	$519,000.00	0
2016	$519,000.00		$20,190.00		$15,000.00	$5,190.00	$504,000.00	1
2017	$504,000.00		$20,040.00		$15,000.00	$5,040.00	$489,000.00	2
2018	$489,000.00		$19,890.00		$15,000.00	$4,890.00	$474,000.00	3
2019	$474,000.00		$19,740.00		$15,000.00	$4,740.00	$459,000.00	4
2020	$459,000.00		$20,590.00		$16,000.00	$4,590.00	$443,000.00	5
2021	$443,000.00		$20,430.00		$16,000.00	$4,430.00	$427,000.00	6
2022	$427,000.00		$20,270.00		$16,000.00	$4,270.00	$411,000.00	7
2023	$411,000.00		$20,110.00		$16,000.00	$4,110.00	$395,000.00	8
2024	$395,000.00		$19,950.00		$16,000.00	$3,950.00	$379,000.00	9
2025	$379,000.00		$19,790.00		$16,000.00	$3,790.00	$363,000.00	10
2026	$363,000.00		$19,630.00		$16,000.00	$3,630.00	$347,000.00	11
2027	$347,000.00		$20,470.00		$17,000.00	$3,470.00	$330,000.00	12
2028	$330,000.00		$20,300.00		$17,000.00	$3,300.00	$313,000.00	13
2029	$313,000.00		$20,130.00		$17,000.00	$3,130.00	$296,000.00	14
2030	$296,000.00		$19,960.00		$17,000.00	$2,960.00	$279,000.00	15
2031	$279,000.00		$19,790.00		$17,000.00	$2,790.00	$262,000.00	16
2032	$262,000.00		$20,620.00		$18,000.00	$2,620.00	$244,000.00	17
2033	$244,000.00		$20,440.00		$18,000.00	$2,440.00	$226,000.00	18
2034	$226,000.00		$20,260.00		$18,000.00	$2,260.00	$208,000.00	19
2035	$208,000.00		$20,080.00		$18,000.00	$2,080.00	$190,000.00	20
2036	$190,000.00		$19,900.00		$18,000.00	$1,900.00	$172,000.00	21
2037	$172,000.00		$19,720.00		$18,000.00	$1,720.00	$154,000.00	22
2038	$154,000.00		$20,540.00		$19,000.00	$1,540.00	$135,000.00	23
2039	$135,000.00		$20,350.00		$19,000.00	$1,350.00	$116,000.00	24
2040	$116,000.00		$20,160.00		$19,000.00	$1,160.00	$97,000.00	25
2041	$97,000.00		$19,970.00		$19,000.00	$970.00	$78,000.00	26
2042	$78,000.00		$19,780.00		$19,000.00	$780.00	$59,000.00	27
2043	$59,000.00		$19,590.00		$19,000.00	$590.00	$40,000.00	28
2044	$40,000.00		$20,400.00		$20,000.00	$400.00	$20,000.00	29
2045	$20,000.00		$20,200.00		$20,000.00	$200.00	$0.00	30
			$604,674.00		$519,000.00	$85,674.00		

*Interest Only Payment

White Hills Water

DWB Loan Terms		
Local Share (total):	$	-
Other Agency Funding:	$	-
DWB Grant Amount:	$	518,000
DWB Loan Amount:	$	519,000
DWB Loan Term:		30
DWB Loan Interest:		**1.00%**
DWB Loan Payment:	$	20,110

DW Expenses (Estimated)		
Proposed Facility Capital Cost:	$	1,037,000
Existing Facility O&M Expense:	$	63,068
Proposed Facility O&M Expense:	$	63,068
O&M Inflation Factor:		**1.0%**
Existing Debt Service:	$	28,000

DW Revenue Sources (Projected)		
Beginning Cash:	$	-
Existing Customers (ERC):		124
Projected Growth Rate:		**1.0%**
Impact Fee/Connection Fee:	$	-
Current Monthly User Charge:	$	56.06
Needed Average Monthly User Charge:	$	84.51

DW Revenue Projections

Yr	Growth Rate (%)	Annual Growth (ERC)	Total Users (ERC)	User Charge Revenue	Impact Fee Revenue	Property Tax Revenue	Total Revenue	DWB Loan Repayment	DWB Loan Reserves	Remaining Principal	Principal Payment	Interest Payment	Existing DW Debt Service	O&M Expenses	Total Expenses	Debt Service Ratio
0	1.0%	1	124	83,422	-	-	83,422	**-**	**-**	519,000	-	-	28,000	63,068	91,068	-
1	1.0%	1	125	126,762	-	-	126,762	**20,190**	**2,011**	504,000	15,000	5,190	28,000	63,068	113,269	1.32
2	1.0%	1	126	127,776	-	-	127,776	**20,040**	**2,011**	489,000	15,000	5,040	28,000	63,699	113,750	1.33
3	1.0%	2	128	129,805	-	-	129,805	**19,890**	**2,011**	474,000	15,000	4,890	28,000	64,336	114,237	1.37
4	1.0%	1	129	130,819	-	-	130,819	**19,740**	**2,011**	459,000	15,000	4,740	28,000	64,979	114,730	1.38
5	1.0%	1	130	131,833	-	-	131,833	**20,590**	**2,011**	443,000	16,000	4,590	28,000	65,629	116,230	1.36
6	1.0%	2	132	133,861	-	-	133,861	**20,430**	**2,011**	427,000	16,000	4,430	28,000	66,285	116,726	1.40
7	1.0%	1	133	134,875	-	-	134,875	**20,270**	**2,011**	411,000	16,000	4,270	28,000	66,948	117,229	1.41
8	1.0%	1	134	135,889	-	-	135,889	**20,110**	**2,011**	395,000	16,000	4,110	28,000	67,617	117,738	1.42
9	1.0%	2	136	137,917	-	-	137,917	**19,950**	**2,011**	379,000	16,000	3,950	28,000	68,294	118,255	1.45
10	1.0%	1	137	138,931	-	-	138,931	**19,790**	**2,011**	363,000	16,000	3,790	28,000	68,977	118,778	1.46
11	1.0%	1	138	139,946	-	-	139,946	**19,630**		347,000	16,000	3,630	28,000	69,666	117,296	1.48
12	1.0%	2	140	141,974	-	-	141,974	**20,470**		330,000	17,000	3,470	28,000	70,363	118,833	1.48
13	1.0%	1	141	142,988	-	-	142,988	**20,300**		313,000	17,000	3,300	28,000	71,067	119,367	1.49
14	1.0%	2	143	145,016	-	-	145,016	**20,130**		296,000	17,000	3,130	28,000	71,777	119,907	1.52
15	1.0%	1	144	146,030	-	-	146,030	**19,960**		279,000	17,000	2,960	28,000	72,495	120,455	1.53
16	1.0%	1	145	147,044	-	-	147,044	**19,790**		262,000	17,000	2,790	28,000	73,220	121,010	1.54
17	1.0%	2	147	149,072	-	-	149,072	**20,620**		244,000	18,000	2,620	28,000	73,952	122,572	1.55
18	1.0%	1	148	150,087	-	-	150,087	**20,440**		226,000	18,000	2,440	28,000	74,692	123,132	1.56
19	1.0%	2	150	152,115	-	-	152,115	**20,260**		208,000	18,000	2,260	28,000	75,439	123,699	1.59
20	1.0%	1	151	153,129	-	-	153,129	**20,080**		190,000	18,000	2,080	28,000	76,193	124,273	1.60
21	1.0%	2	153	155,157	-	-	155,157	**19,900**		172,000	18,000	1,900	28,000	76,955	124,855	1.63
22	1.0%	1	154	156,171	-	-	156,171	**19,720**		154,000	18,000	1,720	28,000	77,724	125,444	1.64
23	1.0%	2	156	158,199	-	-	158,199	**20,540**		135,000	19,000	1,540	28,000	78,502	127,042	1.64
24	1.0%	1	157	159,213	-	-	159,213	**20,350**		116,000	19,000	1,350	28,000	79,287	127,637	1.65
25	1.0%	2	159	161,242	-	-	161,242	**20,160**		97,000	19,000	1,160	28,000	80,080	128,240	1.69
26	1.0%	2	161	163,270	-	-	163,270	**19,970**		78,000	19,000	970	28,000	80,880	128,850	1.72
27	1.0%	1	162	164,284	-	-	164,284	**19,780**		59,000	19,000	780	28,000	81,689	129,469	1.73
28	1.0%	2	164	166,312	-	-	166,312	**19,590**		40,000	19,000	590	28,000	82,506	130,096	1.76
29	1.0%	1	165	167,326	-	-	167,326	**20,400**		20,000	20,000	400	28,000	83,331	131,731	1.74
30	1.0%	2	167	169,354	-	-	169,354	**20,200**		-	20,000	200	28,000	84,164	132,364	1.77
									Total Paid in Debt Service =		519,000	84,290				

Utah Department of Environmental Quality

Division of Drinking Water

Public Water System Master Report

Run Date:
06/04/2014 08:59 am

PWS ID: UTAH25119 ***Name:*** WHITE HILLS SUBDIVISION

Legal Contact WHITE HILLS SUBDIVISION
MATT ALLINSON

Address: 770 E MAIN ST STE 427
LEHI, UT 84043-2282

Phone Number: 801-601-8895

City Served (Area):

County: UTAH COUNTY

Rating: Not Approved

Rating Date: 05/29/2013

Activity Status: A

Consumptive Use Zone

Irrigation Zone Number: 4 02/15/2013

System Type: Community

Population: 419

Last Inv Update: 05/03/2011

Last Snty Srv Dt: 10/25/2012

Surveyor: ELDEN L OLSEN

Oper Period: 1/1 to 12/31

Contacts

Contact Type	Name	Title	Phone Numbers Office	Emergency	Email Address
AC	ALLINSON, MATT	*OVERDUE BO(	801-766-9793	801-885-5280	mallinson@saratoga-springs

Service Connections

Connection Type	Meter Type Code	Meter Size	Number Connections	
Residential	Metered	0	130	
			130	Total Svc Connections

Storage

Total Storage: 1,750,000 GAl ***Number of Units:*** 3

No.	Name	Type	Effective Volume	Constr Matrl	Activity Status	Press'd
ST003	LARGE TANK	Ground	1,000,000 GAL	Steel	A	NO
ST001	SMALL TANK WEST SIDE	Ground	250,000 GAL	Steel	A	NO
ST002	MEDIUM TANK EAST SIDE	Ground	500,000 GAL	Steel	A	NO

Sources

No.	Source Name	Activity Status	Source Type	Safe Yield *	Pump Capacity	Location Data On File	Water Type	Availability	Period of Operation
WS001	WHITE HILLS WELL 1	Active	WL	1400 GPM	1,400 GPM	Yes	GW	Permanent	1/1 to 12/31
WS002	COOK WELL 2	Active	WL	1333 GPM	1,200 GPM	Yes	GW	Permanent	1/1 to 12/31

**Reports measured flow for wells, approved design capacity for all other sources.*

Sampling and Monitoring Requirements

Total Coliform Rule Monitoring

Sample Count	Sample Type	Sample Frequency	Effective Begin Date	Effective End Date	Seasonal Start	Seasonal End	Analyte Code	Analyte Name
1	Routine	Monthly	12/01/2011		1/1	12/31	3100	COLIFORM (TCR)

Additional Monitoring Requirements

Facility ID	Facility Name / Analyte Name	Sample Count	Sample Type	Sample Frequency	Last Sample	Next Sample Between
DS001	UTAH25119 DISTRIBUTION SYSTEM		Activity Status: A	Sample Label: UTAH25119 DS001		
	Lead & Copper	5	Routine	3 Years	2013	06/01-09/30 2016
WS001	WHITE HILLS WELL 1		Activity Status: A	Sample Label: UTAH25119 WS001 WS001		
	NITRATE	1	Routine	Year	06/24/2013	01/01/2014-12/31/2014
	Radionuclides	1	Routine	3 Years	06/24/2013	01/01/2014-12/31/2016
	Volatile Organics	1	Routine	3 Years	03/25/2011	01/01/2014-12/31/2016
	Inorg & Metals	1	Routine	9 Years	03/25/2011	01/01/2020-12/31/2028
	Sodium, Sulfate, TDS	1	Routine	9 Years	03/25/2011	01/01/2020-12/31/2028
	Pesticides	1	Routine	3 Years	06/24/2013	01/01/2014-12/31/2016
WS002	COOK WELL 2		Activity Status: A	Sample Label: UTAH25119 WS002		
	NITRATE	1	Routine	Year	06/24/2013	01/01/2014-12/31/2014
	Inorg & Metals	1	Routine	3 Years	11/14/2011	01/01/2014-12/31/2016
	Sodium, Sulfate, TDS	1	Routine	3 Years	11/14/2011	01/01/2014-12/31/2016
	Volatile Organics	1	Routine	Year	11/14/2011	01/01/2012-12/31/2012
	Pesticides	1	Routine	3 Years	11/14/2011	01/01/2014-12/31/2016
	Radionuclides	1	Routine	Quarter	06/24/2013	07/01/2013-09/30/2013

Improvement Priority System

Total IPS Points: 119 **Rating Date:** 05/29/2013 **Rating:** Not Approved

Admin & Physical Facilities:	14
*** Qualtiy & Monitoring Violations:**	115
Operator Certification:	-10

* Total Admin & Physical Facilities demerit points may not agree with the detail section. The detail section shows all 'open' physical deficiencies; the Total Admin & Physical Facilities value adjusts for duplicate deficiencies

Physical Facility, Administrative, & Source Protection Deficiencies from Site Visits

Facility	Activity Status	Severity	Date Determined	Point Not Effective	Point Effective
Code **Description**					
M003 CCC-LACKS LOCAL AUTHORITY					
		MIN	10/25/2012	10	
Code **Description**					
M007 CCC-LACKS ON-GOING ENFORCEMENT PLAN					
		MIN	10/25/2012		10
Code **Description**					
V004 STORAGE FACILITY INADEQUATE LADDERS OR RAILINGS					
		MIN	5/1/1998		2
RESERVOIRS NEED PROTECTIVE RAILINGS ON ACCESS LADDER					
Code **Description**					
V006 STORAGE FACILITY VENT NOT 24-36 IN. ABOVE SURFACE					
ST002 MEDIUM TANK EAST SIDE	A	MIN	10/25/2012		2

Total Admin & Physical Faciity Deficiency **14**

Microbial Rule Violations

Date Range Starts: 06/01/2013

Determin Date	Complaince Period	Code	Violation Type	IPS Points Assessed
12/30/2013	10/1/13 -10/31/13	23	MONITORING (TCR), ROUTINE MAJOR	35
			Total Microbial Violation Pts:	**35**

Chemical Monitoring and Quality Violations

Violation No.	Period	Code	Violation Type Analyte/ Group	Facility ID	Seasonality	IPS Points
2013-3513	01/01/12-12/31/12	03	MONITORING, ROUTINE MAJOR	WS002	P	20
9002089	01/15/2013		Volatile Organics			
2014-3628	07/01/13-09/30/13	03	MONITORING, ROUTINE MAJOR	WS002	P	20
9002101	11/05/2013		Radionuclides			
2014-3946	01/01/13-12/31/13	03	MONITORING, ROUTINE MAJOR	WS002	P	20
9002123	01/22/2014		Volatile Organics			
2014-4126	01/01/14-03/31/14	03	MONITORING, ROUTINE MAJOR	WS002	P	20
9002126	04/30/2014		Radionuclides			

Total Chemical Violation Points **80**

Operator Certification Points

	Distribution	Treatment	
Level Required	SS		
Highest Certificate on Record	D4		
Points	-10	0	*Total Points* -10

Certified Operators

License Number	Operator Name	Address	CEU's	Cert Grade	Expiration
22501	ALLINSON, MATT	18513 W WILSON AVE; CEDAR VALLEY, UT 84013			
			2.0	D4	12/31/2014

Compliance Schedules

Type	Required Activities	Severity	Date Created	Due Date	Achieved Date
Complete Lead Copper Notice	Submit Lead/Copper Certification Notice to DDW		06/01/2013	12/29/2013	

Total Coliform Sample History

For the 13 Months Beginning 06/01/2013

		TCR Routine Samples			TCR Repeat Samples			Source Samples		
		No Samp	TC Pos.	Ecoli Pos.	No Samp	TC Pos.	Ecoli. Pos.	No Samp	TC Pos	Ecoli Pos.
Jun	2013	1	0	0	0	0	0	0	0	0
Jul	2013	1	0	0	0	0	0	0	0	0
Aug	2013	1	0	0	0	0	0	0	0	0
Sep	2013	1	0	0	0	0	0	0	0	0
Oct	2013	0	0	0	0	0	0	0	0	0
Nov	2013	1	0	0	0	0	0	0	0	0
Dec	2013	1	0	0	0	0	0	0	0	0
Jan	2014	1	0	0	0	0	0	0	0	0
Feb	2014	1	0	0	0	0	0	0	0	0
Mar	2014	1	0	0	0	0	0	0	0	0
Apr	2014	1	0	0	0	0	0	0	0	0
May	2014	0	0	0	0	0	0	0	0	0
Jun	2014	0	0	0	0	0	0	0	0	0

Last sample taken 04/28/2014 from UT00050 RICHARDS LABS

Agenda Item 5(C)(ii)(b)

Marble Hills Water Company
Presented to the Drinking Water Board
July 18, 2014

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION LOAN
AUTHORIZATION

APPLICANT'S REQUEST:

Marble Hills Water Company is requesting financial assistance in the amount of $28,167 for replacing a well pump that was damaged due to a lightning strike. We have determined this to be an emergency project.

STAFF COMMENTS:

In April, lightning struck their well which caused them to replace the well pump and motor. The new pump was installed with the new motor and it is their intention to rebuild the old pump and motor for a backup in the event of a future disaster. The funds requested for this project will be used to reimburse them for the expense of replacing the well pump and motor and provide funds to replace the old equipment.

The local MAGI for the zip code served by Marble Hills Water Company is $41,836, which is 90% of the State MAGI. They are located 10 miles west of Tremonton, in Thatcher. They have experienced a high rate of unemployment in the area and many are on State assistance. They feel that the MAGI reported for their zip code does not accurately reflect the financial hardship of the community. Based on their most recent financial statement, their water bill was approximately $14 per month, which is .46% of local MAGI. However, they have recently increased their water rates and the base rate is now $29 with $1.15 per 1,000 gallons over 15,000 gallons. A full loan at 2.98% interest for 20 years requires an increase in their water bill to approximately $58 per connection, which is 1.67% of the local MAGI.

Due to the emergency nature of the project, high cost of bonding and low cost of the project, we recommend that the Board consider offering Marble Hills Water Company a grant for the full amount.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a loan of $28,167 with $28,167 in principal forgiveness to Marble Hills Water Company.

APPLICANT'S LOCATION:

Marble Hills Water Company is located in Box Elder County in Thatcher, Utah.

MAP OF APPLICANT'S LOCATION:

PROJECT DESCRIPTION:

In April, lightning struck their well which caused them to replace the well pump and motor. The new pump was installed with the new motor and it is their intention to rebuild the old pump and motor for a backup in the event of a future disaster. The funds requested for this project will be used to reimburse them for the expense of replacing the well pump and motor and provide funds to replace the old equipment.

POPULATION GROWTH:

According to the Utah State Governor's Office of Planning and Budgeting, the anticipated growth rate for Box Elder County is approximately 1.8% per year over the next 40 years

	Year	Population
Current:	2014	257
Projected:	2050	423

IMPLEMENTATION SCHEDULE:

Apply to DWB for Construction Funds:	June 2014
SRF Committee Conference Call:	June 2014
DWB Funding Authorization:	July 2014

COST ESTIMATE:

Construction	$28,170
Total Project Cost	**$28,170**

COST ALLOCATION:

The cost allocation proposed for the project is shown below.

Funding Source	Cost Sharing	Percent of Project
DWB Grant	$28,167	100%
Total Amount	$28,167	100%

ESTIMATED ANNUAL COST OF WATER SERVICE:

Operation and Maintenance plus Depreciation: $27,888
Existing DW Debt Service: $19,375
Replacement Reserve Account: $2,169.40
Annual Cost/ERC: $668.01
Monthly Cost/ERC: $55.67
Cost as % MAGI: 1.60%

APPLICANT:	Marble Hills Water Company P.O. Box 24 Tremonton, Utah 84337
PRESIDING OFFICIAL & CONTACT PERSON:	Kerry Shirley, President P.O. Box 24 Tremonton, Utah 84337 Telephone: 435-854-3805 Email: kerrybshirley@yahoo.com
TREASURER/RECORDER:	Kip Heiner Telephone: 435-720-3332 Email: kip.heiner@gmail.com
CONSULTING ENGINEER:	Chris White Hansen and Associates, Inc. 538 N Main Brigham City, UT 84302 Telephone: 435-723-3491
FINANCIAL CONSULTANT:	Terry Smith Rural Water Association of Utah 76 Red Pine Drive Alpine, UT 84004 Telephone: 801-756-5123

Agenda Item 7(A)

CHANGE IN PROPOSED RULE
FOR
RULE *R309-545*

On May 9, 2014, the Drinking Water Board authorized the Division staff to initiate the rule-making process for revising R309-545. R309-545 governs the design and construction requirements related to drinking water storage tanks. The rule change was initiated to update the storage tank rule, as it had not been updated in many years and had numerous inaccuracies. The rule was filed with the Division of Administrative Rules and they advertised the public comment period from June 1, 2014, to July 1, 2014. Several comments were received during this period.

To address these comments as well as some recommended grammatical and wording changes, staff felt it necessary to update the proposed rule. In order to make updates to a proposed rule, the Division of Administrative Rules requires that a "Change in Proposed Rule" be filed with their office and a new public comment period take place.

If the Board authorizes staff to proceed with the Change in Proposed Rule, it is anticipated that the filing will be advertised in the August 15, 2014 DAR Bulletin, with a comment period from August 15th to September 15th. If no significant comments are received, the rule would then be brought back to the Board in November for authorization to make the rule effective.

The proposed modifications to *R309-545* include the following:

- Change the word "structures" to "tanks" to be consistent.
- Clarify that standing water is not allowed around ground-level or buried tanks.
- Clarify that flood elevation requirement applies to ground-level and buried tanks.
- Modification stating that VOC's after tank coating shall not exceed the MCL's.
- Guidance explaining that if any VOC's are detectable, increased monitoring may be required.
- Revise the term "water line" under access openings to "level of the overflow" to clarify that we are referring the level of water in the tank and not a pipe.
- Revise wording under Utah OSHA to eliminate "incorporated by reference", so that additional standards do not have to be obtained and filed with DAR.
- Minor grammatical and other wording changes to provide clarity.

There are two versions of the R309-545 revision. The Division of Administrative Rules (DAR) maintains the official version of the rules and oversees the rulemaking process. The official rulemaking document of the R309-545 revision is in a specific format required by DAR. In addition to the DAR version, the Division of Drinking Water (DDW) has chosen to provide a DDW version of the rule to the public. The rule content is the same in the two versions. However, the DDW version is formatted for easier reading (with indentation and spacing) and contains DDW's interpretation of the rule (in the form of guidance paragraphs). These guidance paragraphs are not considered part of the official rule.

Staff Recommendation: Staff, believing that the above mentioned changes are substantive, asks the Board review the proposed changes and, if they agree, authorize staff to file the Change in Proposed Rule for publication in the Utah Bulletin.

R309. Environmental Quality, Drinking Water.
R309-545. Facility Design and Operation: Drinking Water Storage Tanks.
R309-545-1. Purpose.

The purpose of this rule is to provide specific requirements for public drinking water storage tanks. It is intended to be applied in conjunction with other rules, specifically R309-500 through R309-550. Collectively, these rules govern the design, construction, operation, and maintenance of public drinking water system facilities. These rules are intended to assure that [~~such~~]facilities are reliably capable of supplying water in adequate quantities[~~of water~~], which consistently meeting applicable drinking water quality requirements and [~~do~~]not [~~pose~~]posing a threat to general public health.

R309-545-2. 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(1)(a)(ii) of the Utah Code and in accordance with Title 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

R309-545-3. Definitions.

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

R309-545-4. General.

Storage for drinking water shall be provided as an integral part of each public drinking water system unless an exception to the rule is approved by the Director. Pipeline volume in transmission or distribution lines shall not be considered part of any storage volumes.

R309-545-5. Size of Tank(s).

Storage tanks shall be sized in accordance with the required minimums of R309-510.

R309-545-6. Tank Material and Structural Adequacy.

(1) Materials.

The materials used in drinking water storage [~~structures~~]tanks shall provide stability and durability as well as protect the quality of the stored water. Steel tanks shall be constructed from new, previously unused, plates and designed in accordance with AWWA Standard D[~~-~~]100-11.

(2) Structural Design.

The structural design of drinking water storage [~~structures~~] tanks shall be sufficient for the environment in which they are located.

R309-545-7. Location of Tanks.

(1) Pressure Considerations.

The location of the tank and the design of the water system shall be such that the minimum working pressure in the distribution system shall meet the minimum pressures as required in R309-105-9.

(2) Connections.

Tanks shall be located at an elevation where present and

anticipated connections can be adequately served. System connections shall [~~not~~] be placed at elevations such that minimum pressures, as required in R309-105-9, [~~cannot~~]will be continuously maintained.

(3) Sewer Proximity.

Sewers, [~~drains, standing water,~~] and similar sources of possible contamination shall be kept at least 50 horizontal feet from the tank.

(4) Standing Surface Water.

The area surrounding a ground-level or buried drinking water storage [~~structure~~]tank shall be graded in a manner that will prevent surface water from standing within 50 horizontal feet of the [~~structure~~]tank.

(5) Ability to Isolate.

Drinking water storage [~~structures~~]tanks shall be designed and located so that they can be isolated from the distribution system. Storage [~~structures~~]tanks shall be capable of being drained for cleaning or maintenance. Where possible, tanks [~~should~~]shall be designed with the ability to be isolated without [~~necessitating~~] loss of pressure or service in the distribution system.

(6) Earthquake and Landslide Risks.

Potential geologic hazards shall be taken into account in selecting a tank location. Earthquake and landslide risks shall be evaluated. [~~The design shall incorporate an analysis of potential seismic risks by a Professional Engineer or Geologist.~~]

(7) Security.

The site location and design of a drinking water storage tank shall take into consideration security issues and potential for vandalism.

R309-545-8. Tank Elevation and Burial.

(1) Flood Elevation.

The bottom of a ground-level or buried drinking water storage tank[~~s~~] shall be located at least 3 feet above the 100-year flood level or the highest known maximum flood elevation, whichever is higher.

(2) Ground Water.

When the bottom of a drinking water storage tank will be placed below the normal ground surface, it shall be placed above the local ground water table[~~elevation~~].

(3) Covered Roof.

When the roof of a drinking water storage tank will be covered by earth, the roof shall be sloped to drain toward the outside edge of the tank.

R309-545-9. Tank Roof and Sidewalls.

(1) Protection From Contamination.

All drinking water storage [~~structures~~]tanks shall have suitable watertight roofs and sidewalls that shall also exclude birds, animals, insects, and excessive dust.

(2) Openings.

Openings in the roof and sidewalls shall be kept to a minimum and shall comply with the following:

(a) Any pipes running through the roof or sidewall of a metal drinking water storage [~~structure~~]tank shall be welded, or properly gasketed. In new concrete tanks, these pipes shall be connected to

standard wall castings with seepage rings that have been poured in place. Vent pipes, in addition to seepage rings, shall have raised concrete curbs that direct water away from the vent pipe and are formed as a single pour with the roof deck. [~~No r~~]Roof drains or any other pipes, which may contain water of lesser quality than drinking water, shall not penetrate the roof, walls, or floor of a drinking water storage tank.

(b) Openings in a storage [~~structure~~]tank roof or top, designated to accommodate control apparatus or pump columns, shall be welded, gasketed, or curbed and sleeved as above, and shall have additional proper shielding to prevent vandalism.

(3) Adjacent Compartments.

Drinking water shall not be stored or conveyed in a compartment adjacent to wastewater when the two compartments are separated by a single wall.

(4) Roof Drainage.

The roof of all storage [~~structures~~]tanks shall be designed for drainage to eliminate water ponding. Parapets, or similar [~~construction~~]structures, which would tend to hold water and snow, shall not be [~~utilized~~]allowed/permitted unless adequate waterproofing and drainage are provided. Downspout or roof drain pipes shall not enter or pass through the tank.

R309-545-10. Internal Features.

The following shall apply to internal features of drinking water storage [~~structures~~]tanks:

(1) Drains.

(a) A means shall be provided for the draining of drinking water storage tanks.

(b) Where possible, the drain shall be separate from the outlet pipeline. If a tank drain line is provided, it shall be sloped for complete drainage.

(c) [~~If a~~]The drain [~~is provided, it~~]shall not discharge to a sanitary sewer.

(d) If local authority allows discharge to a storm drain, the drain discharge shall have a physical clearance of at least 12 inches between the discharge end of the pipe and the overflow rim of the receiving basin.

(2) Internal Catwalks.

Internal catwalks, if provided and located over the drinking water, shall have a solid floor with raised edges. The edges and floor shall be designed so that shoe scrapings or dirt will not fall into the drinking water.

(3) Inlet and Outlet.

(a) To minimize potential sediment in the flow from the tank, the outlet pipes from all tanks shall be located in a manner to provide a silt trap prior to discharge into the distribution system.

(b)Inlet and outlet pipes shall be configured to provide mixing and circulation.

(4) Tank Floor.

The floor of the storage [~~structure~~]tank shall be sloped to permit complete drainage of the structure.

R309-545-11. Internal Surfaces and Coatings.

(1) ANSI/NSF Standard 61 Certification.

All interior surfaces [~~or~~]and coatings shall [~~consist of products that are certified to~~] comply with ANSI/NSF Standard 61 or other standards approved by the Director. This requirement applies to any pipes and fittings, protective materials (e.g., paints, coatings, concrete admixtures, concrete release agents, or concrete sealers), joining and sealing materials (e.g., adhesives, caulks, gaskets, primers and sealants) and mechanical devices (e.g., electrical wire, switches, sensors, valves, or submersible pumps) that [~~are located so as to~~]may come into contact with the drinking water.

(2) Curing Procedures and Volatile Organic Compounds.

(a) Proper curing procedures shall be followed per manufacturer's directions, including curing time, temperature, and forced air ventilation. Drinking water shall not be introduced into the tank until proper curing has occurred.

(b) It shall be the responsibility of the water system to assure that no tastes,[~~ or~~] odors, toxins, or contaminants[~~, which~~]that result in MCL exceedances, are imparted to the water as a result of tank coating or repair.

(c)Prior to placing a drinking water storage tank in service, cleaning, disinfection, and flushing procedures shall be completed.

(d) Prior to placing a drinking water storage tank in service, an analysis for volatile organic compounds from water contained therein may be required to verify [~~that no such compounds have leached into the water~~]compliance with drinking water maximum contaminant levels.

R309-545-12. Steel Tanks.

(1) Paints.

Proper protection shall be given to all metal surfaces, both internal and external, by paints or other protective coatings. Internal coatings shall comply with R309-545-11.

(2) Cathodic Protection.

If installed, internal cathodic protection shall be designed, installed and maintained by personnel trained in corrosion engineering.

R309-545-13. Tank Overflow.

All water storage [~~structures~~]tanks shall be provided with an overflow that[~~ is~~] discharge[~~d~~]s at an elevation between 12 and 24 inches above the ground surface or the rim of the receiving basin. The discharge[~~s~~] shall be directed away from the tank and shall not cause erosion.

(1) Diameter.

[~~All o~~]Overflow pipes shall be of sufficient capacity to permit waste of water in excess of the filling rate.

(2) Slope.

[~~All o~~]Overflow pipes shall be sloped for complete drainage.

(3) Screen.

[~~All o~~]Overflow pipes shall be screened with No. 4 mesh non-corrodible screen installed at a location least susceptible to damage by vandalism.

(4) Visible Discharge.

[~~All o~~]Overflow pipes shall be located so that any discharge

is visible.

(5) Cross Connections.

[~~All o~~]Overflow pipes shall not be connected to, or discharge into, any sanitary sewer system.

[~~(6) Paint.~~

~~If an overflow pipe within a tank is painted or otherwise coated, the coating shall comply with ANSI/NSF Standard 61.~~]

R309-545-14. Access Openings.

Drinking water storage [~~structures~~]tanks shall be designed with reasonably convenient access to the interior for cleaning and maintenance.

(1) Height.

There shall be at least one opening above the [~~water line~~]level of the overflow, which shall be framed at least 4 inches above the surface of the roof at the opening; or if on a buried [~~structure~~]tank, shall be elevated at least 18 inches above any earthen cover over the [~~structure~~]tank. The frame shall be securely fastened and sealed to the tank roof to prevent any liquid contaminant entering the tank. Concrete drinking water storage [~~structures~~]tanks shall have raised curbs around access openings, formed and poured continuous with the pouring of the roof, and sloped to direct water away from the frame.

(2) Shoebox Lid.

The frame of any access opening shall be provided with a close-fitting, solid shoebox type cover that extends down around the frame at least 2 inches and is furnished with a gasket(s) between the lid and frame. The horizontal surface of the tank lid shall not have any openings, cracks, or penetrations, such as a lock, key hole, or bolted handle that would allow contaminants to enter the tank.

(3) Locking Device.

The lid to any access opening shall have a locking device.

R309-545-15. Venting.

Drinking water storage [~~structures~~]tanks shall be vented. The air venting capacity shall exceed the water inflow and the water outflow of the tank. Overflows shall not be considered or used as vents. Vents provided on drinking water storage tanks shall:

(1) Inverted Vent.

Be downturned a minimum of 2 inches below any opening and shielded to prevent the entrance of contaminants.

(2) Open Venting.

On buried structures, the end of the vent discharge shall be a minimum of 24 inches above the earthen covering.

(3) Blockage.

Be located and sized to avoid blockage during winter conditions.

(4) Screen.

Be fitted with No. 14 mesh or finer non-corrodible screen.

(5) Screen Protector.

Vents that are 6-inch diameter or greater shall be fitted with additional heavy gage screen or substantial covering, which will protect the No. 14 mesh screen against vandalism or damage.

R309-545-16. Freezing Prevention.

All drinking water storage [~~structures~~]tanks and their

appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing which may interfere with proper functioning.

R309-545-17. Level Controls.

Adequate level control devices shall be provided to maintain water levels in storage [~~structures~~]tanks.

R309-545-18. Safety.

(1) Utah OSHA.

The safety of employees shall be considered in the design of the storage [~~structure~~]tanks. Ladders, ladder guards, platform railings, and safely located entrance hatches shall be provided where applicable. As a minimum, safety practices shall conform to pertinent laws and regulations of the Utah Occupational Safety and Health Division.

(2) Ladders.

Ladders having an unbroken length in excess of 20 feet shall be provided with appropriate safety features, such as a safety cage, a safety harness, platforms, etc.

(3) Requirements for Elevated Tanks.

Elevated tanks shall have railings or handholds provided to access the water compartment safely.

R309-545-19. Disinfection.

Drinking water storage [~~structures~~]tanks shall be disinfected before being put into service for the first time and after being entered.[~~for cleaning, repair, or painting.~~] The tank shall be cleaned of all refuse and shall then be washed with drinking water prior to adding the disinfectant. AWWA Standard C652-11 shall be followed for tank disinfection.

Upon completing any of the three methods for storage tank chlorination, as outlined in AWWA C652-11, the water system must properly dispose of residual super-chlorinated waters in the outlet pipes. Other super-chlorinated waters, which are not to be ultimately diluted and delivered into the distribution system, shall also be properly disposed. Chlorinated water discharged from the storage tank shall be disposed of in conformance with R317 of the Utah Administrative Code.

R309-545-20. Tank Standards.

The plans and specifications shall incorporate the applicable portions of the following standards:

(1) AWWA Standards.

(a) C652-11, Disinfection of Water[~~—~~]-Storage [~~Reservoirs~~]Facilities.

(b) D100-11, Welded Carbon Steel Tanks for Water Storage.

~~(c) D101-53, Inspecting and Repairing Steel Water Tanks, Standpipes, Reservoirs, and Elevated Tanks for Water Storage.~~

([~~d~~]c) D102-11, Coating Steel Water-Storage Tanks.

([~~e~~]d) D103-09, Factory-Coated Bolted Carbon Steel Tanks for Water Storage.

([~~f~~]e) D104-11, Automatically Controlled, Impressed-Current Cathodic Protection for the Interior Submerged Surfaces of Steel Water

Tanks.

([~~g~~]f) D110-13, Wire- and Strand-Wound, Circular, Prestressed[~~-~~] Concrete Water Tanks.

([~~h~~]g) D115-06, Tendon-Prestressed Concrete Water Tanks.

([~~i~~]h) D120-09, Thermosetting Fiberglass-Reinforced Plastic Tanks.

([~~j~~]i) D130-11, Geomembrane Materials for Potable Water Applications.

(2) NSF International Standards.

(a) NSF 60, Drinking Water Treatment Chemicals - Health Effects.

(b) NSF 61, Drinking Water System Components - Health Effects.

(3) Utah OSHA.

Applicable standards of the Utah Occupational Safety and Health Division [~~are hereby incorporated by reference~~]shall be adhered to.

R309-545-21. Operation and Maintenance of Storage Tanks.

(1) Inspection and Cleaning.

Tanks that are entered for inspection [~~and~~]or cleaning shall be disinfected in accordance with AWWA Standard C652-11 prior to being returned to service.

(2) Recoating or Repairing.

Any substance used to recoat or repair the interior of a drinking water storage tank shall be certified to conform to ANSI/NSF Standard 61. If the tank is not drained for recoating or repairing, any substance or material used to repair the interior coatings or cracks shall be suitable for underwater application, as indicated by the manufacturer, as well as comply with both ANSI/NSF Standards 60 and 61. Recoating of the interior of a drinking water tank shall comply with the plan review requirements of R309-500-5(1)(c)(i).

(3) Seasonal Use.

Water storage tanks which are operated seasonally shall be flushed and disinfected in accordance with AWWA Standard C652-11 prior to each season's use. Certification of proper disinfection shall be obtained by the water system and kept on file. During the non-use period, care shall be taken to see that openings to the water storage tank (those which are normally closed and sealed during normal use) are closed and secured.

KEY: drinking water, storage tanks, access, overflow and drains
Date of Enactment or Last Substantive Amendment: April 27, 2009
Notice of Continuation: March 22, 2010
Authorizing, and Implemented or Interpreted Law: 19-4-104

R309-545. Facility Design and Operation: Drinking Water Storage Tanks.

R309-545-1. Purpose.

The purpose of this rule is to provide specific requirements for public drinking water storage tanks. It is intended to be applied in conjunction with other rules, specifically R309-500 through R309-550. Collectively, these rules govern the design, construction, operation, and maintenance of public drinking water system facilities. These rules are intended to assure that ~~such~~ facilities are reliably capable of supplying water in adequate quantities ~~of water~~, which consistently meeting applicable drinking water quality requirements and ~~do~~ not ~~pose~~ posing a threat to general public health.

R309-545-2. 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(1)(a)(ii) of the Utah Code, and in accordance with Title 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

R309-545-3. Definitions.

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

R309-545-4. General.

Storage for drinking water shall be provided as an integral part of each public drinking water system unless an exception to the rule is approved by the Director. Pipeline volume in transmission or distribution lines shall not be considered part of any storage volumes.

R309-545-5. Size of Tank(s).

Storage tanks shall be sized in accordance with the required minimums of R309-510.

R309-545-6. Tank Material and Structural Adequacy.

(1) Materials.

The materials used in drinking water storage ~~structures~~ tanks shall provide stability and durability as well as protect the quality of the stored water. Steel tanks shall be constructed from new, previously unused plates and designed in accordance with AWWA Standard D-100-11.

(2) Structural Design.

The structural design of drinking water storage ~~structures~~ tanks shall be sufficient for the environment in which they are located.

Guidance: Division review of plans and specifications for storage tanks does not include an evaluation of structural suitability. ~~Certificate~~ Certification of structural adequacy may be requested from the design engineer before approval is granted.

R309-545-7. Location of Tanks.

(1) Pressure Considerations.

The location of the tank and the design of the water system shall be such that the minimum working pressure in the distribution system shall meet the minimum pressures as required in R309-105-9.

Guidance: The expected water level variation in the tank should be taken into account when considering minimum and maximum distribution system pressures. The maximum variation between high and low water levels in storage ~~structures~~ tanks that provide pressure to a distribution system should not exceed 30 feet.

(2) Connections.

Tanks shall be located at an elevation where present and anticipated connections can be adequately served. System connections shall ~~not~~ be placed at elevations such that minimum pressures, as required in R309-105-9, ~~cannot~~ will be continuously maintained.

(3) Sewer Proximity.

Sewers, ~~drains, standing water,~~ and similar sources of possible contamination shall be kept at least 50 horizontal feet from the tank.

(4) Standing Surface Water.

The area surrounding a ground-level or buried drinking water storage ~~structure~~ tank shall be graded in a manner that will prevent surface water from standing within 50 horizontal feet of the ~~structure~~tank.

(5) Ability to Isolate.

Drinking water storage ~~structures~~ tanks shall be designed and located so that they can be isolated from the distribution system. Storage ~~structures~~ tanks shall be capable of being drained for cleaning or maintenance. Where possible, tanks ~~should~~ shall be designed with the ability to be isolated without ~~necessitating~~ loss of pressure or service in the distribution system.

(6) Earthquake and Landslide Risks.

Potential geologic hazards shall be taken into account in selecting a tank location. Earthquake and landslide risks shall be evaluated. ~~The design shall incorporate an analysis of potential seismic risks by a Professional Engineer or Geologist.~~

Guidance: The design may include special shut-off or isolation valves designed to react in the event of an earthquake.

(7) Security.

The site location and design of a drinking water storage tank shall take into consideration security issues and potential for vandalism.

Guidance: Fencing is advisable where the tank is highly accessible to the public or livestock. Where electricity or telemetry is available, consideration should be given to the installation of electronic security equipment.

R309-545-8. Tank Elevation and Burial.

(1) Flood Elevation.

The bottom of a ground-level or buried drinking water storage tank~~s~~ shall be located at least 3 feet above the 100-year flood level or the highest known maximum flood elevation, whichever is higher.

(2) Ground Water.

When the bottom of a drinking water storage tank will be placed below the normal ground surface, it shall be placed above the local ground water table ~~elevation~~.

Guidance: It is recommended that a french drain system be considered around any buried storage tank, but especially if the ground water table elevation is unknown or may exhibit seasonal variations.

(3) Covered Roof.

When the roof of a drinking water storage tank will be covered by earth, the roof shall be sloped to drain toward the outside edge of the tank.

R309-545-9. Tank Roof and Sidewalls.

(1) Protection From Contamination.

All drinking water storage ~~structures~~ tanks shall have suitable watertight roofs and sidewalls that shall also exclude birds, animals, insects, and excessive dust.

(2) Openings.

Openings in the roof and sidewalls shall be kept to a minimum and shall comply with the following:

(a) Any pipes running through the roof or sidewall of a metal drinking water storage ~~structure~~ tank shall be welded, or properly gasketed. In new concrete tanks, these pipes shall be connected to standard wall castings with seepage rings that have been poured in place. Vent pipes, in addition to seepage rings, shall have raised concrete curbs that direct water away from the vent pipe and are formed as a single pour with the roof deck. ~~No r~~Roof drains or any other pipes, which may contain water of lesser quality than drinking water, shall not penetrate the roof, walls, or floor of a drinking water storage tank.

(b) Openings in a storage ~~structure~~ tank roof or top, designated to accommodate control apparatus or pump columns, shall be welded, gasketed, or curbed and sleeved as above, and shall have additional proper shielding to prevent vandalism.

Guidance: Valves and controls should be located outside the storage ~~structure~~ tank so that the valve stems and similar projections will not pass through the roof or top of the tank.

(3) Adjacent Compartments.

Drinking water shall not be stored or conveyed in a compartment adjacent to wastewater when the two compartments are separated by a single wall.

(4) Roof Drainage.

The roof of all storage ~~structures~~ tanks shall be designed for drainage to eliminate water ponding. Parapets, or similar ~~construction~~structures, which would tend to hold water and snow, shall not be ~~utilized~~ allowed/permitted unless adequate waterproofing and drainage are provided. Downspout or roof drain pipes shall not enter or pass through the tank.

R309-545-10. Internal Features.

The following shall apply to internal features of drinking water storage ~~structures~~tanks:

(1) Drains.

(a) A means shall be provided for the draining of drinking water storage tanks.

(b) Where possible, the drain shall be separate from the outlet pipeline. If a tank drain line is provided, it shall be sloped for complete drainage.

(c) ~~If a~~ The drain ~~is provided, it~~ shall not discharge to a sanitary sewer.

(d) If local authority allows discharge to a storm drain, the drain discharge shall have a physical clearance of at least 12 inches between the discharge end of the pipe and the overflow rim of the receiving basin.

Guidance: A "means" to drain the storage tank can include a separate drain line, the ability to drain through a downstream hydrant or at a location with a significant elevation difference from the tank floor, or pumping out the water. It is recommended that the drain line be screened with No. 4 screen.

(2) Internal Catwalks.

Internal catwalks, if provided and located over the drinking water, shall have a solid floor with raised edges. The edges and floor shall be designed so that shoe scrapings or dirt will not fall into the drinking water.

(3) Inlet and Outlet.

(a) To minimize potential sediment in the flow from the tank, the outlet pipes from all tanks shall be located in a manner to provide a silt trap prior to discharge into the distribution system.

(b) Inlet and outlet pipes shall be configured to provide mixing and circulation.

Guidance: Internal baffling, special spray nozzles, bends, or mixing valves may also be needed in order to minimize the possibility of short circuiting through the tank depending on the size and shape of the tank and the flow.

(4) Tank Floor.

The floor of the storage ~~structure~~ tank shall be sloped to permit complete drainage of the structure.

R309-545-11. Internal Surfaces and Coatings

(1) ANSI/NSF Standard 61 Certification.

All interior surfaces ~~or~~ and coatings shall ~~consist of products that are certified to~~ comply with ANSI/NSF Standard 61 or other standards approved by the Director. This requirement applies to any pipes and fittings, protective materials (e.g., paints, coatings, concrete admixtures, concrete release agents, or concrete sealers), joining and sealing materials (e.g., adhesives, caulks, gaskets, primers and sealants) and mechanical devices (e.g., electrical wire, switches, sensors, valves, or submersible pumps) that ~~are located so as to~~may come into contact with the drinking water.

(2) Curing Procedures and Volatile Organic Compounds.

(a) Proper curing procedures shall be followed per manufacturer's directions,

including curing time, temperature, and forced air ventilation. Drinking water shall not be introduced into the tank until proper curing has occurred.

(b) It shall be the responsibility of the water system to assure that no tastes~~, or~~ odors, toxins, or contaminants~~, which~~ that result in MCL exceedances, are imparted to the water as a result of tank coating or repair.

(c) Prior to placing a drinking water storage tank in service, cleaning, disinfection, and flushing procedures shall be completed.

(d) Prior to placing a drinking water storage tank in service, an analysis for volatile organic compounds from water contained therein may be required to verify ~~that no such compounds have leached into the water~~compliance with drinking water maximum contaminants levels.

Guidance: If any volatile organic compounds are detectable, increased monitoring may be required in accordance with R309-205-6(2)(j)

R309-545-12. Steel Tanks.

(1) Paints.

Proper protection shall be given to all metal surfaces, both internal and external, by paints or other protective coatings. Internal coatings shall comply with R309-545-11.

(2) Cathodic Protection.

If installed, internal cathodic protection shall be designed, installed and maintained by personnel trained in corrosion engineering.

Guidance: Cathodic ~~P~~protection should be considered if an external structure, such as a communication tower, is added to the tank.

R309-545-13. Tank Overflow.

All water storage ~~structures~~ tanks shall be provided with an overflow that ~~is discharged~~ discharges at an elevation between 12 and 24 inches above the ground surface or the rim of the receiving basin. The discharge~~s~~ shall be directed away from the tank and shall not cause erosion.

(1) Diameter.

~~All o~~Overflow pipes shall be of sufficient capacity to permit waste of water in excess of the filling rate.

(2) Slope.

~~All o~~Overflow pipes shall be sloped for complete drainage.

(3) Screen.

~~All o~~Overflow pipes shall be screened with No. 4 mesh non-corrodible screen installed at a location least susceptible to damage by vandalism.

(4) Visible Discharge.

~~All o~~Overflow pipes shall be located so that any discharge is visible.

(5) Cross Connections.

~~All o~~Overflow pipes shall not be connected to, or discharge into, any sanitary sewer system.

~~(6) Paint.~~

~~If an overflow pipe within a tank is painted or otherwise coated, the coating shall comply with ANSI/NSF Standard 61.~~

R309-545-14. Access Openings.

Drinking water storage ~~structures~~ tanks shall be designed with reasonably convenient access to the interior for cleaning and maintenance.

Guidance: When considering what is reasonably convenient, it may be necessary for one individual to open the access. The access should be hinged at one side, and counter-weighted if the lid is in excess of 60 pounds. The safety of the operator should be considered when designing and locating access openings. Factors to be considered should include the placement of the locking mechanism, the location of the hinges for the hatch, etc.

(1) Height.

There shall be at least one opening above the ~~water line~~level of the overflow, which shall be framed at least 4 inches above the surface of the roof at the opening; or if on a buried ~~structure~~tank, shall be elevated at least 18 inches above any earthen cover over the ~~structure~~tank. The frame shall be securely fastened and sealed to the tank roof to prevent any liquid contaminant entering the tank. Concrete drinking water storage ~~structures~~ tanks shall have raised curbs around access openings, formed and poured continuous with the pouring of the roof, and sloped to direct water away from the frame.

Guidance: It is preferable that access openings are framed higher than the 4 inches required above, and more if located in areas subject to heavy snow~~s~~.

(2) Shoebox Lid.

The frame of any access opening shall be provided with a close-fitting, solid shoebox-type cover that extends down around the frame at least 2 inches and is furnished with a gasket(s) between the lid and frame. The horizontal surface of the tank lid shall not have

any openings, cracks, or penetrations, such as a lock, key hole, or bolted handle that would allow contaminants to enter the tank.

Guidance: Those wishing to utilize pre-manufactured roof hatches as access lids for drinking water storage ~~structures~~ tanks should contact the distributor of such and make clear that any penetrations through the lid is not acceptable.

(3) Locking Device.

The lid to any access opening shall have a locking device.

R309-545-15. Venting.

Drinking water storage ~~structures~~ tanks shall be vented. The air venting capacity shall exceed the water inflow and the water outflow of the tank. Overflows shall not be considered or used as vents.

Vents provided on drinking water storage tanks shall:

(1) Inverted Vent.

Be downturned a minimum of 2 inches below any opening and shielded to prevent the entrance of contaminants.

(2) Open Venting.

On buried structures, the end of the vent discharge shall be a minimum of 24 inches above the earthen covering.

Guidance: In areas of heavy snowfall, it is recommended that the vent discharge be raised.

(3) Blockage.

Be located and sized to avoid blockage during winter conditions.

(4) Screen.

Be fitted with No. 14 mesh or finer non-corrodible screen.

(5) Screen Protector.

Vents that are 6-inch diameter or greater shall be fitted with additional heavy gage screen or substantial covering, which will protect the No. 14 mesh screen against vandalism or damage.

R309-545-16. Freezing Prevention.

All drinking water storage ~~structures~~ tanks and their appurtenances, especially the riser pipes,

overflows, and vents, shall be designed to prevent freezing, which may interfere with proper functioning.

R309-545-17. Level Controls.

Adequate level control devices shall be provided to maintain water levels in storage ~~structures~~tanks.

Guidance: Some tanks should have automatic flow control devices because of the size and complexity of the system, while other smaller systems may monitor the tank levels manually. Level controls should be adequate to assure that the distribution system and tank will not run out of water.

R309-545-18. Safety.

(1) Utah OSHA.

The safety of employees shall be considered in the design of the storage ~~structure~~tank. Ladders, ladder guards, platform railings, and safely located entrance hatches shall be provided where applicable. As a minimum, safety practices shall conform to pertinent laws and regulations of the Utah Occupational Safety and Health Division.

(2) Ladders.

Ladders having an unbroken length in excess of 20 feet shall be provided with appropriate safety features, such as a safety cage, a safety harness, platforms, etc.

(3) Requirements for Elevated Tanks.

Elevated tanks shall have railings or handholds provided to access the water compartment safely.

R309-545-19. Disinfection.

Drinking water storage ~~structures~~ tanks shall be disinfected before being put into service for the first time and after being entered~~ for cleaning, repair, or painting~~. The tank shall be cleaned of all refuse and shall then be washed with drinking water prior to adding the disinfectant. AWWA Standard C652-11 shall be followed for tank disinfection.

Upon completing any of the three methods for storage tank chlorination, as outlined in AWWA C652-11, the water system must properly dispose of residual super-chlorinated waters in the outlet pipes. Other super-chlorinated waters, which are not to be ultimately diluted and delivered into the distribution system, shall also be properly disposed. Chlorinated water discharged from the storage tank shall be disposed of in conformance with R317 of the Utah Administrative Code.

R309-545-20. Tank Standards*.*

The plans and specifications shall incorporate the applicable portions of the following standards:

(1) AWWA Standards.

(a) C652-11, Disinfection of Water- Storage ~~Reservoirs~~Facilities.

(b) D100-11, Welded Carbon Steel Tanks for Water Storage.

~~(c) D101-53, Inspecting and Repairing Steel Water Tanks, Standpipes, Reservoirs, and Elevated Tanks for Water Storage.~~

(~~d~~c) D102-11, Coating Steel Water-Storage Tanks.

(~~e~~d) D103-09, Factory-Coated Bolted Carbon Steel Tanks for Water Storage.

(~~f~~e) D104-11, Automatically Controlled, Impressed-Current Cathodic Protection for the Interior Submerged Surfaces of Steel Water Tanks.

(~~g~~f) D110-13, Wire- and Strand-Wound, Circular, Prestressed Concrete Water Tanks

(~~h~~g) D115-06, Tendon-Prestressed Concrete Water Tanks.

(~~i~~h) D120-09, Thermosetting Fiberglass-Reinforced Plastic Tanks.

(~~j~~i) D130-11, Geomembrane Materials for Potable Water Applications.

(2) NSF International Standards.

(a) NSF 60, Drinking Water Treatment Chemicals - Health Effects.

(b) NSF 61, Drinking Water System Components - Health Effects.

(3) Utah OSHA.

Applicable standards of the Utah Occupational Safety and Health Division ~~are hereby incorporated by reference~~shall be adhered to.

R309-545-21. Operation and Maintenance of Storage Tanks.

(1) Inspection and Cleaning.

Tanks that are entered for inspection ~~and~~or cleaning shall be disinfected in accordance with AWWA Standard C652-11 prior to being returned to service.

(2) Recoating or Repairing.

Any substance used to recoat or repair the interior of a drinking water storage tank shall

be certified to conform to ANSI/NSF Standard 61. If the tank is not drained for recoating or repairing, any substance or material used to repair the interior coatings or cracks shall be suitable for underwater application, as indicated by the manufacturer, as well as comply with both ANSI/NSF Standards 60 and 61. Recoating of the interior of a drinking water tank shall comply with the plan review requirements of R309-500-5(1)(c)(i).

(3) Seasonal Use.

Water storage tanks, which are operated seasonally, shall be flushed and disinfected in accordance with AWWA Standard C652-11 prior to each season's use. Certification of proper disinfection shall be obtained by the water system and kept on file. During the non-use period, care shall be taken to see that openings to the water storage tank (those which are normally closed and sealed during normal use) are closed and secured.

KEY: drinking water, storage tanks, access, overflow and drains
Date of Enactment or Last Substantive Amendment: April 27, 2009
Notice of Continuation: March 22, 2010
Authorizing, and Implemented or Interpreted Law: 19-4-104

RESPONSE TO COMMENTS
PROPOSED RULE MAKING

DIVISION OF DRINKING WATER
DEPARTMENT OF ENVIROMENTAL QUALITY
STATE OF UTAH

R309-545 Storage Tanks and R309-550 Transmission and Distribution Pipelines

Published June 1, 2014 in Utah State Bulletin

Formal Comment Period: June 1, 2014 through July 1, 2014

Public Hearings: There were no formal public hearings.

COMMENT #1. In R309-545-11(2)b it says the water system has to assure that no "contaminants which result in MCL exceedances are imparted to the water as a result of tank coating or repair", but in (d) it says to verify that "no such compounds have leached into the water". For xylene, the MCL is 10,000 µg/L. We had 1.2 µg/L in a water sample, which apparently exceeds the limit in (d) of "no such compounds" which the division is interpreting as zero, or at least "undetectable" being the limit. The requirements of these two paragraphs just don't match up very well. (Paul Baxter, ATK)

RESPONSE: The rule was amended to state that VOC's had to be below the MCL limits, but a guidance paragraph was added stating that any detectible volatile organic compound could trigger increased monitoring.

COMMENT #2. Add installation standards for HDPE and steel pipes. This would be helpful (David Erichsen, Town of Hideout)

RESPONSE: References to installation standards were added as part of this rule revision.

COMMENT #3. Revise the minimum separation standards and add specific requirements for allowing sewer and water lines to be closer together under certain circumstances. This would be a welcomed change. (David Erichsen, Town of Hideout)

RESPONSE: Revisions to allow for less stringent separation standards under certain conditions were added as part of this rule revision.

COMMENT #4. Add the requirement for pressure reducing valves (PRV) station on new water distribution lines when the water pressure exceeds 150 psi. This change would significantly improve water distribution systems in the Town of Hideout. It would reduce dead end lines by allowing significantly more opportunities to loop systems. It would also allow us to increase the pressure for those residence near the PRV. (David Erichsen, Town of Hideout)

RESPONSE: The requirement to install PRV's on new water lines when water pressures exceed 150 psi was added as part of this rule revision.

COMMENT #5. There is a requirement that the well casing be extended 3 feet above the 100-year flood elevation, but there is not a requirement that the spring box be located above the flood elevation.

RESPONSE: We will take note of the suggestion and address it when we next update the source rule which includes design requirements for springs.

Agenda Item 7(B)

CHANGE IN PROPOSED RULE
FOR
RULE *R309-550*

On May 9, 2014, the Drinking Water Board authorized the Division staff to initiate the rule-making process for revising R309-550. R309-550 governs the design and construction requirements related to transmission and distribution pipelines. The rule change was initiated to update the rule, as it had not been updated in many years and had numerous inaccuracies. The rule was filed with the Division of Administrative Rules and they advertised the public comment period from June 1, 2014, to July 1, 2014. Several comments were received during this period.

To address these comments as well as some recommended grammatical and wording changes, staff felt it necessary to update the proposed rule. In order to make updates to a proposed rule, the Division of Administrative Rules requires that a "Change in Proposed Rule" be filed with their office and a new public comment period take place.

If the Board authorizes staff to proceed with the Change in Proposed Rule, it is anticipated that the filing will be advertised in the August 15, 2014 DAR Bulletin, with a comment period from August 15th to September 15th. If no significant comments are received, the rule would then be brought back to the Board in November for authorization to make the rule effective.

The proposed modifications to *R309-550* include the following:

- Revise references to the plumbing code to be "state-adopted plumbing code"
- Revise references to engineer and supplier to be the water system.
- Add a requirement to submit information on the condition of the pipe when sewer and water lines are closer than 10 feet.
- Eliminate large portion of the cross connection section and reference the cross connection rule, to avoid inconsistencies.
- Minor grammatical and other wording changes to provide clarity.

There are two versions of the R309-550 revision. The Division of Administrative Rules (DAR) maintains the official version of the rules and oversees the rulemaking process. The official rulemaking document of the R309-550 revision is in a specific format required by DAR. In addition to the DAR version, the Division of Drinking Water (DDW) has chosen to provide a DDW version of the rule to the public. The rule content is the same in the two versions. However, the DDW version is formatted for easier reading (with indentation and spacing) and contains DDW's interpretation of the rule (in the form of guidance paragraphs). These guidance paragraphs are not considered part of the official rule.

Staff Recommendation: Staff, believing that the above mentioned changes are substantive, asks the Board review the proposed changes and, if they agree, authorize staff to file the Change in Proposed Rule for publication in the Utah Bulletin.

R309. Environmental Quality, Drinking Water.
R309-550. Facility Design and Operation: Transmission and Distribution Pipelines.
R309-550-1. Purpose.

The purpose of this rule is to provide specific requirements for the design and installation of transmission and distribution pipelines [~~that are utilized to~~]which deliver drinking water to facilities of public drinking water systems or to consumers. It is intended to be applied in conjunction with rules R309-500 through R309-550. Collectively, these rules govern the design, construction, operation, and maintenance of public drinking water system facilities. These rules are intended to assure that [~~these~~] facilities are reliably capable of supplying water in adequate quantities[~~ of water~~], [~~which~~] consistently meeting applicable drinking water quality requirements, and [~~do~~]not [~~pose~~]posing a threat to general public health.

R309-550-2. 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(1)(a)(ii) of the Utah Code and in accordance with Title 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

R309-550-3. Definitions.

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

R309-550-4. General.

Transmission and distribution pipelines shall be designed, constructed and operated to convey adequate quantities of water at ample pressure, while maintaining water quality.

R309-550-5. Water Main Design.

(1) Distribution System Pressure.

(a)The distribution system shall be designed to maintain minimum pressures as required in R309-105-9 at points of connection, under all conditions of flow.

(b) When static pressure exceeds 150 psi in new distribution water lines, pressure reducing devices shall be provided on mains in the distribution system where service connections exist.

(2) Design Flow Rates.

Flow rates used when designing or analyzing distribution systems shall meet the minimum requirements in R309-510.

(3) Hydraulic Analysis.

(a) All water mains shall be sized following a hydraulic analysis based on flow demands and pressure requirements.

(b) Where improvements will upgrade more than 50% of an existing distribution system, or where a new distribution system is proposed, a hydraulic analysis of the entire system shall be prepared and submitted for review prior to plan approval.

(c) Some projects require a hydraulic model. The Division may require submission of a hydraulic modeling report and/or certification, as outlined in R309-511, prior to plan approval.

(4) Minimum Water Main Size.

For water mains not connected to fire hydrants, the minimum line size shall be 4 inches in diameter, unless [~~it~~]they serve[~~s~~] picnic sites, parks, semi-developed camps, primitive camps, or roadway rest-stops. Minimum water main size, serving a fire hydrant lateral, shall be 8 inches in diameter unless a hydraulic analysis indicates that required flow and pressures can be maintained by 6-inch lines.

(5) Fire Protection.

When a public water system is required to provide water for fire flow by the local fire code official, or if the system has installed fire hydrants on existing distribution mains for that purpose:

(a) The design of the distribution system shall be consistent with the fire flow requirements as determined by the local fire code official.

(b) The location of fire hydrants shall be consistent with the requirements of the State-[~~,~~]adopted fire code and as determined by the local fire code official.

(c)The pipe network design shall permit fire flows to be met at representative locations while minimum pressures, as required in R309-105-9, are maintained at all times and at all points in the distribution system.

(d) Fire hydrant laterals shall be a minimum of 6 inches in diameter.

(6) Geologic Considerations.

The character of the soil through which water mains are to be laid shall be considered. Special design and burial techniques shall be employed for Community [~~w~~]Water [~~s~~]Systems in areas of geologic hazard (e.g., slide zones, fault zones, river crossings, etc.)

(7) Dead Ends.

(a) [~~In order t~~]To provide increased reliability of service and reduce head loss, dead ends shall be minimized by making appropriate tie-ins whenever practical.

(b) Where dead-end mains occur, they shall be provided with a fire hydrant if flow and pressure are sufficient, or with an approved flushing hydrant or blow-off for flushing purposes. Flushing devices shall be sized to provide flows that will give a velocity of at least 2.5 fps in the water main being flushed. No flushing device shall be directly connected to a[~~ny~~] sewer.

(8) Isolation Valves.

Sufficient number of valves shall be provided on water mains so that inconvenience and sanitary hazards will be minimized during repairs. Valves shall be located at not more than 500 foot intervals in commercial districts and at not more than one block or 800 foot intervals in other districts. Where systems serve widely scattered customers and where future development is not expected, the valve spacing shall not exceed one mile.

(9) Corrosive Soils and Waters.

[~~The design engineer shall consider~~]Consideration shall be given to the materials to be used when corrosive soils or waters will be encountered.

(10) Special Precautions in Areas of Contamination.

Where distribution systems are installed in areas of contamination:

(a) pipe and joint materials[~~,~~] which are not

[~~subject~~]susceptible to contamination, such as permeation [~~of the~~]by organic compounds, shall be used; and,

(b) non-permeable materials shall be used for all portions of the system including water mains, service connections, and hydrant leads.

(11) Water Mains and Other Sources of Contamination.

[~~Design engineers shall exercise caution~~]Caution shall be exercised when locating water mains at or near certain sites such as sewage treatment plants or industrial complexes. Individual septic tanks shall be located and avoided. The [~~engineer shall contact the~~] Division shall be contacted to establish specific design requirements [~~for~~]prior to locating water mains near a[~~ny~~] source of contamination.

R309-550-6. Component Materials and Design.

(1) ANSI/NSF Standard for Health Effects.

All materials that may come in contact with drinking water, including pipes, gaskets, lubricants and O-Rings, shall be ANSI-certified as meeting the requirements of ANSI/NSF Standard 61, Drinking Water System Components - Health Effects. To permit field-verification of this certification, all components shall be appropriately stamped with the NSF logo.

(2) Asbestos and Lead.

(a) The use of asbestos cement pipe shall not be allowed.

(b) Pipes and pipe fittings installed after January 4, 2014, [~~are required to~~]shall be “lead free” in accordance with Section 1417 of the Federal Safe Drinking Water Act. They shall be certified as meeting ANSI/NSF 372 or Annex G of ANSI/NSF 61.

(3) Standards for Mechanical Properties.

Pipe, joints, fittings, valves, and fire hydrants shall conform to ANSI/NSF Standard 61, and applicable sections of AWWA Standards C104-A21.4-08 through C550-05 and C900-07 through C950-07.

(4) Used Materials.

Only materials that have been used previously for conveying drinking water may be reused. Used materials shall meet the above standards, be thoroughly cleaned, and be restored to their original condition.

(5) Fire Hydrants.

(a) Hydrant drains shall not be connected to, or located within, 10 feet of sanitary sewers.[~~, and w~~]Where possible, hydrant drains shall not be located within 10 feet of storm drains.

(b) Auxiliary valves shall be installed in all hydrant leads.

(c) Hydrant drains shall be installed with a gravel packet or dry well unless the natural soils will provide adequate drainage.

(6) Air Relief Valves and Blow-Offs.

(a) At high points in water mains where air can accumulate, provisions shall be made to remove air by means of hydrants or air relief valves.

(b) The open end of the air relief vent pipe from automatic valves shall be provided with a #14 mesh, non-corrodible screen and a downward elbow, and where possible, be extended to at least one foot above grade. Alternatively, the open end of the pipe may be extended to as little as one foot above the top of the pipe if the valve’s chamber is not subject to flooding, or if it meets the requirements of (7) Chamber Drainage.

(c) Blow-offs or air relief valves shall not be connected directly to a[~~ny~~] sewer.

(d) Adequate number of hydrants or blow-offs shall be provided to allow periodic flushing and cleaning of water lines.

(e) The air relief valve shall be [~~placed~~]installed in a manner to prevent [~~problems due to~~]it from freezing. A shut-off valve shall be provided to permit servicing of an[~~y~~] air relief valve.

(7) Chamber Drainage.

(a) Chambers, pits, or manholes containing valves, blow-offs, meters, or other such appurtenances to a distribution system, shall not be connected directly to a[~~ny~~] storm drain or sanitary sewer.

(b) Chambers shall be provided with a drain to daylight, if possible. Where this is not possible, underground gravel-filled absorption pits may be used if the site is not subject to flooding and conditions will assure adequate drainage. Sump pumps may also be considered if a drain to daylight or absorption pit is not feasible.

(8) Control Valve Stations

(a) Pressure Reducing Valves (PRVs)

(i) Isolation Valves shall be installed on [~~either~~]both sides of the pressure reducing valve.

(ii) Where variable flow conditions will be encountered, consideration [~~should~~]shall be given to providing parallel PRV lines to accomidate low and high flow conditions.[~~a low-flow and a high-flow line.~~]

(a) Backflow Devices

Installation of Backflow devices shall conform to the State-adopted plumbing code.

(b) Meters

Meter installation shall conform to the State-adopted plumbing code and local jurisdictional standards.

R309-550-7. Separation of Water Mains and Transmission Lines from Sewers.

(1) Basic Separation Standards.

(a) The horizontal distance between water lines and sanitary sewer lines shall be at least 10 feet. Where a water main and a sewer line must cross, the water main shall be at least 18 inches above the sewer line. Separation distances shall be measured edge-to-edge (i.e. from the nearest edges of the facilities).

(b) Water mains and sewer lines shall not be installed in the same trench.

(c) Where local conditions make it impossible to install water or sewer lines at separation distances required by subsection (a), [~~above, and~~] the sewer pipes are in good condition, and there is not high groundwater in the area, it may be acceptable if the design includes a minimum horizontal separation of 6 feet and a minimum vertical clearance of 18 inches with the waterline being above. In order to determine whether the design is acceptable, the following information shall be submitted as part of the plans for review.

(i) reason for not meeting the minimum separation standard;

(ii) location where the water and sewer line separation is not being met;

(iii) horizontal and vertical clearance that will be achieved;

(iv) sewer line information including pipe material, condition, size, age, type of joints, thickness or pressure class, whether the pipe is pressurized or not, etc.;

(v) water line information including pipe material, condition, size, age, type of joints, thickness or pressure class, etc.;

(vi) ground water and soil conditions; and,

(vii) any mitigation efforts.

(d) If the basic separation standards as outlined in subsections (a) though (c) above cannot be met, an exception to the rule can be applied for with additional mitigation measures to protect public health, in accordance with R309-105-6(2)(b).

(3) Special Provisions.

The following special provisions apply to all situations:

(a) The basic separation standards are applicable under normal conditions for sewage collection lines and water distribution mains. More stringent requirements may be necessary if conditions such as high groundwater exist.

(b) All water transmission lines that may become unpressurized shall not be installed within 20 feet of sewer lines.

(c) In the installation of water mains or sewer lines, measures shall be taken to prevent or minimize disturbances of the existing line.

(d) Special consideration shall be given to the selection of pipe materials if corrosive conditions are likely to exist or where the minimum separation distances cannot be met. These conditions may be due to soil type, groundwater, and/or the nature of the fluid conveyed in the conduit, such as a septic sewage which produces corrosive hydrogen sulfide.

(e) Sewer Force Mains

(i) When a new sewer force main crosses under an existing water main, all portions of the sewer force main within 10 feet (horizontally) of the water main shall be enclosed in a continuous sleeve.

(ii) When a new water main crosses over an existing sewer force main, the water main shall be constructed of pipe materials with a minimum rated working pressure of 200 psi or equivalent pressure rating.

(4) Water Service Laterals Crossing Sewer Mains and Laterals.

Water service laterals shall conform to all requirements given herein for the separation of water and sewer lines.

R309-550-8. Installation of Water Mains.

(1) Standards.

The specifications shall incorporate the provisions of the manufacturer's recommended installation procedures or the following applicable standards:

(a) For ductile iron pipe, AWWA Standard C600-10, Installation of Ductile Iron Water Mains and Their Appurtenances;

(b) For PVC pipe, ASTM D2774, Recommended Practice for Underground Installation of Thermoplastic Pressure Piping and PVC Pipe and AWWA Manual of Practice M23, 2003;

(c) For HDPE pipe, ASTM D2774, Recommended Practice for Underground Installation of Thermoplastic Pressure Piping and AWWA

Manual of Practice M55, 2006; and,

(d) For Steel pipe, AWWA Standard C604-11, Installation of Buried Steel Water Pipe- 4 inch and Larger.

(2) Bedding.

A continuous and uniform bedding shall be provided in the trench for all buried pipe. Stones larger than the backfill materials described below shall be removed for a depth of at least 6 inches below the bottom of the pipe.

(3) Backfill.

Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. The material and backfill zones shall be as specified by the standards referenced in Subsection (1), above. As a minimum:

(a) for plastic pipe, backfill material with a maximum particle size of 3/4 inch shall be used to surround the pipe; and,

(b) for ductile iron pipe, backfill material shall contain no stones larger than 2 inches.

(4) Dropping Pipe into Trench.

Under no circumstances shall the pipe or accessories be dropped into the trench.

(5) Burial Cover.

All water mains shall be covered with sufficient earth or other insulation to prevent freezing, unless they are part of a non-community system that can be shut-down and drained during winter months when temperatures are below freezing.

(6) Thrust Blocking.

All tees, bends, plugs, and hydrants shall be provided with thrust blocking, anchoring, tie rods, or restraint joints designed to prevent movement. Restraints shall be sized to withstand the forces experienced.

(7) Pressure and Leakage Testing.

All types of installed pipe shall be pressure tested and leakage tested in accordance with AWWA Standard C600-10.

(8) Surface Water Crossings.

(a) Above Water Crossings

The pipe shall be adequately supported and anchored, protected from damage and freezing, and accessible for repair or replacement.

(b) Underwater Crossings

(i) A minimum cover of 2 feet or greater, as local conditions may dictate, shall be provided over the pipe.

(ii)When crossing water courses that are greater than 15 feet in width, the following shall be provided:

(A)Pipe with joints shall be of special construction, having restrained joints for [~~any~~] joints within the surface water course and flexible restrained joints at both edges of the water course.

(B)Isolating valves shall be provided on both sides of the water crossing[~~s~~]at locations not subject to high ground water or flooding, so that the section can be isolated for testing or repair.

C) A means shall be provided, such as a sampling tap, not subject to flooding, to allow for representative water quality testing on the upstream and downstream side of the crossing.

(D) A means shall be provided to pressure test the underground water crossing pipe.

(9) Sealing Pipe Ends During Construction.

The open ends of all pipelines under construction shall be covered and effectively sealed at the end of the day's work.

(10) Disinfecting Water Lines.

All new water mains or appurtenances shall be disinfected in accordance with AWWA Standard C651-05 or a method approved by the Director. The specifications shall include detailed procedures for the adequate flushing, disinfection and microbiological testing of all water mains. On all new and extensive distribution system construction, evidence of satisfactory disinfection shall be provided to the Division. Samples for coliform analyses shall be collected after disinfection is complete and the system is refilled with drinking water. A standard heterotrophic plate count is advisable. The use of water for public drinking water purposes shall not commence until the bacteriologic tests indicate the water is free from contamination.

R309-550-9. Cross Connections and Interconnections.

(1) Physical Cross Connections.

There shall be no physical cross connections between the distribution system and pipe, pumps, hydrants, or tanks that may be contaminated from any source,including pressurized irrigation.

(2) Recycled Water.

Neither steam condensate nor cooling water from engine jackets or other heat exchange devices shall be returned to the drinking water supply.

(3) System Interconnects.

The interconnections between different drinking water systems shall be reviewed and approved by the Director.

R309-550-10. Water Hauling.

(1) Community Water Systems.

Water hauling is not an acceptable permanent source for drinking water distribution in [~~c~~]Community [~~w~~]Water [~~s~~]Systems.

(2) Non-[~~c~~]Community Systems.

The Director may allow water hauling for [~~n~~]Non-[~~c~~]Community [~~p~~]Public [~~w~~]Water [~~s~~]Systems by special approval if:

(a) consumers can not otherwise be supplied with good quality drinking water; or,

(b) the nature of the development, or ground conditions, are such that the placement of a pipe distribution system is not justified. Proposals for water hauling shall be submitted to, and approved by, the Director.

(3) Emergencies.

Water hauling may be a temporary means of providing drinking water in an emergency. Water systems shall notify the Division as soon as possible of such emergencies.

R309-550-11. Service Connections and Plumbing.

(1) Service Taps.

Service taps shall not jeopardize the quality of the system's water.

(2) Plumbing.

(a) Water services and plumbing shall conform to the

[~~Utah~~]State-adopted Plumbing Code.

(b) Pipes and pipe fittings installed after January 4, 2014, [~~are required to~~]shall be "lead-free" in accordance with Section 1417 of the federal Safe Drinking Water Act. They shall be certified meeting the ANSI/NSF 372 or Annex G of ANSI/NSF 61.

(3) Individual Home Booster Pumps.

Individual booster pumps shall not be allowed for [~~any~~] individual service from the public water supply mains. Exceptions to the rule may be granted by the Director if it can be shown that the granting of such an exception will not jeopardize the public health.

(4) Service Lines.

(a) Service lines shall be capped until connected for service.

(b) The portion of the service line under the control of the water system is considered to be part of the distribution system.

(5) Service Meters and Building Service Line.

Connections between the service meter and the home shall be in accordance with the [~~Utah~~]State-adopted Plumbing Code.

R309-550-12. Transmission Lines.

(1) Unpressurized Flows.

Transmission lines shall conform to all applicable requirements in this rule. Transmission line design shall minimize unpressurized flows.

(2) Proximity to Concentrated Sources of Pollution.

A water [~~supplier~~]system shall not [~~route~~]install an unpressurized transmission line [~~any closer~~]less than 20 feet [~~to any~~]from a concentrated source of pollution (e.g., septic tanks and drain fields, garbage dumps, pit privies, sewer lines, feed lots, etc.). Furthermore, unpressurized transmission lines shall not be placed in boggy areas or areas subject to the ponding of water.

R309-550-13. Operation and Maintenance.

(1) Disinfection After Line Repair.

The disinfection procedures of Section 4.7, AWWA Standard C651-05 shall be followed if a[~~ny~~] water main is cut [~~into~~] or repaired.

(2) Cross Connections.

The water system shall not allow a connection that may jeopardize water quality. Cross connections shall be eliminated by physical separation, [~~are not allowed unless controlled by~~]an air gap, or an approved and properly operating backflow prevention assembly. [~~The requirements of the Utah Plumbing Code shall be met with respect to cross connection control and backflow prevention.~~

~~Water systems shall maintain an inventory of each pressure vacuum breaker assembly, spill-resistant vacuum breaker assembly, double check valve assembly, reduced pressure principle backflow prevention assembly, and high hazard air gap used by their customers, and a service/inspection record for each such assembly.~~

~~Backflow prevention assemblies shall be inspected and tested at least once a year, by an individual certified for such work. This responsibility may be borne by the water system or the water system management may require that the customer with the backflow prevention~~

~~assembly be responsible for having the device tested.~~

~~Water systems serving areas also served by a pressurized irrigation system shall not allow cross connections between the two.~~]

The water system shall have an ongoing cross connection control program in compliance with R309-105-12.

(3) ANSI/NSF Standards.

All pipe and fittings used in routine operation and maintenance shall be ANSI-certified as meeting NSF Standard 61 or Standard 14.

(4) Seasonal Operation.

Water systems operated seasonally shall be disinfected and flushed according to AWWA Standard C651-05 for pipelines and AWWA Standard C652-11 for storage facilities prior to each season's use. A satisfactory bacteriologic sample shall be obtained prior to use. During the non-use period, care shall be taken to close all openings into the system.

KEY: drinking water, transmission and distribution pipelines, connections, water hauling
Date of Enactment or Last Substantive Amendment: March 8, 2006
Notice of Continuation: March 22, 2010
Authorizing, and Implemented or Interpreted Law: 19-4-104

R309-550. Facility Design and Operation: Transmission and Distribution Pipelines.

R309-550-1. Purpose.

The purpose of this rule is to provide specific requirements for the design and installation of transmission and distribution pipelines ~~that are utilized to~~which deliver drinking water to facilities of public drinking water systems or to consumers. It is intended to be applied in conjunction with rules R309-500 through R309-550. Collectively, these rules govern the design, construction, operation, and maintenance of public drinking water system facilities. These rules are intended to assure that ~~these~~ facilities are reliably capable of supplying water in adequate quantities ~~of water~~, ~~which~~ consistently meeting applicable drinking water quality requirements, and ~~do~~ not ~~pose~~posing a threat to general public health.

R309-550-2. 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(1)(a)(ii) of the Utah Code and in accordance with Title 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

R309-550-3. Definitions.

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

R309-550-4. General.

Transmission and distribution pipelines shall be designed, constructed and operated to convey adequate quantities of water at ample pressure, while maintaining water quality.

R309-550-5. Water Main Design.

(1) Distribution System Pressure.

(a) The distribution system shall be designed to maintain minimum pressures as required in R309-105-9 at points of connection, under all conditions of flow.

(b) When static pressure exceeds 150 psi in new distribution water lines, pressure reducing devices shall be provided on mains in the distribution system where service connections exist.

Guidance: The normal working pressure in the distribution system should be between

60 and 100 psi. The requirement for PRV's to be installed when pressures exceed 150 psi only applies to new water pipelines. Systems should implement an operation program to protect water users from excessive pressures.

(2) Design Flow Rates.

Flow rates used when designing or analyzing distribution systems shall meet the minimum requirements in R309-510.

(3) Hydraulic Analysis.

(a) All water mains shall be sized following a hydraulic analysis based on flow demands and pressure requirements.

(b) Where improvements will upgrade more than 50% of an existing distribution system, or where a new distribution system is proposed, a hydraulic analysis of the entire system shall be prepared and submitted for review prior to plan approval.

(c) Some projects require a hydraulic model. The Division may require submission of a hydraulic modeling report and/ or certification, as outlined in R309-511, prior to plan approval.

(4) Minimum Water Main Size.

For water mains not connected to fire hydrants, the minimum line size shall be 4 inches in diameter, unless ~~it~~ they serve~~s~~ picnic sites, parks, semi-developed camps, primitive camps or roadway rest-stops. Minimum water main size, serving a fire hydrant lateral, shall be 8 inches in diameter unless a hydraulic analysis indicates that required flow and pressures can be maintained by 6-inch lines.

Guidance: Generally, velocity in a water main should not exceed 5 fps. Mains should be designed with sufficient excess capacity to provide for anticipated future connections.

(5) Fire Protection.

When a public water system is required to provide water for fire flow by the local fire code official, or if the system has installed fire hydrants on existing distribution mains for that purpose:

(a) The design of the distribution system shall be consistent with the fire flow requirements as determined by the local fire code official.

Guidance: The State Fire Marshall's office has stated that "The State- adopted fire code recognizes that water mains intended for firefighting need not become

subject to retroactive fire flow requirements. As such, an existing system is considered code compliant as long as it is maintained properly and new construction does not alter the fire flow requirement. Water companies are encouraged to make improvements incrementally to avoid a possible moratorium on development due to lack of water, i.e., fire flow."

(b) The location of fire hydrants shall be consistent with the requirements of the State--adopted fire code and as determined by the local fire code official.

Guidance: Generally, individual hydrant spacing may range from 200 to 500 feet depending on the area being served. The planning of hydrant locations should be a cooperative effort between the water utility and local fire officials.

(c) The pipe network design shall permit fire flows to be met at representative locations while minimum pressures, as required in R309-105-9, are maintained at all times and at all points in the distribution system.

(d) Fire hydrant laterals shall be a minimum of 6 inches in diameter.

(6) Geologic Considerations.

The character of the soil through which water mains are to be laid shall be considered. Special design and burial techniques shall be employed for Community ~~w~~Water ~~s~~Systems in areas of geologic hazard (e.g., slide zones, fault zones, river crossings, etc.)

Guidance: Water supply conduits and major service lines crossing known fault areas should be either designed to accommodate significant differential movement of the ground, or be valved immediately above and below the points of the fault crossing to allow control of water flow, in case of pipe rupture during an earthquake event.

Guidance: Water systems should be designed to provide alternative flow paths for major conduits in regions of known geologic hazards.

(7) Dead Ends.

(a) ~~In order t~~To provide increased reliability of service and reduce head loss, dead ends shall be minimized by making appropriate tie-ins whenever practical.

(b) Where dead-end mains occur, they shall be provided with a fire hydrant if flow and pressure are sufficient, or with an approved flushing hydrant or blow-off for flushing purposes. Flushing devices shall be sized to provide flows that will give a velocity of at least 2.5 fps in the water main being flushed. No flushing device shall be directly connected to a~~ny~~ sewer.

(8) Isolation Valves.

Sufficient number of valves shall be provided on water mains so that inconvenience and sanitary hazards will be minimized during repairs. Valves shall be located at not more than 500foot intervals in commercial districts and at not more than one block or 800 foot intervals in other districts. Where systems serve widely scattered customers and where future development is not expected, the valve spacing shall not exceed one mile.

(9) Corrosive Soils and Waters.

~~The design engineer shall consider~~Consideration shall be given to the materials to be used when corrosive soils or waters will be encountered.

(10) Special Precautions in Areas of Contamination

Where distribution systems are installed in areas of contamination:

(a) pipe and joint materials~~,~~ which are not ~~subject~~ susceptible to contamination, such as permeation ~~of the~~by organic compounds, shall be used; and,

(b) non-permeable materials shall be used for all portions of the system including water mains, service connections, and hydrant leads.

(11) Water Mains and Other Sources of Contamination.

~~Design engineers shall exercise caution~~Caution shall be exercised when locating water mains at or near certain sites such as sewage treatment plants or industrial complexes. Individual septic tanks shall be located and avoided. The ~~engineer shall contact the~~ Division shall be contacted to establish specific design requirements ~~for~~ prior to locating water mains near a~~ny~~ source of contamination.

Guidance: It is recommended that utility lines are clearly identified and visually different from one another. Consideration shall be given to providing appropriate separation between water and other utilities for operational and contamination reasons.

R309-550-6. Component Materials and Design.

(1) ANSI/NSF Standard for Health Effects.

All materials that may come in contact with drinking water, including pipes, gaskets, lubricants and O-Rings, shall be ANSI-certified as meeting the requirements of ANSI/NSF Standard 61, Drinking Water System Components - Health Effects. To permit field-verification of this certification, all components shall be appropriately stamped with the NSF logo.

(2) Asbestos and Lead.

(a) The use of asbestos cement pipe shall not be allowed.

(b) Pipes and pipe fittings installed after January 4, 2014, ~~are required to~~ shall be "lead free" in accordance with Section 1417 of the Federal Safe Drinking Water Act. They shall be certified as meeting ANSI/NSF 372 or Annex G of ANSI/NSF 61.

Guidance: The Community Fire Safety Act of 2013 exemplts fire hydrants from the lead free requirements of Section 1417.

(3) Standards for Mechanical Properties.

Pipe, joints, fittings, valves, and fire hydrants shall conform to ANSI/NSF Standard 61, and applicable sections of AWWA Standards C104-A21.4-08 through C550-05 and C900-07 through C950-07.

(4) Used Materials.

Only materials that have been used previously for conveying drinking water may be reused. Used materials shall meet the above standards, be thoroughly cleaned, and be restored to their original condition.

(5) Fire Hydrants .

(a) Hydrant drains shall not be connected to, or located within, 10 feet of sanitary sewers~~., and w~~ Where possible, hydrant drains shall not be located within 10 feet of storm drains.

(b) Auxiliary valves shall be installed in all hydrant leads.

(c) Hydrant drains shall be installed with a gravel packet or dry well unless the natural soils will provide adequate drainage.

(6) Air Relief Valves and Blow-offs.

(a) At high points in water mains where air can accumulate, provisions shall be made to remove air by means of hydrants or air relief valves.

(b) The open end of the air relief vent pipe from automatic valves shall be provided with a #14 mesh, non-corrodible screen and a downward elbow, and where possible, be extended to at least one foot above grade. Alternatively, the open end of the pipe may be extended to as little as one foot above the top of the pipe if the valve's chamber is not subject to flooding, or if it meets the requirements of (7) Chamber Drainage.

(c) Blow-offs or air relief valves shall not be connected directly to a~~ny~~ sewer.

(d) Adequate number of hydrants or blow-offs shall be provided to allow periodic flushing and cleaning of water lines.

(e) The air relief valve shall be ~~placed~~ installed in a manner to prevent ~~problems due to~~it from freezing. A shut-off valve shall be provided to permit servicing of an~~y~~ air relief valve.

(7) Chamber Drainage

(a) Chambers, pits, or manholes containing valves, blow-offs, meters, or other such appurtenances to a distribution system, shall not be connected directly to a~~ny~~ storm drain or sanitary sewer.

(b) Chambers shall be provided with a drain to daylight, if possible. Where this is not possible, underground gravel-filled absorption pits may be used if the site is not subject to flooding and conditions will assure adequate drainage. Sump pumps may also be considered if a drain to daylight or absorption pit is not feasible.

(8) Control Valve Stations

(a) Pressure Reducing Valves (PRV's)

(i) Isolation Valves shall be installed on ~~either~~ both sides of the pressure reducing valve.
(ii) Where variable flow conditions will be encountered, consideration ~~should~~ shall be given to providing parallel PRV lines to accommodate low and high flow conditions~~a low flow and a high flow line~~.

(b) Backflow Devices
Installation of Backflow devices shall conform to the State-adopted plumbing code.

(c) Meters
Meter installation shall conform to the State-adopted plumbing code and local jurisdictional standards.

R309-550-7. Separation of Water Mains and Transmission Lines from Sewers.

(1) Basic Separation Standards.

(a) The horizontal distance between water lines and sanitary sewer lines shall be

at least10 feet. Where a water main and a sewer line must cross, the water main shall be at least 18 inches above the sewer line. Separation distances shall be measured edge-to-edge (i.e., from the nearest edges of the facilities).

(b) Water mains and sewer lines shall not be installed in the same trench.

(c) Where local conditions make it impossible to install water or sewer lines at separation distances required by subsection (a), ~~above, and~~ the sewer pipes are in good condition, and there is not high groundwater in the area, it may be acceptable if the design includes a minimum horizontal separation of 6 feet and a minimum vertical clearance of 18 inches with the waterline being above. In order to determine whether the design is acceptable, the following information shall be submitted as part of the plans for review:

(i) reason for not meeting the minimum separation standard;
(ii) location where the water and sewer line separation is not being met;
(iii) horizontal and vertical clearance that will be achieved;
(iv) sewer line information including pipe material, condition, size, age, type of joints, thickness or pressure class, whether the pipe is pressurized or not, etc.;
(v) water line information including pipe material, condition, size, age, type of joints, thickness or pressure class, etc.;
(vi) ground water and soil conditions; and,
(vii) any mitigation efforts.

(d) If the basic separation standards as outlined in subsections (a) though (c) above cannot be met, an exception to the rule can be applied for with additional mitigation measures to protect public health, in accordance with R309-105-6(2)(b).

Guidance: Consideration should be given to placing warning tape above the water lines and/ or sewer lines

(3) Special Provisions.

The following special provisions apply to all situations:

(a) The basic separation standards are applicable under normal conditions for sewage collection lines and water distribution mains. More stringent requirements may be necessary if conditions such as high groundwater exist.

(b) All water transmission lines that may become unpressurized shall not be installed within 20 feet of sewer lines.

(c) In the installation of water mains or sewer lines, measures shall be taken to

prevent or minimize disturbances of the existing line.

(d) Special consideration shall be given to the selection of pipe materials if corrosive conditions are likely to exist or where the minimum separation distances cannot be met. These conditions may be due to soil type, groundwater, and/or the nature of the fluid conveyed in the conduit, such as a septic sewage which produces corrosive hydrogen sulfide

(e) Sewer Force Mains

(i) When a new sewer force main crosses under an existing water main, all portions of the sewer force main within 10 feet (horizontally) of the water main shall be enclosed in a continuous sleeve.

(ii) When a new water main crosses over an existing sewer force main, the water main shall be constructed of pipe materials with a minimum rated working pressure of 200 psi or equivalent pressure rating.

(4) Water Service Laterals Crossing Sewer Mains and Laterals.

Water service laterals shall conform to all requirements given herein for the separation of water and sewer lines.

R309-550-8. Installation of Water Mains.

(1) Standards.

The specifications shall incorporate the provisions of the manufacturer's recommended installation procedures or the following applicable standards:

(a) For ductile iron pipe, AWWA Standard C600-10, Installation of Ductile Iron Water Mains and Their Appurtenances;

(b) For PVC pipe, ASTM D2774, Recommended Practice for Underground Installation of Thermoplastic Pressure Piping and PVC Pipe and AWWA Manual of Practice M23, 2003;

(c) For HDPE pipe, ASTM D2774, Recommended Practice for Underground Installation of Thermoplastic Pressure Piping and AWWA Manual of Practice M55, 2006; and

(d) For Steel pipe, AWWA Standard C604-11, Installation of Buried Steel Water Pipe- 4 inch and Larger

Guidance: Consideration should be given to placing tracer wire on plastic pipe to permit location of the pipe by available detection equipment.

(2) Bedding.

A continuous and uniform bedding shall be provided in the trench for all buried pipe. Stones larger than the backfill materials described below shall be removed for a depth of at least 6 inches below the bottom of the pipe.

(3) Backfill.

Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. The material and backfill zones shall be as specified by the standards referenced in Subsection (1), above. As a minimum:

(a) for plastic pipe, backfill material with a maximum particle size of 3/4 inch shall be used to surround the pipe; and

(b) for ductile iron pipe, backfill material shall contain no stones larger than 2 inches.

(4) Dropping Pipe into Trench.

Under no circumstances shall the pipe or accessories be dropped into the trench.

(5) Burial Cover.

All water mains shall be covered with sufficient earth or other insulation to prevent freezing, unless they are part of a non-community system that can be shut-down and drained during winter months when temperatures are below freezing.

Guidance: Pipe should be buried at least 12 inches below maximum expected frost penetration. The following is a list of reported pipe burial depths in Utah that may serve as a guide in this respect:

(A) Logan - 5ft.
(B) Salt Lake City - 3.5 ft. (5 ft. in high benches)
(C) Alta/Snowbird - 6 ft. (7 ft. if under roadway)
(D) St. George - 3ft.
(E) Park City - 5ft. (7 ft. above 7000 ft. elevation)
(F) Richfield - 4 ft.
(G) Moab - 4 ft.

(6) Thrust Blocking.

All tees, bends, plugs, and hydrants shall be provided with thrust blocking, anchoring, tie

rods, or restraint joints designed to prevent movement. Restraints shall be sized to withstand the forces experienced.

(7) Pressure and Leakage Testing.

All types of installed pipe shall be pressure tested and leakage tested in accordance with AWWA Standard C600-10.

(8) Surface Water Crossings.

Guidance: Surface water crossings, whether over or under water, present special problems. The Division should be consulted before final plans are prepared.

(a) Above Water Crossings

The pipe shall be adequately supported and anchored, protected from damage and freezing, and accessible for repair or replacement.

(b) Underwater Crossings

(i) A minimum cover of 2 feet or greater, as local conditions may dictate, shall be provided over the pipe.

(ii) When crossing water courses that are greater than 15 feet in width, the following shall be provided:

(A) Pipe with joints shall be of special construction, having restrained joints for ~~any~~ joints within the surface water course and flexible restrained joints at both edges of the water course.

(B) Isolation valves shall be provided on both sides of the water crossing at locations not subject to high ground water or flooding, so that the section can be isolated for testing or repair.

(C) A means shall be provided, such as a sampling tap, not subject to flooding, to allow for representative water quality testing on the upstream and downstream sides of the crossing.

(D) A means shall be provided to pressure test the underground water crossing pipe.

(9) Sealing Pipe Ends During Construction.

The open ends of all pipelines under construction shall be covered and effectively sealed at the end of the day's work.

(10) Disinfecting Water Lines.

All new water mains or appurtenances shall be disinfected in accordance with AWWA Standard C651-05 or a method approved by the Director. The specifications shall include detailed procedures for the adequate flushing, disinfection, and microbiological testing of all water mains. On all new and extensive distribution system construction, evidence of satisfactory disinfection shall be provided to the Division. Samples for coliform analyses shall be collected after disinfection is complete and the system is refilled with drinking water. A standard heterotrophic plate count is advisable. The use of water for public drinking water purposes shall not commence until the bacteriologic tests indicate the water is free from contamination.

R309-550-9. Cross Connections and Interconnections.

(1) Physical Cross Connections.

There shall be no physical cross connections between the distribution system and pipe, pumps, hydrants, or tanks that may be contaminated from any source, including pressurized irrigation.

(2) Recycled Water.

Neither steam condensate nor cooling water from engine jackets or other heat exchange devices shall be returned to the drinking water supply.

(3) System Interconnects.

The interconnections between different drinking water systems shall be reviewed and approved by the Director.

Guidance: In some situations, hydraulic modeling or capacity development calculations may be required when proposing a system interconnect.

R309-550-10. Water Hauling.

(1) Community Water Systems.

Water hauling is not an acceptable permanent source for drinking water distribution in ~~c~~Community ~~w~~Water ~~s~~Systems.

(2) Non-community Systems.

The Director may allow water hauling for ~~n~~Non-~~c~~Community ~~p~~Public ~~w~~Water ~~s~~Systems by special approval if:

(a) consumers can not otherwise be supplied with good quality drinking water;

or,

(b) the nature of the development, or ground conditions, are such that the placement of a pipe distribution system is not justified.

Proposals for water hauling shall be submitted to, and approved by, the Director.

(3) Emergencies.

Water hauling may be a temporary means of providing drinking water in an emergency. Water systems shall notify the Division as soon as possible of such emergencies.

Guidance: The guidelines for water hauling are contained in the bulletin entitled "Recommended Procedures for Hauling Culinary Water" available from the Division.

R309-550-11. Service Connections and Plumbing.

(1) Service Taps.

Service taps shall not jeopardize the quality of the system's water.

(2) Plumbing.

(a) Water services and plumbing shall conform to the ~~Utah~~ State-adopted Plumbing Code.

(b) Pipes and pipe fittings installed after January 4, 2014, ~~are required to~~shall be "lead-free" in accordance with Section 1417 of the federal Safe Drinking Water Act. They shall be certified meeting the ANSI/NSF 372 or Annex G of ANSI/NSF 61.

(3) Individual Home Booster Pumps.

Individual booster pumps shall not be allowed for ~~any~~ individual service from the public water supply mains. Exceptions to the rule may be granted by the Director if it can be shown that the granting of such an exception will not jeopardize the public health.

Guidance: Public water systems are being required to develop and operate a program to protect their systems from contaminations. An individual home booster pump, if installed so that the suction side of the pump draws directly from the system's water main rather than through an intermediate holding tank, may reduce the pressure in the main to less than 20 psi (perhaps even creating a vacuum). This will increase the potential for contaminated water to enter the distribution system through ~~any~~ minor undetected leaks that may exist.

We cannot regulate the individual homeowner, but we do not want to encourage public

water systems to proliferate the use of such pumps. Rule R309-105-6(2)(b) ("exceptions") will still be available for individual cases where there is no other acceptable alternative. Each public water system shall review language included in their service agreements with customers and perhaps modify them as needed to make it clear to the homeowner and ~~any~~ plumbing inspector that such pumps are not allowed, without the permission of the public water system and authorized by the Director.

Fire sprinkler systems are increasingly required by local fire protection agencies for new buildings, including residential units. As the number of these systems increases, there will likely be instances where the water main pressure is inadequate to operate fire sprinklers at the desired flow rate. The fire sprinkler industry has developed booster pumps integral with the sprinkler piping to meet low pressure circumstances. These integral booster pumps will only operate during fire emergencies and will not affect normal distribution system pressures. During a fire emergency, the pump should not decrease line pressure any more than a fire hydrant. Accordingly, the Division considers these fire sprinkler booster pumps outside the intent of R309-550-11(3), and does not require their installation to be approved by the Division Director, if their installation conforms to the Utah adopted Plumbing Code and National Fire Protection Association (NFPA) 13 D, Standard for the Installation of Sprinkler Systems in one and two-family dwellings and manufactured homes.

(4) Service Lines.

(a) Service lines shall be capped until connected for service.

(b) The portion of the service line under the control of the water system is considered to be part of the distribution system.

(5) Service Meters and Building Service Line.

Connections between the service meter and the home shall be in accordance with the ~~Utah~~ State -adopted Plumbing Code.

R309-550-12. Transmission Lines.

(1) Unpressurized Flows.

Transmission lines shall conform to all applicable requirements in this rule. Transmission line design shall minimize unpressurized flows.

(2) Proximity to Concentrated Sources of Pollution.

A water ~~supplier~~ system shall not ~~route~~ install an unpressurized transmission line ~~any closer~~less than 20 feet ~~to any~~from a concentrated source of pollution (e.g., septic tanks and drain fields, garbage dumps, pit privies, sewer lines, feed lots, etc.). Furthermore, unpressurized transmission lines shall not be placed in boggy areas or areas subject to the ponding of water.

R309-550-13. Operation and Maintenance.

(1) Disinfection After Line Repair.

The disinfection procedures of Section 4.7, AWWA Standard C651-05 shall be followed if a~~ny~~ water main is cut ~~into~~ or repaired.

(2) Cross Connections.

The water system shall not allow a connection that may jeopardize water quality. Cross connections shall be eliminated by physical separation,~~are not allowed unless controlled by~~ an air gap, or an approved and properly operating backflow prevention assembly~~. The requirements of the Utah Plumbing Code shall be met with respect to cross connection control and backflow prevention.~~

~~Water systems shall maintain an inventory of each pressure vacuum breaker assembly, spill resistant vacuum breaker assembly, double check valve assembly, reduced pressure principle backflow prevention assembly, and high hazard air gap used by their customers, and a service/inspection record for each such assembly.~~

~~Backflow prevention assemblies shall be inspected and tested at least once a year, by an individual certified for such work. This responsibility may be borne by the water system or the water system management may require that the customer with the backflow prevention assembly be responsible for having the device tested.~~

~~Water systems serving areas also served by a pressurized irrigation system shall not allow cross connections between the two.~~

The water system shall have an ongoing cross connection control program in compliance with R309-105-12.

(3) ANSI/NSF Standards.

All pipe and fittings used in routine operation and maintenance shall be ANSI-certified as meeting NSF Standard 61 or Standard 14.

(4) Seasonal Operation.

Water systems operated seasonally shall be disinfected and flushed according to AWWA Standard C651-05 for pipelines and AWWA Standard C652-11 for storage facilities prior to each season's use. A satisfactory bacteriologic sample shall be obtained prior to use. During the non-use period, care shall be taken to close all openings into the system.

Guidance:

Water systems are encouraged to develop contingency plans for obtaining pipe and appurtenances in an emergency. The stockpiling of material shall be considered.

KEY: drinking water, transmission and distribution pipelines, connections, water hauling
Date of Enactment or Last Substantive Amendment: March 8, 2006
Notice of Continuation: March 22, 2010
Authorizing, and Implemented or Interpreted Law: 19-4-104

RESPONSE TO COMMENTS
PROPOSED RULE MAKING

DIVISION OF DRINKING WATER
DEPARTMENT OF ENVIROMENTAL QUALITY
STATE OF UTAH

R309-545 Storage Tanks and R309-550 Transmission and Distribution Pipelines

Published June 1, 2014 in Utah State Bulletin

Formal Comment Period: June 1, 2014 through July 1, 2014

Public Hearings: There were no formal public hearings.

COMMENT #1. In R309-545-11(2)b it says the water system has to assure that no "contaminants which result in MCL exceedances are imparted to the water as a result of tank coating or repair", but in (d) it says to verify that "no such compounds have leached into the water". For xylene, the MCL is 10,000 µg/L. We had 1.2 µg/L in a water sample, which apparently exceeds the limit in (d) of "no such compounds" which the division is interpreting as zero, or at least "undetectable" being the limit. The requirements of these two paragraphs just don't match up very well. (Paul Baxter, ATK)

RESPONSE: The rule was amended to state that VOC's had to be below the MCL limits, but a guidance paragraph was added stating that any detectible volatile organic compound could trigger increased monitoring.

COMMENT #2. Add installation standards for HDPE and steel pipes. This would be helpful (David Erichsen, Town of Hideout)

RESPONSE: References to installation standards were added as part of this rule revision.

COMMENT #3. Revise the minimum separation standards and add specific requirements for allowing sewer and water lines to be closer together under certain circumstances. This would be a welcomed change. (David Erichsen, Town of Hideout)

RESPONSE: Revisions to allow for less stringent separation standards under certain conditions were added as part of this rule revision.

COMMENT #4. Add the requirement for pressure reducing valves (PRV) station on new water distribution lines when the water pressure exceeds 150 psi. This change would significantly improve water distribution systems in the Town of Hideout. It would reduce dead end lines by allowing significantly more opportunities to loop systems. It would also allow us to increase the pressure for those residence near the PRV. (David Erichsen, Town of Hideout)

RESPONSE: The requirement to install PRV's on new water lines when water pressures exceed 150 psi was added as part of this rule revision.

COMMENT #5. There is a requirement that the well casing be extended 3 feet above the 100-year flood elevation, but there is not a requirement that the spring box be located above the flood elevation.

RESPONSE: We will take note of the suggestion and address it when we next update the source rule which includes design requirements for springs.

Agenda Item 8(A)

Authorization to Proceed with Rule Adoption
R309-400

This packet contains the necessary changes to R309 400 for the adoption of the Groundwater Rule, to correct outdated rule references and add missing ones, as well as miscellaneous changes to correct formatting, grammar and to make the rule language more easily understood.

Cost Estimates:

This rule serves as a measurement tool to prioritize the Division's enforcement and technical assistance resources. This rule does not add any additional requirements, it just places a point total for not complying with existing requirements in existing rules. For systems whose points exceed the prescribed thresholds there is the consequence of being rated 'not approved'. There should not be any additional cost to systems or the state with regard to the proposed rule changes.

Staff Recommendation:

Staff recommends that the Drinking Water Board authorizes staff to proceed with the filing for substantive changes to rule R309-400 with the Division of Administrative Rules for rule adoption.

R309. Environmental Quality, Drinking Water.
R309-400. Water System Rating Criteria.
R309-400-1. Authority.

Under authority of Utah Code Annotated, Section 19-4-104, the Drinking Water Board adopts this rule in order to evaluate a public water system's standard of operation and service delivered in compliance with R309-100 through R309-705 hereinafter referred to as Rules.

R309-400-2. Extent of Coverage.

[~~These rules~~]This rule shall apply to all public water systems as defined in R309-100.

R309-400-3. Definitions.

[~~Approved - means that the public water system is operating in substantial compliance with all the Rules as measured by this rule.~~

~~Community Water System - means a public water system which serves at least fifteen service connections used by year-round residents or regularly serves at least year-round residents.~~

~~Contaminant - means any physical, chemical, biological, or radiological substance or matter in water.~~

~~Corrective Action - means a provisional rating for a public water system not in compliance with the Rules, but making all the necessary changes outlined by the Director to bring into compliance.~~

~~Director - means the Director of the Division of Drinking Water.~~

~~Major Bacteriological Routine Monitoring Violation - means that no routine bacteriological sample was taken as required by R309-210-5(1).~~

~~Major Bacteriological Repeat Monitoring Violation - means that no repeat bacteriological sample was taken as required by R309-210-5(2)(a).~~

~~Major Chemical Monitoring Violation - means that no initial background chemical sample was taken as required in R309-515-4(5).~~

~~Maximum Contaminant Level (MCL) - The maximum permissible level of a contaminant in water is delivered to any user of a public water system. Individual maximum contaminant levels (MCLs) are listed in R309-200.~~

~~Minor Bacteriological Routine Monitoring Violation - means that not all of the routine bacteriological samples were taken as required by R309-210-5(1).~~

~~Minor Bacteriological Repeat Monitoring Violation - means that not all of the repeat bacteriological samples were taken as required by R309-210-5(2)(a).~~

~~Minor Chemical Monitoring Violation - means that the required chemical sample(s) was not taken in accordance with R309-205, 210 or 215.~~

~~Non-Community Water System - means a public water system that is not a community water system or a non-transient non-community water system.~~

~~Non-Transient, Non-Community Water System - means a public water system that is not a community water system and that regularly serves at least 25 of the same persons for more than six months per year. Examples are separate systems serving workers and schools.~~

~~Not Approved - means the water system does not fully comply with the Rules as measured by this rule.~~

~~Public Water System - means a system, either publicly or privately owned, providing water for human consumption and other domestic uses which has at least fifteen service connections, or regularly serves an average of at least twenty-five individuals for at least sixty days out of the year. Such term includes collection, treatment, storage and 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 system but not under such control.~~

~~Routine Chemical Monitoring Violation - means no routine chemical sample(s) was taken as required in R309-205, 210 or 215.~~

~~Sanitary Seal - A cap that prevents contaminants from entering a well through the top of the casing.~~

~~Shall - means that a particular action is obliged and has to be accomplished.~~]

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

Corrective Action Plan – an agreement between the Division of Drinking Water and a public drinking water system establishing conditions and timelines for addressing significant deficiencies or E. coli contamination of a drinking water source.

Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

Treatment Technique Violation – failure to correct significant deficiencies, address E. coil positive source contamination or adhere to specific terms of a Corrective Action Plan.

R309-400-4. Water System Ratings.

(1) The Director shall assign a rating to each public water system in order to provide a concise indication of its condition and performance. This rating shall be assigned based on the evaluation of the operation and performance of the water system in accordance with the requirements of the Rules. Points shall be assessed to [~~Not Approved and Corrective Action rated~~]water systems for each violation of these requirements (R309-100 through R309-705) as the requirements apply to each individual water system. The number of points that shall be assessed [~~are~~]is outlined in the following sections of this rule. The number of points represents the threat to the quality of the water and thereby public health.

(2) Points are assessed in the following categories: Quality, Monitoring and Public Notification; Physical Deficiencies; Operator Certification; Cross Connection Control; Drinking Water Source

Protection; Administrative Issues; and, Reporting and Record Maintenance.

(3) Based upon the accumulation of points, the public water system shall be assigned one of the following ratings[.]:

(a) Approved - In order to qualify for an Approved rating, the public water system must maintain a point total less than the following:

(i) Community water system - 150 points;

(ii) Non-Transient Non-Community water system - 120 points; and

(iii) Non-Community water system - 100 points.

(b) Not Approved - In order for a public water system to receive a Not Approved rating the accumulation of points for the water system must exceed the totals listed above.

(c) Corrective Action - In order to qualify for a Corrective Action rating the public water system must submit the following:

(i) A written agreement to the Director stating a willingness to comply with the requirements set forth in the Rules; and,

(ii) A compliance schedule and time table agreed upon by the Director outlining the necessary construction or changes to correct any physical deficiencies or monitoring failures; and,

(iii) Proof of the financial ability of the water system or that the financial arrangements are in place to correct the water system deficiencies.

(iv) The Corrective Action rating shall continue until the total project is completed or until a suitable construction inspection or sanitary survey is conducted to determine the effectiveness of the improvements or the accumulation of points drops below the threshold for a not approved rating whichever is later.

(4) The water system point accumulation shall be adjusted on a quarterly basis or as current information is available to the Director. The appropriate water system rating shall then be adjusted to reflect the current point total.

(5) The Director may at any time rate a water system [not approved]Not Approved, if an immediate threat to public health exists. This rating shall remain in place until such time as the threat is alleviated and the cause is corrected.

(6) Any water system may appeal its assigned rating or assessed points as provided in R305-7.

R309-400-5. Quality, Monitoring and Public Notification Violations.

(1) [~~Bacteriologic~~]Total Coliform Rule: All points assessed to public water systems via this subsection are based on violations of the quality standards in R309-200-5(6); or the monitoring requirements in R309-210-5; and the associated public notification requirements in R309-220. The bacteriological [~~assessments~~]points assessed shall be updated on a monthly basis with the total number of points reflecting the most recent twelve month period or the most

recent 4 quarters for those water systems that collect bacteriological samples quarterly, unless otherwise noted.

(a) For each major bacteriological routine monitoring violation, 35 points shall be assessed. For each failure to perform the associated public notification 5 points shall be assessed.

(b) For each minor bacteriological routine monitoring violation, 10 points shall be assessed. For each failure to perform the associated public notification 2 points shall be assessed.

(c) For each major bacteriological repeat monitoring violation, 40 points shall be assessed. For each failure to perform the associated public notification 5 points shall be assessed.

(d) For each minor bacteriological repeat monitoring violation, 10 points shall be assessed. For each failure to perform the associated public notification 2 points shall be assessed.

(e) For each additional monitoring violation (R309-210-5(2)(e)), 10 points shall be assessed. For each failure to perform the associated public notification 2 points shall be assessed.

(f) For each non-acute bacteriological MCL violation (R309-200-5(6)(a)), 40 points shall be assessed. For each failure to perform the associated public notification 10 points shall be assessed.

(g) For each acute bacteriological MCL violation (R309-200-5(6)(b)), 50 points shall be assessed. For each failure to perform the associated public notification 10 points shall be assessed.

(2) Ground Water Rule: All points assessed to public water systems via this subsection are based on violations of the standards in R309-215-16. Points assessed for any significant deficiency shall be deleted as the deficiencies are corrected and are reported to the Director. The bacteriological points assessed shall be updated on a monthly basis with the total number of points reflecting the most recent 12-month period or the most recent four quarters for those water systems that collect bacteriological samples quarterly, unless otherwise noted.

(a) For failure to collect triggered source samples in violation of R309-215-16(2)(a)(i)(A) and (a)(i)(B), 40 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.

(b) For failure to collect assessment source samples in violation of R309-215-16(2)(b)(i), 5 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.

(c) For failure to correct a significant deficiency in violation of R309-215-16(4)(a)(i) and (ii), R309-215-16(4)(c) or R309-215-16(4)(d), 35 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.

(d) For an Escherichia coli. in violation of R309-215-16(4)(b)(i) and (ii), 40 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.

([~~2~~]3) Chemical: All points assessed to public water systems via this subsection are based on violations of the quality standards in R309-200-5; or the monitoring requirements in R309-205, 210 and 215; and the associated public notification requirements in R309-220. The chemical assessments shall be updated on a quarterly basis with the total number of points reflecting the most recent compliance period unless otherwise specified. Points for any chemical MCL violation shall remain on record until the quality issue is resolved. Points for any monitoring violation shall be deleted as the required chemical samples are taken and the analytical results are reported to the Director.

(a) Inorganic and Metal Contaminants:

(i) For each major chemical monitoring violation for inorganic and metal contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.

(ii) For each minor chemical monitoring violation for inorganic and metal contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(iii) For each MCL exceedance for inorganic and metal contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(b) Sulfate (for non-community water systems only):

(i) For each major chemical monitoring violation for sulfate, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.

(ii) For each minor chemical monitoring violation for sulfate, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(iii) For each MCL exceedance for sulfate, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(c) Radiologic Contaminants:

(i) For each major chemical monitoring violation for radiological contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.

(ii) For each minor chemical monitoring violation for radiological contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(iii) For each MCL exceedance for radiological contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(d) Asbestos Contaminants:

(i) For each major chemical monitoring violation for source water or distribution system asbestos, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.

(ii) For each minor chemical monitoring violation for source water or distribution system asbestos, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(iii) For each MCL exceedance for source water or distribution system asbestos, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(e) Nitrate:

(i) For each routine chemical monitoring violation for nitrate, [~~35~~]50 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(ii) For each MCL exceedance of nitrate, [~~50~~]60 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.

(f) Nitrite:

(i) For each routine chemical monitoring violation for nitrite, 35 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(ii) For each MCL exceedance of nitrite, 50 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.

(g) Volatile Organic Chemicals:

(i) For each major chemical monitoring violation for volatile organic chemical contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.

(ii) For each minor chemical monitoring violation for volatile organic chemical contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(iii) For each MCL exceedance for volatile organic chemical contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(h) Pesticides/PCBs/SOCs

(i) For each major chemical monitoring violation for pesticide/PCB/SOC contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.

(ii) For each minor chemical monitoring violation for pesticide/PCB/SOC contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(iii) For each MCL exceedance for pesticide/PCB/SOC contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(i) Disinfection Byproducts:

(i) Total Trihalomethanes:

(A) For each routine chemical monitoring violation for total trihalomethanes, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(B) For each MCL exceedance for total trihalomethanes, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(ii) Haloacetic Acids (HAA5):

(A) For each routine chemical monitoring violation for HAA5, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(B) For each MCL exceedance for HAA5, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(iii) Bromate:

(A) For each routine chemical monitoring violation for bromate, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(B) For each MCL exceedance for bromate, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(iv) Chlorite:

(A) For each routine chemical monitoring violation for chlorite, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(B) For each MCL exceedance for chlorite, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(j) Disinfectant Residuals:

(i) Chlorine:

(A) For each routine chemical monitoring violation for chlorine, 10 points shall be assessed. R309-210-8(3)(a). For each failure to perform the associated public notification, 1 point shall be assessed.

(B) For each MCL exceedance for chlorine, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(C) For a disinfected system that does not maintain a trace residual at all points of the distribution system, 2 points shall be

assessed. R309-105-10(1) & R309-200-5(7).

(D) For a disinfected system that lacks an adequate number of disinfection residual sample sites, 2 points shall be assessed. R309-210-8(3)(a)(i)(z15).

(ii) Chloramines:

(A) For each routine chemical monitoring violation for chloramines, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(B) For each MCL exceedance for chloramines, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(iii) Chlorine Dioxide:

(A) For each routine monitoring violation for chlorine dioxide, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(B) For each non-acute chlorine dioxide MCL violation, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(C) For each acute chlorine dioxide MCL violation, 50 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.

(iv) Ground Water Rule, where a water system has received a 4-Log exemption from triggered source water monitoring:

(A) For a ground water treatment facility serving greater than 3300 population lacking equipment to measure chlorine residuals continuously entering the distribution system, 20 points shall be assessed. R309-215-10(1).

(B) For a ground water system serving greater than 3300 people failing to continuously monitor the residual disinfectant concentrations, 10 points shall be assessed. R309-215-16(3)(b)(iii)(A)(I).

(C) For a ground water system serving less than 3300 people failing to collect a daily grab sample during peak demand to monitor the residual disinfectant concentrations, 10 points shall be assessed. R309-215-16(3)(b)(iii)(A)(II).

(D) For a ground water system that during the past year, the disinfection process was not operated uninterrupted while water was being produced, points will be assessed based on monthly and quarterly treatment reports. R309-200-5(7).

(E) For a ground water system that is required to provide continuous disinfection but fails to do so, 10 points shall be assessed for each month the failure continues. R309-520-6(1).

(k) Lead and Copper:

(i) For each major chemical monitoring violation for lead and copper contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.

(ii) For each minor chemical monitoring violation for lead and copper contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.

(iii) A system [~~which~~]that fails to install, by the designated deadline, optimal corrosion control if the lead or copper action level has been exceeded shall be assessed 35 points. For each failure to perform the associated public notification, 10 point shall be assessed.

(iv) A system [~~which~~]that fails to install source water treatment if the source waters exceed the lead or copper action level shall be assessed 35 points. For each failure to perform the associated public notification, 10 points shall be assessed.

(v) A system [~~which~~]that fails to complete public notification/education if the lead/copper action levels have been exceeded shall be assessed 10 points for each calendar quarter that the system fails to provide public notification/education.

(vi) A system [~~which~~]that still exceeds the lead action level and is not on schedule for lead line replacement shall be assessed 5 points annually. For each failure to perform the associated public notification, 2 point shall be assessed.

(vii) A system that fails to notify its customers of their lead and copper sample results, 5 points shall be assessed.

(viii) A system that fails to send the lead and copper certification notice to the Division, 5 points shall be assessed.

(l) Groundwater Turbidity:

(i) For each monitoring violation for turbidity, 35 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.

(ii) For each confirmed MCL exceedance of turbidity, 50 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.

(m) Surface Water Treatment:

(i) For water systems having sources, which are classified as under direct influence from surface water and which fail to abandon, retrofit or provide conventional complete treatment or [~~it's~~]its equivalent within 18 months of notification shall be assessed 150 points. For the associated failure to perform public notification 10 points shall be assessed. The points shall be assessed as the failure occurs and shall remain on record until adequate treatment is provided or the source is physically disconnected.

(ii) Quality and Monitoring: The surface water treatment assessments shall be updated on a monthly basis with the total number of points reflecting the most recent [~~twelve~~]12-month period.

(A) Turbidity:

(I) For each turbidity exceedance [~~which~~]that requires tier 1 notification under R309-220-5(1)(e) or (f), 50 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.

(II) For each turbidity exceedance [~~which~~]that requires tier 2 notification under R309-220-5(1)(e) or (f), 35 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.

(III) For each month where the percentage of turbidity interpretations meeting the treatment plant limit is less than 95 percent, 25 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.

(IV) For any period of time [~~which~~]that exceeds 4 hours where the system fails to continuously measure (or perform grab samples) the combined filter effluent turbidity, 50 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.

(V) For a water system [~~which~~]whose failure to repair continuous turbidity monitoring equipment within 5 working days, 50 points shall be assessed.

(B) Disinfection:

(I) For each instance where the disinfectant level in water entering the distribution system is less than 0.2 milligrams per liter for more than 4 hours, 25 points shall be assessed. For the associated failure to perform public notification, 5 points shall be assessed.

(II) For each instance where there is insufficient disinfectant contact time, 35 points shall be assessed. For the associated failure to perform public notification, 5 points shall be assessed.

(iii) Treatment Process Control:

(A) For each instance a treatment facility exceeds the assigned filter rates, 30 points shall be assessed.

(B) For each month a water system fails to verify calibration of the plant turbidimeters, 5 points shall be assessed.

(C) For each month a water system fails to submit a water treatment plant report, 50 points shall be assessed.

R309-400-6. Physical Facilities.

All points assessed to public water systems via this subsection are based upon violation of R309-500 through R309-705 unless otherwise noted. These points shall be assessed and updated upon notification of the Director and shall remain until the violation or deficiency no longer exists.

(1) New Source Approval:

(a) Use of an unapproved source shall be assessed [~~150~~]200 points.

(2) Surface Water Diversion Structures and Impoundments:

(a) For each surface water intake structure that does not allow for withdrawal of water from more than one level if quality significantly varies with depth, 2 points shall be assessed. R309-515-5(5)(a).

[~~(b) Where no facilities exist for release (wasting) of less desirable water held in storage 2 points shall be assessed.~~

~~(c) Where the diversion facilities do not minimize frazil ice formation by holding intake velocities to less than 0.5 feet per second 2 points shall be assessed.~~

~~(d) Where diversion facilities are not adequately protected from damage by ice buildup 2 points shall be assessed.~~]

([~~e~~]b) Where diversion facilities are not capable of keeping large quantities of fish or debris from entering the intake, 2 points shall be assessed. R309-515-5(5)(e).

([~~f~~]c) Where impoundment reservoirs have not had brush and trees removed to the high water level, 2 points shall be assessed. R309-515-5(6)(a).

([~~g~~]d) Where reservoir watershed management has not provided adequate precautions to limit nutrient loading, 10 points shall be assessed. R309-515-5(6)(d).

(3) Well Sources

(a) For each well [~~which~~]that is not equipped with a sanitary seal, or has any unsealed opening into the well casing, 50 points shall be assessed. R309-515-6(6)(i).

(b) For each well [~~which~~]that does not utilize food grade mineral oil for pump lubrication, 25 points shall be assessed. R309-515-8(2).

(c) For each well casing [~~which~~]that does not terminate at least 12 inches above the [~~pump~~]well house floor, 18 inches above the final ground surface, [~~and/or five feet above the highest flood elevation and is~~]or shows evidence of being subject to flooding, 20 points shall be assessed. R309-515-6(6)(b)(vi) and R309-515-6(13)(a) and (d).

(d) For each well fitted with a pitless adaptor that does not maintain a water tight seal throughout, 50 points shall be assessed [~~50 points~~]. R309-515-6(12)(c)(x).

(e) For each wellhead that is not properly secured to protect the quality of the well water, 20 points shall be assessed. R309-515-6(13)(f).

(f) For each well that is equipped with a pump to waste line that does not discharge [~~though an approved air gap~~]with a minimum of 12-inch clearance to the flood rim, 20 points shall be assessed [~~20 points~~]. R309-515-6(12)(d)(ix).

(g) For each well that is equipped with a pump to waste line [~~that is not properly screened~~]without a downturned discharge end covered with a No. 4 mesh screen, 5 points shall be assessed[~~5 points~~]. R309-515-6(12)(d)(ix).

(h) For each well that is equipped with a pump to waste line that discharges to a receptacle without local authorization, 2 points shall be assessed[~~2 points~~].

(i) For each well that does not have a means to [~~measure drawdown 1 point~~]permit periodic measurement of water levels, 2 points shall be assessed. R309-515-6(12)(e)(i) and (ii).

(j) For each well casing vent [~~which~~]that is not [~~properly~~]covered with a No. 14 or finer mesh screen, 2 points shall be assessed. R309-515-6(12)(d)(iii) and R309-550-6(6)(b).

(k) For each well casing vent [~~which~~]that is not [~~properly turned down~~]downturned, 2 points shall be assessed. R309-515-6(12)(d)(iii) and R309-550-6(6)(b). Also Division of Water Rights Rule R655-4-11.7.11.

(l) For each well casing vent [~~which~~]that does not [~~discharge through a proper air gap~~]have adequate clearance to prevent the contaminants from entering the well, 2 points shall be assessed. R309-515-6(12)(d)(iii) and R309-550-6(6)(b).

(m) For each well (excluding the naturally flowing wells) [~~which~~]that has discharge piping that is not [~~properly~~]equipped with 1) a smooth nosed sampling tap 2) check valve 3) pressure gauge 4) means of measuring flow, and 5) shut-off valve, 1 point shall be assessed for each component not present. R309-515-6(12)(d)(iv).

(n) For each well [~~where there is no~~]that pumps directly into a distribution system and does not have a means to release trapped air from the discharge piping (for example, release air through an air release vacuum relief valve, through a pump to waste line or pumps directly to a tank), [~~6~~]5 points shall be assessed. R309-515-6(12)(d)(v).

(o) For each well house [~~which does not have a drain-to-daylight installed~~]that is not at least 6 inches above the final ground level, is not sloped to drain, or shows evidence of being subject to flooding, 5 points shall be assessed. R309-515-6(13)(b).

(p) For each well [~~which~~]that has a cross connection present in the discharge piping, [~~5~~]20 points shall be assessed. R309-105-12(1) and R309-515-6(12)(d)(iii).

(q) For each well [~~which has discharge piping equipped~~] with an air vacuum relief valve [~~which~~]on the well discharge piping that is not screened, 2 points shall be assessed. R309-515-6(12)(d)(v).

(r) For each well [~~which has discharge piping equipped~~]with an air vacuum relief valve [~~which~~]on the well discharge piping that is not [~~properly turned down~~]downturned, 2 points shall be assessed. R309-515-6(12)(d)(v).

(s) For each well [~~which has discharge piping equipped~~] with an air vacuum relief valve [~~which~~]on the well discharging piping that does not [~~discharge through an approved air gap~~]have a 6-inch clearance to prevent contaminants from entering the piping, 2 points shall be assessed. R309-515-6(12)(d)(v).

(t) For each well [~~which~~]that has rotating and electrical equipment that is not provided with protective guards, 2 points shall be assessed.

(4) Spring Sources:

(a) For each spring source [~~which~~]that allows surface water to stand or pond upon the spring collection area (within 50 feet from collection devices), 10 or 20 points shall be assessed. The number

of points shall be based upon the size and extent of the ponding; the possible source (rainfall or incomplete collection); or the presence of moss or other indicators of long term presence of standing water. R309-515-7 (7)(i).

(b) For each spring area [~~which~~]that does not have a minimum of ten feet of relative impervious soil or an acceptable alternate design with liner, or the spring collection area shows evidence of damaged liner or impervious soil cover, 10 points shall be assessed. R309-515-7(7)(a) and (b).

(c) For each spring area that has [~~deep rooted~~]deep-rooted vegetation within the fenced collection area, 10 points shall be assessed. R309-515-7(7)(f).

(d) For each spring area that has deep rooted vegetation interfering with the spring collection, 10 points shall be assessed. R309-515-7(7)(f).

(e) For each spring with a spring collection/junction box [~~which~~]that does not have a proper shoebox lid, 5 points shall be assessed [~~5 points~~]. R309-515-7(7)(d) and R309-545-14(2).

(f) For each spring with a spring collection/junction box [~~which~~]that does not have a proper gasket on the lid, 5 points shall be assessed [~~5 points~~]. R309-515-7(7)(d) and R309-545-14(2).

(g) For each spring with a spring collection/junction box [~~which~~]that lacks an adequate air vent, 5 points shall be assessed. R309-515-7(7)(d) and R309-545-15.

(h) For each spring with a spring collection/junction box with a vent that is not [~~properly~~]screened with No. 14 mesh screen, 2 points shall be assessed [~~2 points~~]. R309-515-7(7)(d) and R309-545-15.

(i) For each spring with a spring collection/junction box with a vent that is not [~~properly down turned~~]down-turned or inverted, 2 points shall be assessed [~~2 points~~]. R309-515-7(7)(d) and R309-545-15(1).

(j) For each spring with a spring collection/junction box with a vent that [~~is not properly air gapped~~]does not have sufficient clearance to prevent ice blockage, or is not at least 24 inches above the earthen cover, 2 points shall be assessed [~~2 points~~]. R309-515-7(7)(d) and R309-545-15(2).

(k) For each spring with a spring collection/junction box that lacks a raised access entry, at least 4 inches above the spring box or 18 inches above the earthen cover, 5 points shall be assessed [~~5 points~~]. R309-515-7(7)(d) and R309-545-14(1).

(l) For each spring with a spring collection/junction box [~~which~~]that is not secured against unauthorized access, 20 points shall be assessed [~~20 points~~]. R309-515-7(7)(d) and R309-545-14(3).

(m) For each spring collection area without a proper fence, [~~(unless the spring is located in a remote area where no grazing or public access is possible as specified in R309-515-7(7)(e)~~]10 points shall be assessed. R309-515-7(7)(e).

(n) For each spring collection area that does not have a diversion channel, or berm capable of diverting surface water away from the collection area, 5 points shall be assessed. R309-515-7(7)(g).

(o) For each spring system [~~which~~]that does not have a permanent flow measuring device, 5 points shall be assessed. R309-515-7(7)(h).

(p) For each spring area with an overflow[~~/drain~~]or a combined overflow/drain discharge that is not [~~properly~~]screened with a No. 4 mesh screen, 5 points shall be assessed. R309-515-7(7)(d) and R309-545-13.

(q) For each spring collection/junction box overflow that does not have [~~adequate~~]a freefall of [~~(~~]12 to 24 inches[~~)~~] between the [~~drain invert~~]bottom of the discharge pipe and the surrounding ground, 5 points shall be assessed. R309-515-7(7)(d) and R309-545-13.

(r) For each spring collection/junction box that has any unsealed opening(s) resulting in public health risk, 50 points shall be assessed. R309-515-7(7)(d) and R309-545-9(1).

(5) Pump Stations.

[~~(a) For a pumping facility which does not have a positive-acting check valve between the pump and the isolation valve 1 point shall be assessed. R309-540-5(6)(a).~~]

([~~b~~]a) For a pumping facility ~~which~~]that does not have a standard pressure gauge on the discharge line, 1 point shall be assessed. R309-540-5(6)(c[~~–~~])(i).

[~~(c) For a pumping facility which does not have a flow measuring device on the discharge piping 1 point shall be assessed. R309-540-5(6)(c)(iii).~~

~~(d) For a pumping facility which does not have isolation valve(s) on the discharge piping 1 point shall be assessed. R309-540-5(6)(a).~~

~~(e) For a pumping facility which does not have isolation valve(s) on the suction side of each pump 1 point shall be assessed. R309-540-5(6)(a).~~]

([~~f~~]b) For a pumping facility building without adequate drainage or showing evidence of flooding, 5 points shall be assessed. R309-540-5(2)(a)[~~–~~](v) and (vi).

([~~g~~]c) For a pumping facility where the discharge line from the air release valve is not [~~properly~~]screened with number 14 non-corrodible mesh screen, 2 points shall be assessed. R309-540-5(6)(b)(ii) and R309-550-6(6)([~~a~~]b).

(d) For an air release valve located within a building, if the discharge line terminates less than six inches above the floor, 2 points shall be assessed. R309-515-6(12)(d)(v) and R309-540-5(6)(b)(ii).

([~~h~~]e) [~~For a pumping facility where the discharge line from the air release valve is not properly air gapped 2 points shall be assessed.~~]For an air release valve located in a chamber, if the air

release valve discharge piping terminates less than 12 inches above grade, or less than one foot above the top of the pipe where the chamber is not subject to flooding, 10 points shall be assessed. R309-540-5(6)(b)(ii) and R309-550-6(6)([a]b).

([i]f) For a pumping facility where the discharge line from the air release valve is not [properly]down-turned, 2 points shall be assessed. R309-540-5(6)(b)(ii) and R309-550-6(6)([a]b).

[(j) For a pumping facility where the building and equipment is not protected from flooding 5 points shall be assessed. R309-540-5(2)(a)(ii), (iii) and (iv).]

([k]g) For a pumping facility where there is inadequate heating, lighting or ventilation, 5 points shall be assessed. R309-540-5(2)(e), (f) and (g).

([l]h) For a pumping facility where there are cross connections present, [5]20 points shall be assessed. [R309-540-5(2)(h)]R309-105-12(1).

([m]i) For [a]an inline booster pumping facility designed to provide pressure directly to the distribution system, which does not have at least two [equal and functioning] pumping units such that with any one pump out of service the remaining pump or pumps are capable of meeting the peak day demand of the specific portion of the system served, 20 points shall be assessed. R309-540-5(4)(b).

(n) For a pumping facility which cannot meet the demand when the largest pumping unit is out of service 20 points shall be assessed. R309-540-5(4)(b).***If have 2 pumps but don't meet peak – 40 pts. If you don't have 2 pumps (and therefore can't meet peak w/2nd pump) – 20 pts. Combine questions or rephrase.

[(o) For a pumping facility which utilizes oil lubrication not suitable for human consumption 25 points shall be assessed. R309-105-10(7).]

([p]j) For a pumping facility which does not have protective guards on rotating and electrical equipment, 2 points shall be assessed. [R309-545-19(1)]R309-525-21.

[(q) For a pumping facility which does not have an air release valve or other means to release trapped air located on the pump discharge piping 6 points shall be assessed. R309-515-6(12)(e)(v).]

([r]k) For a pumping facility which is not secured against unauthorized access shall be assessed, [20]5 points. R309-540-5(1)(a)(v).

(6) Hydropneumatic pressure tanks.

[(a) For a pressure tank without at least two pumping units 20 points shall be assessed. R309-540-6(5).

(b) For a pressure tank without a bypass piping to permit operation of the system while it is being repaired or painted 2 points shall be assessed. R309-540-6(4).

(c) For a pressure tank which lacks a 24 inch access manhole where applicable 1 point shall be assessed. R309-540-6(6).

(d) For a pressure tank which lacks a drain 1 point shall be assessed. R309-540-6(6).

~~(e) For a pressure tank which lacks a pressure gauge 1 point shall be assessed. R309-540-6(6).~~
~~(f) For a pressure tank which lacks a water sight glass where applicable 1 point shall be assessed. R309-540-6(6).~~
~~(g) For a pressure tank which lacks automatic or manual air blow-off 1 point shall be assessed. R309-540-6(6).~~
~~(h) For a pressure tank which lacks a means to add air 1 point shall be assessed. R309-540-6(6).~~
~~(i) For a pressure tank which lacks pressure operated start-stop controls for the pump(s) 1 point shall be assessed. R309-540-6(6).~~]

(a) For diaphragm or air tanks located below ground without adequate provisions for drainage, maintenance and flood protection, 10 points shall be assessed. R309-540-6(2).

([~~j~~]b) For a pressure tank with a pump cycle that cycles more frequently than once every 4 minutes, 5 points shall be assessed. R309-540-6(5).

[~~(k) For a pressure tank and controls that are not secured against unauthorized access 20 points shall be assessed. R309-545-14(3).~~]

(7) Storage:

(a) A water system with [~~an~~] uncovered finished water storage [~~reservoir~~]shall immediately be assessed a rating of not approved[~~.~~], [~~150~~]200 points shall be assessed. R309-545-9(1) and (2).

(b) For each storage [~~reservoir cover that is not sloped so water will drain~~]tank roof showing evidence of water ponding with deterioration, 10 points shall be assessed. R309.545-9(4).

(c) For each storage [~~reservoir~~]tank that does not have an access [~~opening~~]to the interior for cleaning and maintenance, 9 points shall be assessed. R309-545-14.

(d) For each storage [~~reservoir~~]tank access that does not have a shoebox type lid with a minimum of a [~~2 inch~~]2-inch overlap, 3 points shall be assessed. R309-545-14(2).

(e) For each storage [~~reservoir~~]tank access that lacks a proper gasket between the lid and frame, 3 points shall be assessed. R309-545-14(2).

(f) For each storage [~~reservoir~~]tank access that lacks a minimum rise of 4 inches above the tank roof or a minimum of[~~(~~]18 inches above an earthen cover[~~)~~], 3 points shall be assessed. R309-545-14(1).

(g) For each storage [~~reservoir~~]tank that is not vented, 6 points shall be assessed. R309-545-15.

(h) For each finished water storage [~~reservoir~~]tank vent that is not [~~turned down~~]downturned or covered from rain and dust, 2 points shall be assessed. R309-545-15(1).

(i) For each storage [~~reservoir~~]tank vent that does not terminate a minimum of 24 [~~to 36~~]inches above the surface of the storage tank roof if the tank is a buried structure, 2 points shall be assessed. R309-545-15(2).

(j) For each storage [~~reservoir~~]tank vent that is not screened with number 14 non-corrodible mesh screen, [~~with a larger protection screen~~]2 points shall be assessed. R309-545-15(4).

(k) For each storage [~~reservoir~~]tank that lacks an overflow, 15 points shall be assessed. R309-545-13.

(l) For each storage [~~reservoir~~]tank overflow that does not terminated 12 to 24 inches above the ground, 5 points shall be assessed.R309-545-13.

(m) For each storage [~~reservoir~~]tank overflow that is not screened with number 4 non-corrodible mesh screen, 5 points shall be assessed. R309-545-13(3).

(n) For each storage [~~reservoir~~]tank overflow that is connected to a sewer system without an [~~appropriate~~]adequate air gap, 5 points shall be assessed. R309-545-13(5).

(o) For each storage [~~reservoir~~]tank with a drain that does not discharge through a physical airgap of at least 2 pipe diameters, 5 points shall be assessed. R309-545-10(1).

(p) For each storage [~~reservoir~~]tank with inadequate or improper means of site drainage or showing evidence of standing surface water within 50 feet of the tank, 5 points shall be assessed. R309-545-7(4).

(q) For each storage [~~reservoir~~]tank with any unsealed roof or wall penetrations, 50 points shall be assessed. R309-545-9(2).

(r) For each storage [~~reservoir~~]tank where the roof and sidewalls [~~are not water tight~~]show signs of deterioration, 10 to 50 points shall be assessed [~~10 to 50 points~~]based upon the size and number of cracks, the loss of structural integrity, and the access of contamination to the drinking water. R309-545-9(1).

(s) For each storage [~~reservoir~~]tank without [~~an~~]a safe access [~~ladder~~](such as ladders for tanks in excess of 20 feet, ladder guards, [~~balcony~~]or railings) or safely located entrance hatches, 2 points shall be assessed. R309-545-19(1), (2) and (3).

(t) For each storage [~~reservoir~~]tank with internal coatings not in compliance with ANSI/NSF standard 61[~~v~~], 30 points shall be assessed. R309-545-11.

(u) For a storage facility [~~which~~]that is not secured against unauthorized access, 20 points shall be assessed[~~20 points~~]. R309-545-14(3).

(8) Distribution System:

(a) A water system [~~which~~]that fails to provide [~~at least~~]the minimum water [~~pressure~~]pressures as required in R309-105-9 at all times and at all locations within the distribution system, 50 points shall be assessed [~~50 points~~]. R309-105-9 and R309-550-5(1).

(b) A water system using [~~unapproved~~]pipe and materials not meeting the ANSI/NSF 61 standard shall be assessed 30 points. R309-550-6.

(c) A water system with pipelines installed [~~improperly~~] without adequate [~~clearance or~~]separation distance from the sanitary sewer lines shall be assessed 30 points. R309-550-7.

(d) A new water system constructed after January 1, 2007 or an existing water system modification without adequate pressure as defined in R309-105-9(2) shall be assessed 50 points.

(e) A water system which has a distribution line that crosses under a surface water body without adequate protection as outlined in R309-550-8(8)(b) shall be assessed 50 points.

(f) A water system which has distribution system flushing devices, blow-offs or air relief valves, which are directly connected to a sewer or do not have a proper air gap, shall be assessed 20 points. R309-550-6 and R309-550-9.

(g) [~~A~~]For a water system that does not properly follow the AWWA disinfection standards [~~as adopted in R309-105-10(2) and (3)~~]10 points shall be assessed [~~10 points~~]. R309-550-8(10).

(h) [A]For a water system that is required by the local fire authority to provide fire protection or [~~supplies~~]has fire hydrants connected with water mains [~~that are~~]less than 8 [~~inched~~]inches in diameter, 5 points shall be assessed [~~5 points~~]. These points will only be assessed for water mains installed after 1995. R309-550-5(4) and (5).

(i) For each air [~~vacuum release~~]relief valve vent piping, which is not [~~properly~~]screened with a No. 14 mesh and [~~turned down~~]downturned, 10 points shall be assessed. R309-550-6(6)(b).

(j) For [~~each~~]an air [~~vacuum~~]release valve located in a chamber, if the air release valve [~~where the~~]discharge piping terminates less than 12 inches above grade or less than one foot above the top of the pipe where the chamber is not subject to flooding, [~~does not extend a proper distance above the ground and flood level~~]10 points shall be assessed. R309-550-6(6)(b).

(k) For each air [~~vacuum release valve~~]relief valve located in a chamber without a drain or adequate sump, or showing evidence of being subject to flooding, 30 points shall be assessed. R309-550-7.

[~~(l) For each air vacuum release valve chamber which shows evidence of flooding 30 points shall be assessed.~~]

([~~m~~]l) For each air vacuum release valve chamber [~~which~~]that is flooded at the time of inspection, 50 points shall be assessed.

(m) For an unprotected cross-connection in the distribution system as required in R309-550-9, 50 points shall be assessed.

(9) Quantity requirements

(a) A water system [~~which does not have~~]without sufficient source capacity to meet peak [~~daily~~]day and average yearly flow requirements, from 10 to 50 points shall be assessed[~~ from 10 to 50 points~~]. The number of points shall be based upon the severity of the shortage, including the number of times and duration of water outages or low pressure. R309-510-7.

(b) A water system [~~which does not have~~]without sufficient storage capacity to meet average [~~daily flow requirements~~]day demand,

plus the required fire suppression volume if applicable, 10 to 50 points shall be assessed[~~from 10 to 50 points~~]. The number of points shall be based upon the severity of the shortage including the number of times and duration of water outages. R309-510-8.

R309-400-7. Treatment Processes.

(1) General Treatment.

[~~(a) For a treatment facility with chemical feeders and pumps that operate at lower than 20 percent of the feed range 2 points shall be assessed. R309-525-11(7)(a)(viii).~~]

([~~b~~]a) For a treatment facility without anti-siphon control to assure that liquid chemical solutions cannot be siphoned through solution feeders into the process units, [~~as required in R309-525-11(9)(c)~~] 2 points shall be assessed. R309-525-11(9)(b)(ii) and (c).

([~~c~~]b) For a treatment facility with a process tank that is not properly labeled to designate the chemical contained, 2 points shall be assessed. R309-525-11(8)(c)(vii).

([~~d~~]c) For a treatment facility with chemicals not stored in covered or unopened shipping containers, unless the chemical is transferred into a covered storage unit, 2 points shall be assessed. R309-525-11(6)(a)(iii).

([~~e~~]d) For a treatment facility with no cross connection control provided to assure that no direct connections exist between any sewer and the drain or overflow from the feeder, solution chamber, or tank by providing that all pipes terminate at least six inches or two pipe diameters, whichever is greater, above the overflow rim of a receiving sump, conduit, or waste receptacle, [~~2~~]10 points shall be assessed. R309-525-11(9)(b)(iii).

([~~f~~]e) For a treatment facility with no spare parts available for all feeders to replace parts [~~which~~]that are subject to wear and damage, 2 points shall be assessed. R309-525-11(7)(b)(v).

[~~(g) For a treatment facility with chemical feed rates not proportional to flows 10 points shall be assessed. R309-525-11(7)(d)(ii).~~

~~(h) For a treatment facility with liquid chemical feeders without anti-siphon protection in each feed pump 2 points shall be assessed. R309-525-11(9)(c). Tg12~~

~~(i) For a treatment facility with feed lines not protected against freezing 2 points shall be assessed. R309-525-11(8)(d)(i)(C).~~

~~(j) For a treatment facility with feed lines not made of durable, corrosion resistant material 2 points shall be assessed. R309-525-11(8)(d)(i)(A).~~

~~(k) For a treatment facility with any chemical not conducted from the feeder to the point of application in a separate conduit 2 points shall be assessed. R309-525-11(7)(a)(v).~~]

([~~l~~]f) For a treatment facility where incompatible chemicals are fed, stored or handled together, 2 points shall be assessed. R309-525-11(7)(a)(iv).

([~~m~~]g) For a treatment facility where daily operating records do not reflect chemical dosages and total quantities used, 2 points shall be assessed. R309-105-14[~~(2)(a)~~](3).

([~~n~~]h) For a water system that fails to maintain and properly calibrate all instrumentation needed to verify the treatment process, 2 points shall be assessed. R309-525-25(4).

([~~o~~]i) For a treatment facility without the means to accurately measure the quantities of chemicals used, [~~2~~]20 points shall be assessed. R309-525-11(7)(a)(i) and R309-525-11(6)(b)(iii).

([~~p~~]j) A water system that does not keep acids and caustics in closed corrosion-resistant shipping containers or storage units, 2 points shall be assessed. R309-525-11(11)(a)(i).

([~~q~~]k) For a treatment facility that does not have the vent hose from the feeder to discharge to the outside atmosphere above grade or have the end covered with #14 non-corrodible mesh screen, 2 points shall be assessed. R309-520-[~~10(2)(f)~~]7(2)(f).

([~~r~~]l) For a treatment facility that uses any chemical that is added to water being treated for use in a public water system for human consumption that does not comply with ANSI/NSF Standard 60, 25 points shall be assessed. R309-525-11(5).

([~~s~~]m) For a treatment facility that does not have a finished water sampling tap(s), 2 points shall be assessed. R309-525-18.

([~~t~~]n) For a treatment facility that is not performing adequate process control testing consistent with the specific treatment process, 30 points shall be assessed. R309-525-19.

([~~u~~]o) For a surface water treatment facility that does not have continuous residual disinfection equipment to [~~measure continuously~~]measure the residual in mg/L entering the distribution system, 20 points shall be assessed. R309-215-10(1).

[~~(v) For a treatment facility without provisions for measuring quantities of chemical used to prepare feed solutions 50 points shall be assessed. R309-525-11(6)(b)(iii).~~]

([~~w~~]p) For a treatment facility without provisions for disposing of empty bags, drums or barrels by an acceptable procedure [~~which~~]that will minimize operator exposure to dusts, 2 points shall be assessed. R309-525-11(6)(b)[~~(ii)~~] and (c).

([~~x~~]q) For a treatment facility [~~which~~]that does not provide cross connection control on the make-up waterlines discharging to solution tanks, [~~5~~]10 points shall be assessed. R309-525-11(9)([~~c~~]b)(i).

([~~y~~]r) For a treatment facility with solution tank overflow pipes that do not have a free fall discharge or are not located where noticeable, 2 points shall be assessed. R309-525-11(8)(b)(v)[~~(A)~~].

[~~(z) For a treatment facility with subsurface locations for solution tanks that are not free from sources of possible~~

~~contamination 2 points shall be assessed. R309-525-11(8)(b)(iv)(A).~~

~~(z1) For a treatment facility with subsurface locations for solution tanks that do not assure positive drainage for ground waters, accumulated water, chemical spills and overflows 2 points shall be assessed. R309-525-11(8)(b)(iv)(B).~~

~~(z2) For a treatment facility with a motor driven transfer pump that is not provided a liquid level limit switch and an overflow from the day tank, which will drain by gravity back into the bulk storage tank 10 points shall be assessed. R309-525-11(8)(c)(v).~~]

([~~z3~~]s) For a treatment facility without adequate spill containment provisions, 2 points shall be assessed. R309-525-11(6)(a)(iv)(B)[~~(v)~~].

([~~z4~~]t) For a treatment facility with acid storage tanks that are not vented to the outside atmosphere with separate screened vents, 2 points shall be assessed. R309-525-11(8)(b)(vi).

[~~(z5) For a treatment facility without a means to measure the solution level in the tank 2 points shall be assessed. R309-525-11(8)(b)(ii).~~]

([~~z6~~]u) For a treatment facility without provisions for the proper disposal of water treatment plant waste (such as sanitary, laboratory, sludge, and filter backwash water), 5 points shall be assessed. R309-525-23.

[~~(z7) For a treatment facility that does not use of either a volumetric or gravimetric chemical feeder for dry chemicals 2 points shall be assessed. R309-525-11(7)(c)(i).~~]

([~~z8~~]v) For a [~~disinfection~~]treatment facility where cross connection control is not provided on the feed lines to the solution tanks, 10 points shall be assessed. [~~R309-520-10(1)(h)~~]R309-525-11(9)(b) and (c).

([~~z9~~]w) For a treatment facility that does not have a means to measure water flow rate, 10 points shall be assessed.

([~~z10~~]x) For a surface water treatment facility where the piping [~~feed lines are~~]is not labeled and color coded [~~for identification~~]to identify the direction of flow and the contained liquid, 2 points shall be assessed. R309-525-8.

([~~z11~~]y) [~~For a treatment facility which is~~]Treatment facilities not secured against unauthorized access, 20 points shall be assessed[~~- 20 points~~].

(z) For a treatment facility using expired chemical reagents for process control, 5 points shall be assessed.

(aa) For a treatment facility with no access to lab or test kits for process testing, 2 points shall be assessed. R309-525-17(1).

(bb) For a treatment facility lacking cross connection control for the in-plant water supply, 10 points shall be assessed. R309-525-11(9)(b)

(2) Disinfection.

(a) General.

[~~(a) For a disinfection facility without an automatic switch over of chlorine cylinders to assure continuous disinfection 2 points shall be assessed. R309-520-10(2)(a).~~

~~(b) For a disinfection facility without scales for weighing cylinders 2 points shall be assessed. R309-520-10(2)(k).~~

~~(c) For a disinfection facility without a leak repair kit for 1 ton cylinders 15 points shall be assessed. R309-520-[10](2)(p).~~

~~(d) For a disinfection facility without respiratory equipment available and stored at a convenient location 5 points shall be assessed. R309-520-10(2)(o).~~

~~(e) For a disinfection facility where the chlorine gas feed and storage area is not enclosed and separated from other operating areas 2 points shall be assessed. R309-520-10(2)(i).~~]

([~~f~~]i) For a [~~disinfection~~]chlorination facility which is not heated, lighted or ventilated as necessary to assure proper operation or the equipment and serviceability, 2 points shall be assessed. R309-520-[~~10~~]7(1)(l).

[~~(g) For a disinfection facility where the chlorination equipment rooms are not vented such that the ventilating fan(s) take suction near the floor, as far as practical from the door and air inlet, with the point of discharge so located as not to contaminate air inlets of any rooms or structures 5 points shall be assessed. R309-520-10(2)(e) (ii).~~

~~(h) For a disinfection facility where the chlorination equipment rooms are not vented such that air inlets are through louvers near the ceiling 2 points shall be assessed. R309-520-10(2)(e) (iii).~~

~~(i) For a disinfection facility where the chlorination equipment rooms are not vented such that louvers for chlorine room air intake and exhaust facilitate airtight closure 2 points shall be assessed. R309-520-10(2)(e) (iv).~~

~~(j) For a disinfection facility where the chlorination equipment rooms are not vented such that separate switches for the fans and lights are outside of the room, at the entrance to the chlorination equipment room and protected from vandalism 2 points shall be assessed. R309-520-10(2)(e) (iv).~~

~~(k) For a disinfection facility where the vent hose from the feeder to discharge to the outside atmosphere is not above grade or does not have the end covered with #14 non-corrodible mesh screen 2 points shall be assessed. R309-520-10(2)(f).~~

~~(l) For a disinfection facility without a bottle of ammonium hydroxide (56%) shall be available for leak detection 2 points shall be assessed. R309-520-10(2)(p).~~

~~(m) For a disinfection facility without full and empty cylinders of chlorine gas restrained in position to prevent upset 2 points shall be assessed. R309-520-10(2)(i).~~

~~(n) For a disinfection facility with full and empty cylinders of chlorine gas stored in rooms not separated from ammonia storage 2 points shall be assessed. R309-520-10(2)(i).~~

~~(o) For a disinfection facility with full and empty cylinders of chlorine gas stored in areas in direct sunlight or exposed to excessive heat 2 points shall be assessed. R309-520-10(2)(i).~~

~~(p) For a disinfection facility where the chlorine room is constructed in a manner that any openings between the chlorine room and the remainder of the plant are not sealed 2 points shall be assessed. R309-520-10(2)(h)(ii).~~]

~~(q) For a disinfection facility utilizing 1 ton cylinders without a means of leak detection available~~, ~~15 points shall be assessed. R309-520-10(2)(p).~~

[~~(r) For a disinfection facility without pressure gauges on the inlet and outlets of each chlorine injector 2 points shall be assessed. R309-520-10(2)(b).~~]

([~~s~~]ii) For a disinfection facility without cross connection control on the solution feeders into the process units as required in R309-525-11(9)(c), [~~5~~]10 points shall assessed. R309-525-11(9)(b)(ii).

([~~t~~]iii) For a [~~disinfection~~]chlorination facility where there is no standby disinfection equipment of sufficient capacity available to replace the largest unit, 10 points shall be assessed. R309-520-[~~10~~]7(1)(k).

[~~(u) For a disinfection facility where a leak detector is provided and not equipped with both an audible alarm and a warning light 5 points shall be assessed. R309-520-10(2)(p).~~]

(iv) For a disinfection facility where the correct reagent is not used for testing free disinfectant residual, 2 points shall be assessed. [~~R309-520-15(3).~~]

[~~(w) For a disinfection facility where hypochlorite liquid feeders are not a positive displacement type 10 points shall be assessed. R309-520-10(1)(b).~~]

([~~x~~]v) For a treatment facility where the pre- and post-chlorination [~~systems~~]processes are not independent of each other, to prevent possible siphoning of partially treated water into the clear well, 50 points shall be assessed. R309-525-11(9)(b)(iv).

[~~(y) For a disinfection facility where each tank is not provided with a valved drain or protected against backflow in accordance with R309-11(10)(b) and (c) 2 points shall be assessed. R309-525-11(8)(b)(vii).~~

~~(z) For a disinfection facility where overflow pipes are not located where they can be readily monitored 2 points shall be assessed. R309-520-10(1)(g).~~

~~(z1) For a disinfection facility where storage and day tanks are not provided with separate vents that terminate to the outside atmosphere 2 points shall be assessed. R309-525-11(8)(b)(vi).~~

~~(z2) For a disinfection facility where a means consistent with the nature of the chemical solution is not provided in a day tank to maintain a uniform strength of solution 2 points shall be assessed. R309-525-11(d)(8)(c)(iv).~~

~~(z3) For a disinfection facility where any chemical is not conducted from the feeder to the point of application in separate conduit 2 points shall be assessed. R309-525-11(7)(a)(v).~~]

([~~z4~~]vi) For a disinfection facility where chemical solution tanks are not kept covered, 2 points shall be assessed. R309-525-11(8)(b)(iii).

([~~z5~~]vii) For a disinfection facility without disinfectant residual test equipment, 2 points shall be assessed. R309-520-[~~10~~]7(1)(j).

([~~z6~~]viii) For a disinfection facility where there is no means to measure the volume of water treated, 2 points shall be assessed. R309-520-[~~10~~]7(1)(i).

[~~(z7) For a disinfection facility where provisions are not made for proper storage of sodium chlorite to eliminate any danger of explosion 2 points shall be assessed. R309-525-11(11) (b)(i).~~

~~(z8) For a disinfection facility where sodium chlorite is not stored by itself in a separate room and away from organic materials which would react violently with sodium chlorite 2 points shall be assessed. R309-525-11(11) (b)(i)(A).~~

~~(z9) For a disinfection facility where sodium chlorite storage structures are not constructed of noncombustible materials 2 points shall be assessed. R309-525-11(11)(a)(b)(i)(B).~~

~~(z10) For a disinfection facility where sodium chlorite storage structure is not located in an area where a fire may occur, water should be available to keep the sodium chlorite area sufficiently cool to prevent decomposition from heat and resultant potential explosive conditions 2 points shall be assessed. R309-525-11(11)(b)(i)(C).~~]

(b) Gas chlorination.

(i) For a gas chlorination facility without an automatic switch over of chlorine cylinders to assure continuous disinfection, 2 points shall be assessed. R309-520-7(2)(a).

(ii) For a gas chlorination facility without scales for weighing cylinders, 2 points shall be assessed. R309-520-7(2)(k).

(iii) For a gas chlorination facility without a leak repair kit, 15 points shall be assessed. R309-520-7(2)(p).

(iv) For a gas chlorination facility without respiratory equipment available and stored at a convenient location, 5 points shall be assessed. R309-520-7(2)(o).

(v) For a gas chlorination facility housed in a water treatment plant building where the chlorine gas feed and storage area is not enclosed and separated from other operating areas, 2 points shall be assessed. R309-520-7(2)(h).

(vi) For a gas chlorination facility where the chlorination equipment rooms are not vented such that the ventilating fan(s) take suction near the floor, as far as practical from the door and air inlet, with the point of discharge so located as not to contaminate air inlets of any rooms or structures, 5 points shall be assessed. R309-520-7(2)(e)(ii).

(vii) For a gas chlorination facility where the chlorination equipment rooms are not vented such that air inlets are through louvers near the ceiling, 2 points shall be assessed. R309-520-7(2)(e)(iii).

(viii) For a gas chlorination facility where the chlorination equipment rooms are not vented such that separate switches for the fans and lights are outside of the chlorine room, at the entrance to the chlorination equipment room and protected from vandalism, 2 points shall be assessed. R309-520-7(2)(e)(v).

(ix) For a gas chlorination facility where the vent hose from the feeder to discharge to the outside atmosphere is not above grade or does not have the end covered with #14 non-corrodible mesh screen, 2 points shall be assessed. R309-520-7(2)(f).

(x) For a gas chlorination facility without a bottle of ammonium hydroxide (56%) available for leak detection, 2 points shall be assessed. R309-520-7(2)(p).

(xi) For a gas chlorination facility where full and empty cylinders of chlorine gas are not restrained in position to prevent upset, 2 points shall be assessed. R309-520-7(2)(i)(ii).

(xii) For a gas chlorination facility with full and empty cylinders of chlorine gas stored in areas in direct sunlight or exposed to excessive heat, 2 points shall be assessed. R309-520-7(2)(i)(iii).

(xiii) For a gas chlorination facility in a water treatment plant building where the chlorine room is constructed in a manner that any openings between the chlorine room and the remainder of the plant are not sealed, 2 points shall be assessed. R309-520-7(2)(h)(ii).

(xiv) For a gas chlorination facility housed in a water treatment plant building that lacks outward-opening doors with panic bars, 2 points shall be assessed. R309-520-7(2)(h)(iii).

(xv) For a gas chlorination facility housed in a water treatment plant building with floor drains that do not discharge to the outside of the building and are not connected to other internal or external drain systems, 5 points shall be assessed. R309-520-7(2)(h)(iv).

(xvi) For a gas chlorination facility without a means of chlorine leak detection, such as a bottle of ammonia hydroxide solution or chlorine leak detection equipment, 15 points shall be assessed. R309-520-7(2)(p).

(c) Chlorine dioxide.

(i) For a chlorine dioxide disinfection facility where provisions are not made for proper storage of sodium chlorite to eliminate any danger of explosion 2 points shall be assessed. R309-520-10(3)(b) and R309-525-11(11)(b)(i).

(ii) For a chlorine dioxide disinfection facility where sodium chlorite is not stored by itself in a separate room and away from organic materials that would react violently with sodium chlorite, 2 points shall be assessed. R309-520-10(5)(a) and R309-525-11(11)(b)(i)(A).

(iii) For a chlorine dioxide disinfection facility where sodium chlorite storage structures are not constructed of noncombustible materials, 2 points shall be assessed. R309-520-10(3)(b)(iv) and R309-525-11(11)(b)(i)(B).

(iv) For a chlorine dioxide disinfection facility where a sodium chlorite storage structure is not located in an area where a fire may occur, water should be available to keep the sodium chlorite area sufficiently cool to prevent decomposition from heat and resultant potential explosive conditions. 2 points shall be assessed if this is not the case. R309-520-10(4)(d) and R309-525-11(11)(b)(i)(C).

(v) For a chlorine dioxide disinfection facility that stores combustible or reactive materials in the operating area, 2 points shall be assessed. R309-520-10(5)(a).

(vi) For a chlorine dioxide disinfection facility that does not store personal protective equipment nearby, 5 points shall be assessed. R309-520-10(5)(c)

(vii) For a chlorine dioxide disinfection facility that does not have an emergency eyewash and shower immediately outside the operating area, 2 points shall be assessed. R309-520-10(3)(b)(viii)

(viii) For a chlorine dioxide disinfection facility that lacks an emergency shutoff for flows to the chlorine dioxide generator, 2 points shall be assessed. R309-520-10(3)(b)(ix)

(ix) For a chlorine dioxide disinfection facility that lacks a distinguishable alarm triggered by an ambient air chlorine dioxide sensor, 2 points shall be assessed. R309-520-10(3)(b)(v)

(x) For a chlorine dioxide disinfection facility that lacks wash down water available in the operating area, 2 points shall be assessed. R309-520-10(3)(b)(xvi)

(xi) For a chlorine dioxide disinfection facility that does not maintain the temperature of the chlorine dioxide operating area between 60 and 100°F, 2 points shall be assessed. R309-520-10(5)(d)

(xii) For a chlorine dioxide disinfection facility that lacks an Operation and Maintenance Manual including safety and emergency response procedures, 2 points shall be assessed. R309-520-10(5)(f)

(d) Ultraviolet (UV)

(i) For a UV disinfection facility that lacks an operating procedure in place to handle UV lamp breakage, power supply interruption, response to alarms, 2 points shall be assessed. R309-520-8(4)(b)

(ii) For a UV disinfection facility that does not calibrate and operate UV intensity sensors per manufacturer’s instruction, 2 points shall be assessed R309-520-8(4)

(iii) For a UV disinfection facility that does not use ANSI/NSF Standard 60 chemicals in the cleaning of the UV, 25 points shall be assessed. R309-520-8(3)(j)

(iv) For a UV disinfection facility that can’t isolate the UV disinfection system or each UV reactor for maintenance, 2 points shall be assessed. R309-520-8(3)(g)

(v) For a UV disinfection facility that lacks a backup power source for the UV disinfection system, 2 points shall be assessed. R309-520-8(3)(l)

(vi) For a UV disinfection facility that lacks a redundant primary disinfection mechanism, 5 points shall be assessed. R309-520-8(3)(m)

(e) Ozone

(i) For an ozone disinfection facility without a minimum of two ozone aqueous residual analyzers, 2 points shall be assessed. R309-520-9(7)(c)

(ii) For an ozone disinfection facility using chemicals that do not meet ANSI/NSF Standard 60 quench the residual ozone, 25 points shall be assessed. R309-520-9(4)(h)

(iii) For an ozone disinfection facility lacking properly functioning ozone off-gas blowers from the contactor, 2 points shall be assessed. R309-520-9(5)(b)

(iv) For an ozone disinfection facility that lacks a system for treating the final off-gas from each ozone contactor, 2 points shall be assessed. R309-520-9(5)(a)

(v) For an ozone disinfection facility discharging an ozone concentration in the gas discharge exceeding 0.1 ppm by volume, 2 points shall be assessed. R309-520-9(5)(d)

(3) Fluoridation.

(a) General

([~~a~~]i) For a fluoridation facility that does not calculate fluoride concentrations, including chemical dosages and total water quantities[~~,~~] daily, 2 points shall be assessed. R309-105-14[~~(2)(a)~~](3).

([~~b~~]ii) For a fluoridation facility [~~where there is not~~]without a fail-safe device incorporated in the fluoride feed control system to prevent overfeeding fluoride, 30 points shall be assessed. R309-535-5(3).

([~~c~~]iii) For a fluoridation facility that uses fluoride chemicals [~~sodium fluoride, sodium silicofluoride and fluoriosilicic acid~~]that [~~does~~]do not conform to the applicable AWWA standards or with ANSI/NSF Standard 60, 25 points shall be assessed. R309-535-5.

[~~(d) For a fluoridation facility where liquid chemical storage tanks are not equipped with an inverted "J" air vent 2 points shall be assessed. R309-525-11(6)(a)(iv)(c).~~

~~(e) For a fluoridation facility where the make-up water is not properly treated for hardness 2 points shall be assessed. R309-535-5(2)(i).~~

~~(f) For a fluoridation facility with no provisions for the proper disposal of water treatment plant waste (such as sanitary, laboratory, sludge, and filter backwash water) 5 points shall be assessed. R309-525-23.~~

~~(g) For a fluoridation facility without a spring opposed diaphragm type anti-siphon device shall be provided for all fluoride feed lines and dilution water lines 10 points shall be assessed. R309-535-5(2)(f).~~

~~(h) For a fluoridation facility with saturators that do not have a flowmeter on the inlet or outlet line 2 points shall be assessed. R309-535-5(2)(l).~~

~~(i) For a fluoridation facility without an adequate level of fluoride crystals in the saturator 2 points shall be assessed. R309-525-11(d)(8)(b)(i).~~

~~(j) For a fluoridation facility without NIOSH/MSHA certified dust respirator approved for fluoride dust removal as required in R309-525-11(10) for operators handling fluoride compounds 2 points shall be assessed. R309-535-5(4).~~]

([~~k~~]iv) For a fluoridation facility without scales, loss-of-weight recorders or liquid level indicators, as appropriate, 2 points shall be assessed. R309-535-5(2)(a).

[~~(l) For a fluoridation facility without deluge showers and eye wash devices 2 points shall be assessed. R309-535-5(4).~~]

([~~m~~]v) For a fluoridation facility without proper personal protective equipment as required in R309-525-11(10) [~~-~~]for operators handling fluoride compounds, [~~2~~]10 points shall be assessed. R309-535-5(4).

[~~(n) For a fluoridation facility where an overflow from the day tank will not drain by gravity back into the bulk storage tank or a containment system 10 points shall be assessed. R309-525-11(8)(c)(v).~~

~~(o) For a fluoridation facility where the saturators are not of the up-flow type 2 points shall be assessed. R309-535-5(2)(l).~~]

(vi) For a fluoridation facility lacking a sampling location for measuring the final fluoride level, 2 points shall be assessed. R309-525-18.

(vii) For a fluoridation facility that does not have a means to measure the flow of water to be treated, 2 points shall be assessed. R309-535-5(2)(g).

(viii) For a fluoridation facility without fluoride testing equipment not properly verified or calibrated, 2 points shall be assessed. R309-525-25(4).

(ix) For a fluoride facility adding fluoride compound before lime-soda softening, 2 points shall be assessed. R309-535-5(2)(c).

(x) For a Fluoridation facility lacking cross connection control so that no direct connections exist between any sewer and a drain or overflow from the feeder, solution chamber or tank, 10 points shall be assessed. R309-525-11(9)(b)(iii).

(xi) For a fluoridation facility storing incompatible chemicals in the fluoride storage or injection areas, 10 points shall be assessed. R309-525-11(7)(a)(iv).

(xii) For a fluoridation facility lacking a floor drain to facilitate the washdown of floors, 2 points shall be assessed. R309-535-5(5)(b)

(b) Acid

(i) For a fluoridation facility without deluge showers and eye wash devices, 10 points shall be assessed. R309-535-5(4).

(ii) For a fluoridation facility lacking adequate spill containment provisions, 2 points shall be assessed R309-525-11(6)(a)(iv)(B).

(iii) For a fluoridation facility lacking a vent in the fluorosilicic acid storage units that vents to the atmosphere, 2 points shall be assessed. R309-525-11(8)(b)(vi).

(c) Dry

(i) For a fluoridation facility where the make-up water used for sodium fluoride dissolution is not treated to reduce hardness to less than 75 mg/l as calcium carbonate, 2 points shall be assessed. R309-535-5(2)(i).

(ii) For a fluoridation facility without a spring opposed diaphragm type anti-siphon device for all fluoride feed lines and dilution water lines, 10 points shall be assessed. R309-535-5(2)(f).

(iii) For a fluoridation facility with saturators that do not have a flow meter on the inlet or outlet line, 2 points shall be assessed. R309-535-5(2)(l).

(iv) For a fluoridation facility without an adequate level of fluoride crystals in the saturator, 2 points shall be assessed. R309-525-11(8)(b)(i).

(v) For a fluoridation facility without a NIOSH/MSHA certified dust respirator approved for fluoride dust removal as required in R309-525-11(10) for operators handling dry fluoride compounds, 10 points shall be assessed. R309-535-5(4).

(vi) For a fluoridation facility where an overflow from the day tank will not drain by gravity back into the bulk storage tank or a containment system, 10 points shall be assessed. R309-525-11(8)(c)(v).

(vii) For a fluoridation facility using the sodium fluoride dry chemical where the saturators are not of the up-flow type, 2 points shall be assessed. R309-535-5(2)(l).

(viii) For a fluoride facility where fluoride chemicals stored in uncovered or opened shipping containers and are stored inside a building on pallets, 2 points shall be assessed. R309-535-5(1).

(ix) For a fluoride feed pump that is not tied directly to the well pump or service pump, 30 points shall be assessed. R309-535-5(2)(k).

(x) For a fluoridation facility lacking a vent in the dry chemical storage areas that vents to the atmosphere outside the building, 2 points shall be assessed. R309-535-5(5)(a).

(xi) For a fluoridation facility using sodium fluoride dry chemical and lacking a hopper equipped with an exhaust fan and dust filter and under a negative pressure during transfer of dry fluoride compounds, 10 points shall be assessed. R309-535-5(5)(a).

(xii) For a fluoridation facility that does not vent air from fluoride handling equipment through a dust filter to the outside atmosphere of the building for dust control during transfer of dry fluoride compounds, 10 points shall be assessed. R309-535-5(5)(a).

(xiii) For a fluoridation facility using sodium fluoride dry chemical and lacking a means of disposing of empty bags, drums or barrels handled in a manner that minimizes operators' exposure to fluoride dusts shall be assessed, 10 points. R309-535-5(5)(b).

[~~(4) Activated Carbon.~~

~~(a) For a treatment facility that does not periodically check media depth against design standards 10 points shall be assessed. R309-525-19.~~

~~(b) For a treatment facility that does not have a standard operating practice for the backwash procedure 10 points shall be assessed. R309-525-19.~~

~~(c) For a treatment facility that does not provide cross connection control for the in-plant water supply 2 points shall be assessed. R309-525-11(9)(b).~~

~~(d) For a treatment facility where the output of any chemical pump is inadequate to supply the required dose rate 2 points shall be assessed. R309-525-11(7)(a)(i).~~

~~(e) For a treatment facility where the in plant water supply is inadequate in pressure and quantity 2 points shall be assessed. R309-525-11(9)(a).~~

~~(f) For a treatment facility where the vents from feeders, storage facilities and equipment exhaust does not discharge to the outside atmosphere above grade and does not have the end covered with #14 non-corrodible mesh screen 2 points shall be assessed. R309-520-10(2)(f).~~]

([~~5~~]4) Filtration Treatment.

(a) For a filtration facility that does not have equipment for each individual filter to continuously monitor the effluent turbidity, 30 points shall be assessed.

(b) [~~For a filtration facility that does not provide a minimum backwash rate of 15 gpm/sf for conventional filters 50 points shall be assessed.~~]For a surface water filtration facility that does not have at least two filter units, each capable of meeting the plant design capacity, 20 points shall be assessed. R309-525-15(3).

(c) For a conventional surface water filtration facility that does not have the ability to filter to waste (to allow a filter to ripen before introduction finished water into the clearwell), [~~50~~]20 points shall be assessed

(d) For a filtration facility where instrumentation and controls are inoperable, 2 points shall be assessed.

(e) For a filtration facility where a backwash tank is not provided with finished drinking water, 20 points shall be assessed. R309-525-15(7)(a)(ix).

(f) For a conventional surface water filtration facility where the backwash waste water is not settled prior to being recycled to the head of the treatment plant, 2 points shall be assessed. R309-525-15(7)(a).

(g) For a membrane filtration facility where automatic membrane integrity tests are not performed at least daily, 2 points shall be

assessed. R309-530-8(3)(b).

(h) For a membrane filtration facility not using ANSI/NSF 60 approved chemicals, 25 points shall be assessed. R309-525-11(5)(b).

(i) For a membrane filtration facility lacking cross-connection control protection for the treatment process, 10 points shall be assessed.

(5) Ion Exchange

(a) For an ion exchange facility without a depth of the exchange resin at least 3 feet, 2 points shall be assessed. R309-535-8(1)(b)(iii).

(b) For an ion exchange facility using a salt for the brine solution not having an ANSI/NSF 60 certification, 25 points shall be assessed R309-525-11(5)(b).

(c) For an ion exchange facility make-up water inlet that lacks protection from back-siphonage, 2 points shall be assessed

(d) For an ion exchange facility where the overflow discharge piping is not protected with a corrosion resistant screen or is not terminated with a downturned bend with adequate clearance to prevent cross connection, 10 points shall be assessed. R309-525-11(9)(b).

(e) For an ion exchange facility that lacks a brine measuring tank or means of metering provided to obtain proper dilution, 2 points shall be assessed. R309-525-11(8)(b)(i).

(6) Sequestration

(a) For a polyphosphate sequestration facility that uses chemicals not meeting ANSI/NSF 60 certification, 25 points shall be assessed. R309-535-11(5)(d).

(b) For a sequestration facility using phosphate chemicals where total phosphate applied exceed 10 milligrams per liter as PO4, 2 points shall be assessed. R309-535-11(5)(b).

(c) For a sequestration facility that lacks sample taps located on each raw water source, each treatment unit influent and each treatment unit effluent, 2 points shall be assessed. R309-535-11(5)(d).

(d) For a sequestration facility that lacks the testing equipment for accurately measuring the phosphate dosage, 2 points shall be assessed. R309-535-11(5).

R309-400-8. Operator Certification.

(1) A water system that is required to have a certified operator and does not, 30 points shall be assessed[~~30 points~~].

(2) A water system where the operator is not certified at the appropriate level, 10 points shall be assessed[~~10 points~~].

(3) A grade 3 or 4 water system that does not have all direct responsible charge operators (as specified in R309-300-5(5)) certified at the level of the system, 5 to 15 points shall be assessed[~~5 to 15 points~~]. The number of points shall be based on the percentage of time that the water system is operated by operators not certified at the required level.

(4) A water system where the certified operator does not live within a one hour response time, 20 points shall be assessed[~~20 points~~].

(5) A water system may be credited up to a maximum of 20 points, which shall remain on record for as long as the conditions apply. The following items are eligible for credit:

(a) A water system that is not required to have a certified operator and does shall be credited 10 points.

(b) A water system that has operators that are certified at a higher level than required shall be credited 10 points.

(c) A water system that has operators certified in other areas that are not required by that water system, such as treatment [~~or backflow prevention certification,~~]shall be credited 10 points.

R309-400-9. Cross Connection Control Program.

(1) A water system, which does not have any of the below listed components of a cross connection control program in place, 50 points shall be assessed[~~50 points~~].

(2) A water system, which only has some of the components of a cross connection control program in place, shall be assessed the following number of points:

(a) A water system which does not have local authority to enforce a cross connection control program ([~~i.e.~~]e.g., ordinance, bylaw or policy), 10 points shall be assessed[~~10 points~~].

(b) A water system that does not provided public education or awareness material or presentations on an annual basis, 10 points shall be assessed[~~10 points~~].

(c) A water system that does not have an operator with training in the area of cross connection control or backflow prevention, 10 points shall be assessed[~~10 points~~].

(d) A water system with no written records of cross connection control activities, such as, backflow assembly inventory and test history, 10 points shall be assessed[~~10 points~~].

(e) A water system that does not have on-going enforcement activities (hazard assessments and enforcement actions), 10 points shall be assessed[~~10 points~~].

R309-400-10. Drinking Water Source Protection.

Drinking water source protection (for ground water and surface water sources): Points shall be assessed for each source after a system fails to complete source protection [~~plans as~~]requirements according to schedules or deadlines specified in R309-600 and R309-605, unless extensions have been requested from and granted by the Director. The points shall remain until such time as the violation or deficiency [~~no longer exists~~]is corrected or resolved.

(1) For a water system [~~which~~]that has not appointed a designated person for source protection and notified the Division, 5 points shall be assessed.

(2) For a water system [~~which does not maintain a current copy~~

~~of their source protection plan(s) or source assessment(s) on the water system premises~~]that has not upgraded a Preliminary Evaluation Report to a Drinking Water Source Protection plan, 30 points shall be assessed.

(3) For a water system [~~which does not maintain a current inventory of potential contamination sources or susceptibility analysis and determination~~]that has not submitted an updated Drinking Water Source Protection plan, 10 points shall be assessed.

[~~(4) For a water system which does not maintain current records of land management strategies (such as, ordinances, codes, permits, public education programs, meeting minutes) 10 points shall be assessed.~~]

(4[~~5~~]) For a water system with any new (see R309-110) sources for which a Preliminary Evaluation Report has not been submitted, 150 points shall be assessed. These points shall be included with the points for an unapproved source, not [~~in addition to~~]added to them.

(5[~~6~~]) For a water system [~~which~~]that has any [~~old~~]existing (see R309-110) sources that have come into use for which a source protection plan has not been submitted, 30 points shall be assessed.

(6[~~7~~]) For a water system [~~which~~]that has reconstructed or redeveloped a water source and has not submitted a revised source protection plan, 20 points shall be assessed.

(7) For a water system that has a disapproved plan, update or Preliminary Evaluation Report, 20 points shall be assessed.

R309-400-11. Administrative Issues.

Points in this area shall be assessed at the time that the failure occurs or upon notification of the Director, and shall remain until the issue is resolved unless otherwise specified.

(1) Administrative Data -

(a) A water system, [~~which~~]that has not designated a person or organizational official responsible for the system including a current address and phone number,10 points shall be assessed[~~-10 points~~].

(b) A water system project constructed without proper plan approval, [~~shall be assessed 1 to~~]50 to 200 points shall be assessed based on an evaluation of the project which shall include the structural or engineering integrity of the project; whether the plans and specifications were prepared and stamped by a licensed professional engineer; the adequacy of the materials used and the impact on the operation of the water system (good or bad). [~~The points assessed shall remain on record for a period of one year.~~]

(2) A water system with a current written Emergency Response Program shall be credited 10 points that shall remain on record as long as the Program remains current.

(3) A water system with a written Financial Management Plan including an appropriate rate structure, infra-structure replacement fund, and master plan shall be credited 10 points that shall remain on record as long as the Plan is current.

(4) Sampling Site Plans:

(a) A water system, which does not have an adequate bacteriological sampling site plan, 5 points shall be assessed[~~5 points~~].

(b) A water system, which does not have a lead/copper sampling site plan, 10 points shall be assessed[~~10 points~~].

(5) Customer Complaint:

(a) [~~1~~]25 to 100 points may be assessed for valid and documented customer complaints. The customer complaints include but are not limited to the following:

(i) Turbidity;

(ii) Pressure;

(iii) Taste and Odor;

(iv) Sickness (water suspected); and

(v) Waterborne Disease Outbreak (R309-104-9).

(vi) Periods of Water Outage

(b) The number of points shall be based upon the extent and documentation of the problem and the potential impact to public health. The documentation shall consist of an investigation by Department of Environmental Quality, Department of Health or Local Health Department personnel and may include an epidemiological study linking the drinking water to reported outbreaks of illness where appropriate.

(c) In the case of a documented waterborne disease outbreak, the water system shall automatically be rated Not Approved for at least the duration of the threat to the quality of the drinking water and as long as it takes the water system to correct any deficiency that caused the outbreak.

(d) Points shall only be assessed once per issue and shall not be additive based on the number of calls per issue. These points shall be assessed and updated upon verification of the complaint by the Director and shall remain on record until the issue or deficiency no longer exists. Points may have already been assessed in other areas as appropriate.

(6) (a) The Director may issue directives to a water system that include, but are not limited to the following:

(i) Administrative Orders;

(ii) Rule defined action;

(iii) Rule defined compliance schedule;

(iv) Variance/Exemption requirements; [~~and~~]

(v) Bilateral Compliance Agreement[~~.~~];

(vi) Notice of Violation and Compliance Order; and

(vii) Compliance Action/Enforcement Order.

(b) If the water system does not comply with the directive, the Director may assess [~~1~~]25 to [~~100~~]200 points to the water system. Points shall be assessed based upon the severity of the non-compliance, the threat to public health and the underlying basis for the original directive.

(7) Data Falsification - The Director may assess a water system points for data falsification. The water system may be assessed [~~1~~]25 to [~~50~~]200 points for each occurrence based upon:

(a) the severity of the falsification;

(b) the threat to public health;

(c) the intent of the water system personnel; and,

(d) the type of falsification.

(i) Reports only good data

(ii) Doctored results from the laboratory

(iii) Non-valid sample

Data reported to the Director includes but is not limited to Water Treatment Plant Reports, Disinfection Reports, bacteriological and chemical analyses, and Annual Reports. This assessment of points shall be in addition to any other penalty provided by law.

(8) Water Hauling:

(a) For a community water system that is hauling water as a permanent method of culinary water distribution, 150 points shall be assessed. R309-550-10(1).

(b) For a non-community system that is hauling water as a permanent method of culinary water distribution [~~when there is alternate means of supplying quality drinking water~~]without approval from the director, 150 points shall be assessed. R309-550-10(2).

(c) For a water system, which has been granted an exception to haul water, if any part of the water hauling guidelines [~~are~~]is not followed, 50 points shall be assessed. R309-550-10.

R309-400-12. Reporting and Record Maintenance Issues.

Points may be assessed for failure to provide required reports to the Director by the reporting deadline. The points shall be assigned as the failure occurs and shall remain on record for a period of one year.

(1) Monthly Reports:

(a) For each failure to report the monthly water treatment plant report, [~~10~~]100 points shall be assessed.

(2) Quarterly [~~Repots~~]Reports:

(a) For each failure to report the quarterly disinfection report, [~~10~~]50 points shall be assessed.

(3) Annual Reports:

(a) For failure to provide the annual report, 2 points shall be assessed.

(b) [~~For a community~~]Community water [~~system~~]systems that [~~fails~~]fail to [~~prepare or distribute a~~]send a certification to the Division stating how the consumer confidence report was distributed to its customers as required in R309-225-7(3), [~~2~~]10 points shall be assessed.

(c) Community water systems that fail to mail a copy of the consumer confidence report to the Division as required in R309-225-7(3), 10 points shall be assessed.

KEY: drinking water, environmental protection, water system rating, penalties
Date of Enactment or Last Substantive Amendment: March 6, 2007
Notice of Continuation: March 22, 2010
Authorizing, and Implemented or Interpreted Law: 19-4-104

Agenda Item 9

COTTONWOOD COVES

MAY 29 2014

May 27, 2014

Chuck Jeffs, Circuit Rider
Rural Water Association of Utah
76 E. Red Pine Drive
Alpine, UT 84004-1557

Chuck;

I wanted to send you this letter to say 'Thank You' very much for all your help and attention during these past two years of becoming an approved water system of the Utah State Division of Drinking Water. As you know, we finally received that much-desired and long-sought after letter of approval this past week.

As I reflect back on this arduous journey, I've come to the realization that without your help, as well as the assistance of the Rural Water Association, it would've been a significantly greater and much-longer struggle. The fact that our company had never been involved with any governmental utility system requirements was a shock, to say the least, when we received notification from the Utah State Division of Drinking Water of this very intimidating requirement. I wasn't sure where to find assistance and advice, but gratefully we were referred to the Rural Water Association of Utah where we found the much needed coaching that allowed us to muddle through this intimidating process. I can confidently state that without the hand-holding assistance and direction from you and the RWAU, this mountain would have been insurmountable to climb!

I clearly recall chatting with you for the first time, and learning that you had been assigned to mentor and assist us in the process of becoming an approved system. It was such a pleasure to be receiving help from someone with your positive attitude and desire to serve. And, I gladly tell anyone that will listen how you have always been more than willing to provide the focus and attention that was needed. With great patience, you personally helped me obtain the necessary training to become a certified operator. You were more than willing to come to my office on numerous occasions to work with me one-on-one in matters such as cross-contamination/back-flow prevention; water sampling; Consumer Confidence Reports; etc. All of these hurdles seemed so very intimidating and immense, but you guided me through with confidence and ease.

Through every step of becoming 'Approved', it has been wonderful to have a mentor and coach who knows the ropes and tricks-of-the-trade. In addition to being able to understand and complete the government process, it's been very reassuring

to be able to call upon you and the RWUA for technical assistance in day-to-day operation of our water system.

I have been involved over the years with a number of differing trades and industries, and along with that, I have also been affiliated with the corresponding associations. In fact, I have held leadership positions within several of those associations. I can easily say that I have never experienced the same level of assistance and service from any of these other associations as compared to the RWAU. This tremendous association has exhibited nothing but a sincere interest and desire to ensure their members are trained, compliant and assisted in all areas and aspects required of water systems. I, for one, am very grateful there exists an organization within the State of Utah whose complete focus and purpose is to provide a level of quality expertise and support to water systems such as ours!

Again, allow me to express my sincere appreciation to you, Chuck, for all your personal help and attention, in addition to the professional assistance provided our company by the RWAU. I sincerely look forward to a long and very prosperous relationship.

Respectfully;

Terry Robison, Pres.

/tr

Agenda Item 11(A)

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF DRINKING WATER
Kenneth H. Bousfield, P.E.
Director

June 30, 2014

Name
Address
City, State, Zip

Dear Water System Manager:

Subject: Fee Schedule Changes

I am writing this letter to inform you that the Division of Drinking Water (the Division) is considering imposing a Plan Review Fee which, if approved by the Legislature, will take effect on July 1, 2015. The purpose of this fee is to cover some of the costs associated with Plan Review performed by the Division. It will also help to reimburse for funds lost from our Federal Grant award.

On the reverse side of this page is the existing and proposed fees for the period commencing July 1, 2015. The lines that are underlined will be the lines added to our fee schedule, those that are lined through will be deleted from our fee schedule, and those unmarked are already part of the existing fee schedule.

There will be some projects and systems that will be exempt from these fees. First of all; those systems that apply for financial assistance will not be assessed a plan review fee, as there are other fees associated with these projects. Also disadvantaged communities as described in the Division's rules, associated with financial assistance projects will be exempted from fees, even if they are not recipients of State funds.

All the Divisions with the Department of Environmental Quality will participate in a fee hearing, which will be scheduled sometime in the month of September 2014. You may look at the state's web site: www.utah.gov/pmn/index.html, for information about this hearing. The actual posting of the hearing information will not occur until August 2014. Once at the site, click on "State" and then click on "DEQ" for the Department of Environmental Quality. You should see a list of public meetings that the Department will be holding. Look for the meeting associated with the Department of Environmental Qualities' fees.

If you have any questions regarding this correspondence or the proposed fees, please feel free to call me at (801) 536-4207.

Sincerely,

Kenneth H. Bousfield, P.E., Director
Division of Drinking Water
Utah Department of Environmental Quality

Drinking Water

Safe Drinking Water Regulations Rules	
Bound	50.00
Special Surveys	Actual Cost
File Searches	Actual Cost
Well Sealing Inspection Fee ~~(per hour + mileage + per diem)~~	~~90.00~~
Per Hour (Includes total travel time)	90.00
Per Mile (Includes travel to and from site)	IRS Standard Mileage Rate
Per Diem	State of Utah Standard Rates
Special Consulting/Technical Assistance (per hour)	90.00
Operator Certification Program Fees	
Examination	100.00
Any level	
Renewal of certification	100.00
Every 3 years if applied for during designated period	
Reinstatement of lapsed certificate	200.00
Certificate of reciprocity with another state	100.00
Conversion	20.00
Specialist to Operator/Operator to Specialist	
Cross Connection Control Program	
Certification and Renewal	
Class I	175.00
Class II and III	225.00
Retest	145.00
Certificate of reciprocity with another state	225.00
Replacement Certificate	25.00
~~Financial Assistance Program~~	
~~Application Processing Actual Costs~~	~~Actual Costs~~
Engineering Review Fee for Public Drinking Water Projects	
Construction Plans and Specifications Estimated Project Cost	
≤$10,000	0.00
>$10,000 to $100,000 (minimum fee)	250.00
>$100,000 to $2,000,000	0.25% of Estimated Project Cost
>$2,000,000 (maximum fee)	5,000.00
New Source Surcharge – Wells/Springs (in addition to review fee)	750.00
Water System Master Plan	250.00
Water System Standard Installation Drawings	250.00
Penalty Surcharge - Construction without Prior Approval (in addition to review fee)	1,000.00
Drinking Water Loan Origination Fee	~~0.01~~1.0% of Loan Amount

Agenda Item 11(B)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

APR 2 3 2014

Ref: 8P-W-TF

Michael Grange, PE, Manager
Construction Assistance Section
Division of Drinking Water
Utah Department of Environmental Quality
P.O. Box 144810
Salt Lake City, Utah 84114-4810

RE: DWSRF Annual Review

Dear Mr. Grange:

Enclosed is a copy of the U.S. Environmental Protection Agency's, Region 8, annual review of the Utah Drinking Water State Revolving Fund (DWSRF) program. This review is a result of our visit to your offices from March 11, 2014 through March 13, 2014.

We are impressed with the accomplishments your DWSRF has achieved in the past several years. It's apparent that the Division of Drinking Water has integrated the DWSRF within the overall Utah drinking water program. The DWSRF is addressing drinking water infrastructure needs in the state and providing support to the drinking water program in order to meet the goals and objectives of the Safe Drinking Water Act. Also, the Utah DWSRF has done very well in spending federal funds in a timely manner.

Please call me at 303-312-6757 should you have any questions.

Sincerely,

Rebecca Russo, Unit Chief
Technical & Financial Services

Enclosures

cc: Craig Silotti, Director, Office of Support Services

ANNUAL REVIEW

of

UTAH DRINKING WATER STATE REVOLVING FUND

FISCAL YEAR 2013

by

U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 8

April 2014

ANNUAL REVIEW OF UTAH DRINKING WATER STATE REVOLVING FUND FOR FISCAL YEAR 2013

The U.S. Environmental Protection Agency, Region 8, has conducted an annual review of the Utah Drinking Water State Revolving Fund (DWSRF) for State Fiscal Year (FY) 2013 (July 1, 2012 through June 30, 2013) in accordance with the EPA's State Revolving Fund (SRF) Annual Review Guidance.

The grantee has been and remains the Division of Drinking Water (Division) in the Utah Department of Environmental Quality. Duties include developing the Intended Use Plan (IUP) and Project Priority List and serving as project managers that work with communities on planning, design, financing, and construction of projects. The required 20 percent state match is provided by state sales tax revenue that is initially deposited into Utah's "State" loan fund and transferred into the DWSRF as match when needed. DWSRF assistance is currently provided to publicly-owned or privately-owned water systems with a variable "effective" interest rate based on several factors including: cost effectiveness ratio, funding from other sources, local median adjusted gross income, applicant's financial contribution, applicant's ability to repay the loan, debt load, growth and other similar factors. The amount of principal forgiveness and the "effective" interest rate may be reduced based on the applicant's ability to repay the loan. The Division will either charge true interest, a hardship assessment fee or a technical assistance fee.

The scope of the annual review includes consideration of the technical, financial and operational capabilities and performance of UTDEQ in administering its DWSRF. The visit occurred from March 11, 2014 through March 13, 2014. Activities incorporated into the Annual Review were an analysis of the FY13 and FY14 IUPs, files for the Nordic Mountain and Skyline water system projects, unaudited financial statements, and Utah DWSRF financial indicators, and the following four cash draws:

FS998784-10; $17,676.56; November 20, 2012
FS998784-11: $62,193.66; April 16, 2013
FS998784-11; $2,005,525.29; October 24, 2012*
FS998784-12; $2,164.13; January 3, 2013

*This draw was selected through a national random sample as part of an agreement with the EPA's Inspector General and the Office of Management and Budget.

Nationally, as of February 28, 2014 there was approximately $1.9 billion in unspent DWSRF capitalization grant funds or un-liquidated obligations (ULOs), which equaled an 89 percent outlay rate. This issue has led to a nationwide assessment of how well SRFs are spending federal funds to achieve environmental and economic benefit. For the first part of this analysis, the Utah DWSRF currently (as of March 31, 2014) has approximately $6 million in ULOs, which equals a 96 percent federal outlay expenditure rate. The Utah DWSRF has a good outlay rate. EPA will issue a ULO policy in 2014 that will set a target to have all federal grants awarded in FY14 and prior years to be fully spent by September 30, 2016. Based on Utah's current federal spending performance, the State is on track to meet this September 30, 2016 target.

OBSERVATIONS: The Division manages its DWSRF program in accordance with applicable statutes and regulations. Overall, the Utah DWSRF is well-integrated with the state's drinking water program.

The Utah DWSRF is managed in conjunction with the "State" loan fund and hardship grant program to optimize funding packages for utilities and address drinking water priorities of the state. Project files were found to be in good order, and the Division works closely with Utah communities to provide good project management for drinking water projects.

All four cash draws listed above were for eligible uses and the one loan fund draw was done at a correct federal proportion of 79.79 percent.

Of the $181.8 million in cumulative DWSRF project assistance, 57 percent has been used for disadvantaged communities; 19 percent used for consolidation of water systems; and 15 percent used for privately-owned community water systems. For FY13 project assistance of $13.9 million, 54 percent assisted non-compliant systems to achieve compliance with Safe Drinking Water Act, and 46 percent assisted systems to maintain compliance. These are all good uses of a loan fund that further the goals and objectives of the Safe Drinking Water Act.

Currently, the Division does not have a separate financial statement and compliance audit conducted of its DWSRF program. While this is not required by SRF regulations, Region 8 recommends that this type of audit be performed annually. On a related matter, on September 17, 2013 the Utah Auditor completed its report required by the Single Audit Act and OMB Circular A-133. The report did not include any compliance findings, questioned costs, or recommendations for the Utah DWSRF.

The DWSRF is summarized below as of June 30, 2013, beginning with the following two tables. The first table presents loan fund information and pace of construction, and the second table shows set-aside spending status.

TABLE I: DWSRF Program Summary ($ Millions)				
DWSRF Funds Available For Projects	Project Assistance	Fund Use Rate	Project Disbursements	Pace of Construction
$225.4	$181.8	81%	$176.6	97%

TABLE II: DWSRF Set-Aside Summary ($ Millions)			
Set-Aside	Set-Aside Amount	Payment Amount Expended	% of Set-Aside Expended
Administrative	$5.5	$4.8	87%
Small System TA	$3.4	$2.8	85%
State Program	$15.3	$13.2	86%
Local Asst.	$6.0	$5.3	88%
TOTALS	$30.1	$26.1	87%

In FY13, the Utah DWSRF funded $13.9 million of new drinking water projects and its *fund use rate* decreased from 84 percent to 81 percent, below the national DWSRF fund use rate of 91 percent. The uncommitted 19 percent was approximately $43 million. Utah's FY14 DWSRF Intended Use Plan

showed 10 authorized (but not yet funded) projects totaling $20.8 million and an additional 4 projects $11.2 million planned for SRF funding in FY14 and FY15. Also, the Utah DWSRF priority list shows $235 million of projects. On a related topic, for the overall "revolving rate of Utah DWSRF funds", as of June 30, 2013 the percentage of construction disbursements ($176.6 million) divided by total DWSRF funds available ($225.4 million) was 78 percent, the same as the national average.

By using the EPA's SRF Financial Planning Model and a suite of assumptions, it is estimated that Utah's DWSRF will be able to fund approximately $200 million in new drinking water projects through the end of this decade.

Some critical assumptions to produce this estimate include:

- Annual capitalization grants of $9.3 million per year through 2020;
- Discount rate: 4.0 percent;
- Investment Yield: 0.3 percent;
- Loan Yield: 1.6 percent;
- Fund Use Rate: 98 percent (2018);
- Principal Forgiven as a % of Loan Disbursements: 10 percent; and
- Continued similar use of set-asides.

The Utah Drinking Water Division has excelled in meeting green project reserve for FY11 and FY12 grants, and additional subsidy requirements in a timely manner for the FY10, FY11 and FY12 grants. The 20 - 30 percent additional subsidy requirement for FY13 is currently at 16.7 percent, and will be met in FY14.

Construction expenses totaled $17.4 million in FY13, and the Utah *DWSRF pace of construction* (disbursements divided by total project amounts) increased from 95 percent to 97 percent, well above the national DWSRF average 85 percent. In FY13 Utah's DWSRF cumulative *Federal Return* (construction disbursements divided by the sum of loan fund and 4 percent cash draws) increased from 1.29 to 1.36, above the national average of 1.23 for non-leveraged DWSRFs.

Utah DWSRF project milestone accomplishments are as follows (in $millions). The project completion rate at the end of FY13, as a percentage of funds available, was 59 percent, just above the national DWSRF average of 58 percent.

- DWSRF Funds Available: $225.4
- Project Assistance: 94 at $168.2
- Construction Starts: 94 at $168.2
- Project Completions: 76 at $133.0

Based on information from Drinking Water National Information Management System, the DWSRF had a cumulative *Gross Loss Including Subsidy* of -$17.9 million, a decrease of $0.7 million from its FY12 gross loss amount of -$18.6 million. The *Gross Loss on Contributed DWSRF Capital* (contributed capital being the sum of federal outlays for loan fund and deposited state match) is -11.2 percent, as compared to the national DWSRF average of -6.5 percent. The *Net Return on Contributed DWSRF Capital Excluding Subsidy* is 8.0 percent, just below the national DWSRF average of 8.2 percent. These

calculations do not incorporate the fee amounts the state collects on SRF assistance which are used for Safe Drinking Water Act-related purposes. Also, while the impact to net return from providing subsidy is substantial, this is allowed by 40 CFR 35.3525(b), and required by the Recovery Act and the FY10-FY13 Appropriation bills.

The Utah Drinking Water Division sets aside its DWSRF grant for a wide range of effective uses in its drinking water program. By June 30, 2013, the *set-aside spending rate* was 87 percent, above the national set-aside expenditure rate of 84 percent.

PRIOR RECOMMENDATIONS:

1. The Division does not have a separate financial statement and compliance audit conducted of its DWSRF program. While this is not required by SRF regulations, the EPA, Region 8, recommends that this type of audit be performed annually.

Resolution: Region 8 will continue recommending a separate financial statement and compliance audit for its DWSRF.

2. The Division should assign a Financial Analyst to the Construction Assistance Section to ensure the Utah DWSRF remains a well functioning DWSRF and complies with federal regulations.

Resolution: This situation has not changed.

NEW RECOMMENDATIONS: There are no new recommendations with this review.

DATE: 4/23/14

BY: Rebecca Russo

Rebecca Russo, Unit Chief
Technical and Financial Services
U.S. Environmental Protection Agency, Region 8

DWSRF FINANCIAL INDICATOR WORKSHEET
UTAH DWRF PROGRAM: Cumulative Data ($ thousands)

	June 30 2009	June 30 2010	June 30 2011	June 30 2012	June 30 2013
Fund Use Rate					
Drinking Water SRF Assistance Provided	$104,639	$131,024	$152,706	$167,927	$181,820
Drinking Water SRF Funds Available	140,494	$165,661	171,156	198,779	225,393
Utah DWSRF Fund Use Rate	74%	79%	89%	84%	81%
National DWSRF Fund Use Rate	87%	95%	90%	90%	91%
Cumulative SRF Funds Available:					
Capitalization Grant into Loan Fund	99,922	117,561	117,561	131,591	137,816
Total State Match	19,960	22,675	22,675	26,353	29,695
Interest Payments and Earnings	4,910	5,961	7,205	8,738	10,581
Principal Repayments	15,702	19,465	23,716	32,097	47,301
Cumulative SRF Funds Available	140,494	165,661	171,156	198,779	225,393
Project Disbursements	$93,902	$119,330	$146,825	$159,175	$176,648
Drinking Water SRF Assistance Provided	104,639	131,024	152,706	167,927	181,820
% of Pace of Construction	90%	91%	96%	95%	97%
National DWSRF Average	83%	77%	83%	85%	85%
Project Disbursements	$87,396	$119,330	$146,825	$159,175	$176,648
Federal Cash Draws for Projects	75,732	97,853	115,528	123,258	129,489
Return on Federal Investment	1.15	1.22	1.27	1.29	1.36
National DWSRF Federal Return (non-leveraged DWSRFs)	1.28	1.27	1.23	1.26	1.23
Project Disbursements	$93,902	$119,330	$146,825	$159,175	$176,648
Drinking Water SRF Funds Available	140,494	165,661	171,156	198,779	225,393
Utah DW Revolving Rate	67%	72%	86%	80%	78%
National DW Revolving Rate	72%	73%	75%	76%	78%
Interest Payments	2,039	$2,958	4,097	5,520	7,153
Interest Earnings	2,872	3,002	3,108	3,219	3,428
Principal Forgiveness (Subsidy)	(6,301)	(17,800)	(23,601)	(27,351)	(28,508)
Gross Return	($1,390)	($11,839)	($16,396)	($18,613)	($17,927)
Gross Return Including Subsidy	($1,390)	(11,839)	($16,396)	($18,613)	($17,927)
Contributed Capital (including Subsidy)	92,903	90,282	134,535	145,944	159,706
Gross Return on Contributed Capital	-1.50%	-13.11%	-12.19%	-12.75%	-11.22%
National DWSRF Return	5.6%	-2.6%	-3.6%	-5.1	-6.5%
Net Return Excluding Subsidy	$4,910	$5,961	$7,205	$8,738	$10,581
Contributed Capital (Excluding Subsidy)	$86,603	$90,282	$110,934	$118,593	$131,198
Net Return on Contributed Capital	5.67%	6.60%	6.49%	7.37%	8.07%
National DWSRF Net Return		10.5%	9.7%	8.7	8.2%
Set-Aside Expenditures	$16,360	$18,850	$21,686	$23,203	$26,080
Set-Aside Payments	19,776	20,573	23,573	27,935	30,131
Set-Aside Spending Rate	83%	92%	92%	83%	87%
National Set-Aside Spending Rate	78%	80%	80%	82%	84%