

**WATER RECLAMATION AND REUSE REGULATION (9VAC25-740)
REGULATORY ADVISORY PANEL (RAP)**

**MEETING NOTES - FINAL
RAP MEETING – MONDAY, MAY 2, 2011
DEQ PIEDMONT REGIONAL OFFICE TRAINING ROOM**

Meeting Attendees

<i>RAP MEMBERS</i>	<i>INTERESTED PUBLIC</i>	<i>TECHNICAL SUPPORT</i>
Robert (Bob) W. Angelotti – Upper Occoquan Service Authority	Dan Dietrich - VDH	Marcia Degen - VDH
Leita Bennett - ATKINS	Douglas (Doug) W. Fredericks - Atkins	Scott Kudlas - DEQ
Lawrence (Larry) A. Dame – New Kent County	Vernon Land – City of Suffolk	Angela Neilan - DEQ
Gregory (Greg) K. Evanylo – Virginia Tech (Technical Expert)	Jim Sizemore – Alexandria Sanitation Authority	William (Bill) Norris - DEQ
Thomas (Tom) J. Grizzard, Jr. – Virginia Tech and Upper Occoquan Laboratory		Jeff Reynolds - DEQ
Eldon James – Rappahannock River Basin Commission		Valerie Rourke - DEQ
Wesley J. Kleene - VDH		Timothy (Tim) Sexton - DCR
Karen Pallansch – Alexandria Sanitation Authority & VAMWA		Neil Zahradka - DEQ
Jim Pletl – Hampton Roads Sanitation District		
Gregory (Greg) J. Prelewicz – Fairfax Water		
Eric Tucker – Hampton Roads Planning District Commission – City of Norfolk		
Cabell Vest – Virginia Association of Municipal Wastewater Agencies, Inc. – Alternate for Robert C. Steidel		

NOTE: The following REUSE RAP Members were absent from the meeting: Jeff Hancock – Williamsburg Environmental Group, Inc.; Peter McDonough – VA Golf Course Superintendent’s Association; T. Britt McMillian – Malcolm Pirnie; Brooks Smith – Virginia Manufacturers Association; Robert C. Steidel – Virginia Association of Municipal Wastewater Agencies, Inc.; & Wilmer N. Stoneman – Virginia Farm Bureau

1. Welcome & Introductions (Bill Norris):

Bill Norris, Regulation Writer with the DEQ Office of Regulatory Affairs welcomed all of the meeting participants and asked for brief introductions from those attending today’s meeting.

2. Notes – April 21, 2011 RAP Meeting (Bill Norris):

Bill Norris asked for comments or recommendations for edits to the notes from the April 21st meeting of the Water Reuse RAP that had been previously distributed to the RAP. The RAP members approved the meeting notes as presented.

ACTION ITEM: The Draft meeting notes will be revised to reflect approval by the RAP and will be identified as “Final” Meeting Notes and will be posted to Town Hall.

3. Comments Received from RAP Members (Bill Norris):

Bill Norris thanked the RAP members who had submitted additional comments following the first RAP meeting and noted that those comments had been distributed via email to the RAP for their consideration. He reminded the members that any additional comments that could serve as resource materials for the RAP’s discussions should be routed to him for distribution to the RAP. He asked that the RAP review these and identify any key issues or concerns that should be further considered by the RAP.

4. Committee and Report Studying Expansion of Water Reuse and Reduction of Surface Water Discharges (Bill Norris & Jeff Reynolds):

Bill Norris briefly reminded the RAP members of the parallel track process that would be used during the RAP process to address both the regulatory requirements for development of amendments to the Water Reuse Regulation based on the NOIRA and to address the concerns outlined in the letter received from Delegate Harvey Morgan. He asked Jeff Reynolds to provide additional information related to the handling of the Delegate Morgan request. Jeff Reynolds, DEQ’s Water Policy Manager discussed the following items with the RAP:

- We will be dealing with issues pertaining to both Senate Bill 1056, which did not pass during this past General Assembly Session but has resulted in the letter from Delegate Morgan, and Senate Bill 1427, which did pass.
- The letter from Delegate Morgan asked us to form a committee to look at ways to expand water reuse opportunities.
- SB 1427 made changes to expand the criteria under the WQIF as they address Water Reuse Projects. These criteria will be added to the Secretary of Natural Resources’ guidelines for the WQIF program
- The interesting part of the process is that water reuse already qualifies under the WQIF guidelines.
- The idea is to raise the visibility of Water Reuse.
- The first priority is the amendment of the regulations and then to address the request by Delegate Morgan and SB 1427 together.
- As noted, members of this RAP will be asked to participate in the follow-up process if they are interested.
- The existing guidance for the current handling of water reuse projects will be distributed to those continuing in this follow-up process.

Mr. Norris reminded the group that this would be handled in a parallel track with the current development of amendments to the existing regulations. During the RAP’s discussions of the regulatory amendments items that come up that would be better suited for inclusion in the response to Delegate Morgan’s request will be noted by staff and recorded for in-depth discussions by a committee that may include members of the RAP following completion of the work on the regulatory amendments

identified in the NOIRA.

5. Language of Minor and Tier I Amendments to the Water Reclamation and Reuse Regulation (Valerie Rourke):

Valerie Rourke noted that during the last RAP meeting that the group had discussed the “minor amendment” to the Water Reuse Regulation and had identified a number of items that might need more in-depth discussions. After reviewing the notes it was determined that there were three items from that discussion that needed to be included in today’s discussions of the Tier I amendments to the regulation. These three additional items included the following:

- Reclaimed water agent (provider) inspection of end user’s reuses and storage facilities (9VAC-740-100.C.1.d)
- No discharge requirement for all reclaimed water storage (9VAC25-740-110.C.14)
- Identification, labeling and signage requirements for new and existing reclaimed water distribution systems (9VAC25-740-110.B.7 and B.9.a and b.)

She noted that today’s discussions will reference the language included in the document entitled “Language of Minor and Tier I Amendments to the Water Reclamation and Reuse Regulation (9VAC25-740)” dated May 2011 that was distributed to the RAP prior to the meeting and a separate handout with the proposed language for two of the additional Tier I Significant Amendments that was distributed with the agenda at today’s meeting. She noted that she will provide an overview of each of the Tier I amendments to the Water Reuse Regulation and Angela Neilan will facilitate the discussions of the RAP for each of the amendments.

6. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – Intentional indirect reuse (9VAC25-740-50.A.7; 9VAC25-740-10; 9VAC25-740-90.B)

9VAC25-740-50.A.: Exclusions...The following are excluded from the requirements of this chapter... 50.A.7. Indirect reuse with the exception of indirect reuse projects proposed after October 1, 2008 and intentional indirect reuse projects other than indirect potable reuse projects proposed after [effective date of amended regulation].

9VAC25-740-10: Definitions: “Intentional indirect reuse” means the discharge of reclaimed water to a receiving surface water for the intentional augmentation of a water supply source, followed by withdrawal from the ambient surface water with or without mixing and transport to the withdrawal location, and for reuse or distribution for reuse other than indirect potable reuse.

9VAC25-740-90: Minimum standard requirements for reuses of reclaimed water: 90.B: For any type of reuse not ~~addressed in this chapter~~ listed in subsection A of this section, including, but not limited to, indirect potable reuse and below-ground drip irrigation reuse, that is newly proposed after October 1, 2008 and intentional indirect reuse other than indirect potable reuse that is newly proposed after [effective date of amended regulation]; or any reuse of reclaimed industrial water, including reuses listed in subsection A of this section, the board may prescribe specific reclaimed water standards and monitoring requirements...

The original regulation provides exclusions for indirect reuse projects with the exception of indirect potable reuse and was intended to address unplanned and unintentional indirect reuse. These amendments are being proposed to take into consideration recent proposals for projects where an outfall was relocated to intentionally augment surface water for a subsequent withdrawal where there could be public contact. For example, a wastewater treatment facility relocates its existing outfall to intentionally augment a pond for subsequent use to irrigate a golf course where there is a high potential for public contact. The regulation doesn't address the potential health concerns. The amendments would provide a mechanism for dealing with intentional indirect reuse.

- The RAP's discussions included the following:
 - Some confusion was noted between the different definitions and terms being used. It was suggested that it might be easier to understand if you just had "indirect reuse" and "indirect potable reuse" definitions and then just clarify what is classified as "intentional" and "unintentional" as it relates to these terms. Maybe definitions of "intentional" and "unintentional" might be needed.
 - Concern was raised over the inclusion of the term "water supply source" in the definition of "intentional indirect reuse". This term is normally associated "drinking water". It was suggested that the term should be "surface water". It should be some surface water for some uses other than water supply. The term "water supply for nonpotable uses" was also discussed.
 - It was suggested that staff should look at other state's regulations to determine what definitions that they are currently using. Even if they don't use these terms, they should have some way to address these types of functions and uses.
 - The regulation currently excludes "indirect reuse" from the requirements of the regulation whether "intentional" or "unintentional". These activities are currently being addressed in guidance. These amendments are trying to address concerns over the impacts of these uses formally in the regulations.
 - It was suggested that we might be looking at a "closed loop" type of activity and it might be better to address this from an operational perspective. The golf course type of activity with a relocation of an outfall to augment a pond for irrigation is more like a "closed loop diversion".
 - What are the criteria from "unintentional" and "intentional"? It is subjective.
 - It was suggested that the definition needed to be clarified through the use of one of the following terms: "nonpotable water supply source"; "water source" and/or "surface water source".
 - The concept was raised that any discharge into a natural environment is no longer a reuse.
 - It was suggested that it might be helpful to look at the current guidance being used to address these types of activities.

ACTION ITEM: Staff will review the language of other state's regulations to see how they address these types of functions and uses and provide to the RAP for their review and consideration.

ACTION ITEM: Staff will provide the current guidance document to the RAP for their review and consideration.

ACTION ITEM: RAP members will provide comments and suggestions for language to address these issues via email to Bill Norris.

7. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – Prohibition on reclaimed water reuse inside domestic dwellings (9VAC25-740-50.B.2, Table 90-A – 1. Urban – Unrestricted Access and footnote b)

9VAC25-740-50, Exclusions and prohibitions. 50.B.Prohibitions. The following are prohibited under this chapter: 50.B.2: ~~The reuse of reclaimed water for any purpose inside a residential or domestic dwelling or a building containing a residential or domestic unit distributed to one or two family dwellings unless it can be demonstrated to the satisfaction of the board in consultation with the Virginia Department of Health that such reuse shall not pose a risk to the health of persons residing in the dwelling or dwellings;~~

Table 90.A: Minimum Standard Requirements for Reuses of Reclaimed Water: Reuse Category 1. Urban – Unrestricted Access – Reuse – Toilet flushing^b ~~nonresidential~~, Fire fighting or protection and fire suppression^b ~~in nonresidential buildings~~ Outdoor ~~domestic or residential~~ reuse (i.e., lawn watering and noncommercial car washing)^b – Foot note b: These reuses of reclaimed water are prohibited in accordance with 9VAC25-740-50 B 2 where they would require the distribution of reclaimed water to a one or two family dwelling in order to occur.

There is currently a conflict between the Department of Housing and Community Development (DHCD) Uniform Statewide Building Code (USBC) and the Water Reclamation and Reuse Regulation with regard to what the USBC considers buildings or structures subject to residential plumbing codes. These amendments were developed to eliminate conflict with the requirements of the USBC. The language has been changed to eliminate anything “inside” a dwelling. The Water Reclamation and Reuse Regulation would apply up to the dwelling exterior and all plumbing from that point, “inside” the dwelling would be governed by the USBC. In addition, the language has been changed to reconcile what the USBCs and the Water Reclamation and Reuse Regulation consider a “residential or domestic dwelling or a building containing a residential or domestic unit” by replacing this language with “one or two family dwellings”, and to provide an exception to the prohibition that will allow greater flexibility for possible reuse of reclaimed water “inside” one or two family dwellings.

- The RAP’s discussions included the following:
 - It was suggested that the definition and prohibited use as originally written was fine.
 - What we are after is a prohibition on reuse water inside a dwelling.
 - The word “inside” has been revised to “distributed to”. In addition the phrase, “a residential or domestic dwelling or a building containing a residential or domestic unit” has been replaced with the phrase “one or two family dwellings”.
 - There was some confusion raised over the use of this revised language. This amendment needs to be wordsmithed.
 - It was suggested that a better way to address this might be to clearly identify the authority of the DHCD and VDH and DEQ in regard to reuse water.
 - Flexibility is needed.
 - The jurisdiction and authority of the state agencies involved with this issue need to be

- clearly identified.
- Concerns were raised over the use of the last phrase of the 50.B.2 regarding “unless it can be demonstrate to the satisfaction of the board in consultation with the Virginia Department of Health that such reuse shall not pose a risk to the health of persons residing in the dwelling or dwellings.”
- The intent is to prohibit reuse “inside” a dwelling.
- Reuse of reclaimed water authorized under this regulation is not allowed within a dwelling, but can occur outside the dwelling.

ACTION ITEM: Marcia Degen will consult with the VDH Office of Drinking Water regarding the last phase of 50.B.2 to clarify the consultation language and requirements.

8. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – Ultraviolet disinfection requirements for Level 1 and Level 2 (9VAC25-740-110.A.2, Table 70-A – footnote 6)

2. Ultraviolet (UV) disinfection for reclamation systems:

a. For Level 1 reclaimed water:

(1) Designs for UV disinfection shall be validated in accordance with NWRI Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse, Second Edition (2003) (Guidelines) to meet a UV design dosage greater than or equal to 100,000 uWsec/cm² (MS-2 dose) under peak flow and a minimum UV transmittance of 55 percent at 254 nm. A lower UV disinfection dosage may be authorized by the board if demonstrated to meet at least one of the bacteria standards for Level 1 specified in 9VAC25-740-70 A, and where microbial testing is used to validate the efficacy of the UV disinfection dose in accordance with the Guidelines. Associated with the Reduced Disinfection Dose, the board may also develop reclaimed water turbidity standards and minimum UV transmittance requirements that are unique to the UV disinfection process of the reclamation system.

(2) UV disinfection equipment shall be automated to immediately adjust the UV disinfection dosage in response to changes in the reclaimed water flow and quality just prior to disinfection, as reflected by UV transmittance.

b. UV disinfection for Level 2 reclaimed water shall be designed, constructed and operated in accordance with the Sewage Collection and Treatment Regulations (9VAC25-790) for UV disinfection of secondary effluent with a minimum UV transmittance of 60 percent or a maximum UV absorbance coefficient of 0.4.

Table 70-A.Turbidity-footnote 6: ⁶ Where ultraviolet radiation will be used for disinfection of Level 1 reclaimed water, other turbidity standards may apply in accordance with 9VAC25-740-110 A 2 a.

The proposed amendments formalize guidance addressing ultraviolet disinfection by inserting it into regulation.

- The RAP’s discussions included the following:
 - A question was raised over “continuous monitoring” requirements.

- It was noted that it was not possible to develop a reclaimed water standard for UV as it does not have a residual chemical that can be monitored. It was better handled through operational parameters.
- The turbidity level would be developed on a case-by-case basis.
- RAP agreed to the proposed language.

CONSENSUS: The RAP members agreed to the proposed language.

9. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – Auxiliary or backup plan to manage wastewater (9VAC25-740-100.C.10)

9VAC25-740.100.C.10: 10. An auxiliary or backup plan to manage wastewater, describing the secondary reuses of reclaimed water and disposal options for wastewater or reclaimed water to be implemented immediately in the event that primary reuses of reclaimed water cease or fail, shall be required for a conjunctive system where the system:

- a. Relies primarily or completely on water reclamation and reuse to eliminate wastewater;
- b. Relies on:
 - (1) Irrigation as the primary or only reuse of reclaimed water, or
 - (2) One or more large end users, each consuming a significant volume of reclaimed water, such that the ability of the conjunctive system to manage wastewater would be adversely impacted if any such end user were to discontinue receiving reclaimed water from the conjunctive system; and
- c. Does not:
 - (1) Have an allocation in a VPDES permit to discharge the full nutrient load under design flow of the conjunctive system,
 - (2) Have an alternate wastewater disposal system (e.g., mass drainfield, land treatment, etc.) to handle all wastewater flows of the conjunctive system, or
 - (3) In the case of a SRS, return treatment process wastewater and residuals to the sewage collection system from which it received source water for reclamation.

This amendment language would require an auxiliary or backup plan to manage wastewater as part of the Reclaimed Water Management Plan for certain conjunctive systems to reduce their vulnerability to crisis situations in the event that their primary end users discontinue reclaimed water service.

- The RAP’s discussions included the following:
 - It was suggested that this is effectively done in Section 110 C. Does it need to be covered in both places?
 - Section 110 C addresses the reliability of system operations.
 - The new language is addressing circumstances where you have nondischarging facilities.
 - The options listed in the storage requirements listed in Section 110 C would be considered during an evaluation of a system for a reuse plan. They have to have one of these options or they shouldn’t have a system.
 - It was suggested that the existing language in Section 110 C might need some

- wordsmithing.
- o The proposed language in Section 100 C should be consolidated with the existing language in Section 110 C or there needs to be linkage created between the two sections.
- o It was suggested that the title of Section 110 C might need to be changed to “Storage and Backup Requirements”.

CONSENSUS: The RAP agreed that the subject matter was already covered in the regulatory language and is in the appropriate place.

ACTION ITEM: Staff will look at the proposed language to see if there can be some linkage created between the proposed requirements in Section 100 C and the existing language in Section 110 C. Staff will also look at possible wordsmithing of the existing language in Section 110 C.

10. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – Reliability Class I for pump stations that are Part of Level 1 reclamation systems and SRSs (9VAC25-740-130 B)

9VAC25-740-130. Operator requirements and system reliability.

B. Reliability Class I ~~reliability~~—as defined in 9VAC25-740-10 is required for Level 1 reclamation systems ~~and~~ satellite reclamation systems and for pump stations considered part of these systems. ~~unless there is a permitted alternate treatment or discharge or disposal system available that has with sufficient capacity to handle any reclaimed water flows that do not meet the reclaimed water standards of this chapter or performance criteria established in the operations and maintenance manual.~~

This proposed amendment requires Reliability Class I for pump stations of Level 1 reclamation systems and SRSs to ensure that all components of these systems, including pump stations, will perform reliably or will initiate other contingencies in the event of power failure or other disruption at the facility.

CONSENSUS: The RAP agreed that the language is fine as written.

11. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – No discharge requirement for all reclaimed water storage (9VAC25-740-110 C 14)

9VAC25-740-110.C.14 - All Reclaimed water system storage facilities, including landscape impoundments used for nonsystem storage, shall be designed and operated to prevent a discharge to surface waters of the state except in the event of a storm greater than the 25-year 24-hour storm. Reclaimed water non-system storage facilities, including landscape impoundments used for non-system storage, shall be designed and operated to prevent a discharge to surface waters of the state except in the event of a 10-year 24-hour storm.

This is an item that was raised during the first RAP meeting and was elevated to a Tier I level amendment after RAP discussions. Comments related to this amendment were also received from RAP members after the RAP meeting. The proposed amendments related to system storage

facilities are consistent with VPA Permit Regulation (9VAC25-32-30) which reads “A. All pollutant management activities covered under a VPA permit shall maintain no point source discharge of pollutants to surface waters except in the case of a storm event greater than the 25-year, 24-hour storm.” The proposed amendment related to non-system storage requires less stringent discharge restrictions, while ensuring that these facilities do not act as alternative point source discharges for nutrients.

- RAP’s discussions included the following:
 - Don’t have a problem with the concept, but shouldn’t it read “10-year or greater 24-hour storm.”
 - The 10-year is a reasonable level.

CONSENSUS: The RAP agreed to the proposed language with the proposed change.

12. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – Reclaimed water agent (provider) inspection of end users’ reuses and storage facilities (9VAC35-740-100 C 1 d)

C. Reclaimed water management (RWM) plan.

1. A RWM plan shall be submitted in support of a permit applications application for a new or expanded reclamation systems, system, satellite reclamation systems-SRS or reclaimed water distribution systems that provide system acting as a reclaimed water agent by directly distributing reclaimed water to an end user or end users, including an end user that is also the applicant or permittee. The RWM plan shall contain the following:

d. An example of service agreements or contracts to be established by the applicant or permittee with end users regarding implementation of and compliance with the RWM plan. A service agreement or contract shall contain conditions and requirements specified in subdivisions C 3 b and c of this subsection and in 9VAC25-740-170 that apply to the particular planned reuse of each end user. Terms of the agreement shall require property owners to report to the applicant or permittee all potable and ~~nonpotable~~ non-potable water supply wells on their property and to comply with appropriate setback distances for wells where reclaimed water will be used on the same property. Within the agreement or contract, the applicant or permittee shall also reserve the right to perform routine or periodic inspections of an end user’s reclaimed water reuses and storage facilities, and terminate the agreement and withdraw service for any failure by the end user to comply with the terms and conditions of the agreement or contract if corrective action for such failure is not taken by the end user.

These proposed amendments provide for the routine or periodic inspections of an end user’s reclaimed water reuses and storage facilities by the reclaimed water agent through inclusion of language in the service agreements or contracts between the two parties. This amendment does not require inspections but provides the reclaimed water agent a mechanism to perform them.

- The RAP’s discussions included the following:

- This language allows for “right-of-entry”.
- If an end user is inappropriately reusing or storing reclaimed water, then the provider has the responsibility to report it to DEQ.
- It was noted that a service agreement is a one-page document that is simple to handle and easy to administer while the use of a “contract” is very difficult to manage and to change.

CONSENSUS: The RAP agreed to the proposed language as written.

13. Discussion of “local ordinance” concept and the difference between the use of “service agreements” or “service contracts” – Facilitated Discussions ((Valerie Rourke; Angela Neilan and RAP Members)

Staff noted that the concept of “local ordinances” had been raised by a RAP member. It was suggested that instead of having a “service agreement or contract” that a local ordinance would be used.

- The RAP’s discussions included the following:
 - Even though the regulation says “service agreement or contract”, since a sample “contract” was provided that a “contract” is normally used. Negotiation of a multiple entity contract takes a long time.
 - It was suggested that the use of a single page “service agreement” that essentially states that the rules and regulations of a locality would be followed would make the process simpler and more efficient. Under this scenario, the county or local code falls back on the requirements in the State regulation.
 - Staff noted that conceptually this was an attractive alternative but due to the fact that Virginia is a Dillon Rule state, it might require a legislative change. It could be a fairly short change to the Code.
 - It was noted that currently some Reclaimed Water Management Plans require the use of a “contract”.
 - The regulations say “service agreement or contract”. There is nothing in the regulations that requires the use of one over the other. The regulation already allows for the use of service agreement.
 - The current concept is that large users should have a “contract” because of the volume of water that was being used.

ACTION ITEM: The concept of the use of a “service agreement” instead of a “contract” needs to be clarified and would be an item for inclusion in the list of items/recommendations to address the request from Delegate Harvey Morgan.

14. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) – Monitoring for specific system storage facilities and reclaimed water distribution systems (9VAC25-740-80 D and 9VAC25-740-100 C 1 h)

9VAC25-740-80. Reclaimed water monitoring requirements for reuse.

D. System storage of reclaimed water at a reclamation system or SRS that is seasonal or greater than 24 hours in duration shall require monitoring of the reclaimed water when the

system storage facility discharges to a reclaimed water distribution system, a non-system storage facility, or directly to a reuse. The board may determine that monitoring of reclaimed water discharged by such storage is not necessary where the system storage facility is covered or enclosed, and maintained to preclude degradation of the reclaimed water for the intended reuses of the water.

9VAC25-740-100. Application for permit.

C. Reclaimed water management (RWM) plan.

1. A RWM plan shall be submitted in support of a permit applications-application for a new or expanded reclamation systems-system, satellite reclamation systems-SRS or reclaimed water distribution systems that provide system acting as a reclaimed water agent by directly distributing reclaimed water to an end user or end users, including an end user that is also the applicant or permittee. The RWM plan shall contain the following:

h. A description of how the quality of reclaimed water in the reclaimed water distribution system shall be maintained to meet and monitored to verify compliance with the standards-minimum standard requirements specified in 9VAC25-740-90 for the intended reuse or reuses of the reclaimed water-in accordance with 9VAC25-740-90-, excluding CAT standards. This description shall include the number and locations of POCs within the distribution system that are required in accordance with 9VAC25-740-70 B.

These proposed amendments address monitoring requirements for certain system storage facilities and reclaimed water distribution systems under conditions where the greatest potential for reclaimed water degradation after treatment and prior to delivery to end users exists.

- The RAP's discussions on the monitoring requirements included the following:
 - It was suggested that the last sentence in 9VAC25-740-80.D addressing the board determination that monitoring of reclaimed water is not necessary should be deleted. If the board decided that no monitoring was required then how would they know the system was degraded?
 - If we are talking about a period of time "greater than 24 hours in duration" do we need to include the word "seasonal"? Suggest that the word "seasonal" be deleted from the sentence.
 - If you strike the last sentence of 80 D then storage is not an issue.
 - How was the 24-hour time period selected? Staff noted that 24-hour was chosen to avoid including flow equalization basins that manage diurnal fluctuations in flow and demand over a 24-hour period.
 - What parameters are to be monitored? Staff noted that "corrective action thresholds" would not apply to storage facilities or distribution systems, but that items such as bacteria, and possible total suspended solids would be monitored. It was suggested that those parameters should be listed/identified or referenced.
 - The required monitoring requirements were discussed. It was noted that it depended primarily on the size of the system.
 - Staff noted that verification of compliance should require sampling at least once before discharge.

- It was noted that the size (length) of the transportation system for reused water increases chance for degradation.
- A question was raised as to what you do if you do find degradation in the reuse distribution system?
- It was noted that “turbidity” is not an appropriate standard.
- Each user has specific requirements so the regulations cannot be all encompassing.
- It was suggested that the frequency of sampling and monitoring would be when the storage facility discharges.

ACTION ITEM: The parameters that are to be monitored for should be listed; identified or referenced.

ACTION ITEM: Staff will look at the requirements for monitoring and try to flesh out the requirements, i.e., listing of parameters and frequency and location of required sampling.

ACTION ITEM: RAP members are to send any suggestions for revisions or language for these requirements to Bill Norris for redistribution to the RAP and consideration by staff.

- The RAP’s discussions on the monitoring requirements in the Reclaimed Water Management Plan included the following:
 - It was noted in 9VAC25-740-100 C 1 h that the reference should be 9VAC25-740-70 B instead of 50 B.
 - There will always be some slight degradation of reclaimed water quality.
 - It was noted that some systems include injection points for chlorine to address the concerns for degradation of reclaimed water quality.
 - Distribution versus treatment is the key concept.
 - Staff noted that we don’t want to be too prescriptive but you do need to meet the standards.
 - It was suggested that the criteria and standards need to be identified. Staff asked if there were any others besides bacteria that need to be included.

ACTION ITEM: Staff will revise the reference in 9VAC25-740-100 C 1 to read 9VAC25-740-70 B instead of 50 B.

ACTION ITEM: RAP members will send any suggestions related to standards to Bill Norris for redistribution to the RAP and consideration by the staff.

15. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) –POCs for specific system storage facilities and reclaimed water distribution systems (9VAC25-740-70 B 2 and B 3 and 9VAC25-740-100 C 1 h)

9VAC25-740-70. ~~Standards~~ Treatment and standards for reclaimed water.

B. Point of compliance (POC).

2. Reclaimed water from system storage facilities that are required to monitor reclaimed water in accordance with 9VAC25-740-80 D, shall meet all applicable standards in accordance with this chapter, excluding corrective action thresholds in subsections A and C of this section, at the POC following storage and prior to discharge to a reclaimed water distribution system, a non-system storage facility, or directly to a reuse.

3. Reclaimed water conveyed by a reclaimed water distribution system shall meet the minimum standard requirements specified in 9VAC25-740-90 for intended reuses of the water, excluding corrective action thresholds in subsections A and C of this section, at the POC prior to delivery of reclaimed water to end users and as described in the reclaimed water management plan in accordance with 9VAC25-740-100 C 1.

9VAC25-740-100. Application for permit.

C. Reclaimed water management (RWM) plan.

1. A RWM plan shall be submitted in support of ~~a permit applications~~ application for a new or expanded reclamation systems, system, satellite reclamation systems-SRS or reclaimed water distribution systems that provide system acting as a reclaimed water agent by directly distributing reclaimed water to an end user or end users, including an end user that is also the applicant or permittee. The RWM plan shall contain the following:

h. A description of how the quality of reclaimed water in the reclaimed water distribution system shall be maintained to meet and monitored to verify compliance with the standards ~~minimum standard requirements specified in 9VAC25-740-90~~ for the intended reuse or reuses of the reclaimed water ~~in accordance with 9VAC25-740-90,~~ excluding CAT standards. This description shall include the number and locations of POCs within the distribution system that are required in accordance with 9VAC25-740-70 B.

These proposed amendments require points of compliance in conjunction with proposed monitoring requirements for specific system storage facilities and reclaimed water distribution systems in 9VAC25-740-80 D and 9VAC25-740-100 C 1 h. These proposed amendments were drafted as a way to provide for flexibility in the required monitoring locations which should be representative of the water over all. These are points where reclaimed water from system storage and within the reclaimed water distribution system prior to delivery to end users must meet reclaimed water standards for their intended reuses. The POC for system storage would be somewhere between the storage facility and the point of discharge. There is a lot of flexibility in the placement of the POC for reclaimed water distribution systems. This should be at a point that is most representative of the water being distributed to the end users.

- The RAP's discussions on the points of compliance (POC) requirements included the following:
 - The question is where is the end of the distribution system? Where do you sample?
 - It should be at the point of delivery. When it leaves the system and enters the end users system might be a point to consider but in some cases that point is underground or underwater.
 - The intention is to find locations within the distribution system that are representative of the water being distributed.
 - Concern was raised with trying to define the locations too specifically.
 - There needs to be negotiation allowed to make these determinations of point of compliance a part of the permit discussions.
 - The point of compliance is where the water maintains its integrity.
 - It was suggested that the phrase "prior to delivery of reclaimed water to end users..." in B 3 could be deleted. Not sure what inclusion of the phrase does.
 - A question was raised over a possible conflict between B 1 and B 3. Staff noted that the language in B deals with three different kinds of points of compliance; one for

- reclamation systems and SRSs; one for system storage facilities and one for reclaimed water.
- Concerns were raised over the use of three different definitions for points of compliance.
- It was suggested that this section needs to be wordsmithed.
- The use of a diagram illustrating the three different types of points of compliance that are being proposed.
- There needs to be flexibility in the selection/designation of the points of compliance.
- It was suggested that it only be left as only one point of compliance instead of the proposed three POCs. Get rid of POCs #2 and #3.
- Has staff checked with other states regarding the use of multiple POCs?
- It was suggested that the original language of 9VAC25-740-100 C 1 h might be fine instead of that being proposed.
- It was suggested that what is needed is for “what you are going to monitor for and where” should be put in the plan and not specified in the regulation. This is operational monitoring.
- It was reiterated that having 3 different POCs would be burdensome.

ACTION ITEM: Staff will look at possible wordsmithing of this section and of the definition of Points of Compliance for clarification of the requirements.

ACTION ITEM: RAP members will review and provide suggested rewording to Bill Norris for distribution to the RAP and to staff for consideration.

ACTION ITEM: Staff will check to see how other states handle the use of multiple POCs.

CONSENSUS: The RAP agreed that the Point of Compliance should be left at the original language and that the proposed additional POCs should not be included as a proposed amendment.

ACTION ITEM: Staff will take another look at this proposed language and bring it back to the RAP for their consideration.

16. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) –Design requirements for reclaimed water distribution systems to ensure proper maintenance (9VAC25-740-110 B 2 and 9VAC25-740-140 D 2 d)

9VAC25-740-110. Design criteria.

B. Reclaimed water distribution system.

2. To ensure that a reclaimed water distribution system complies with subdivision B 1 c of this subsection, the following are required:

a. Access to force mains of the reclaimed water distribution system to allow inspection and testing, and flushing throughout the entire length of the system;

b. Where appropriate to minimize dead-ends, looping of force mains in the reclaimed water distribution system; and

c. Where dead-ends occur in the reclaimed water distribution system, fire hydrants, flushing hydrants, or blowoff for flushing purposes. A flushing device shall not be

connected directly to a storm drain, but may be directly connected to a sanitary sewer if allowed under local sewer use ordinances and authorized by the board.

9VAC25-740-140. Operations and maintenance.

D. The operations and maintenance manual is a set of detailed instructions developed to facilitate the operator's understanding of operational constraints and maintenance requirements for the reclamation system, ~~satellite reclamation system~~, SRS or reclaimed water distribution system; and the monitoring and reporting requirements specified in the permit issued for each system. The scope and content of the manual will be determined by the complexity of the system or systems described by the manual.

2. For a reclaimed water distribution system, the operations and maintenance manual shall, at a minimum, contain the following:

d. Procedures to:

(1) handle ~~Handle~~ and dispose of any wastes or wastewater generated by maintenance of the distribution system in a manner protective of the environment; and, as applicable, in compliance with 9VAC25-740-110 B 2; and

(2) Prevent the discharge of reclaimed or flush water from distribution system maintenance activities to storm drains, to state waters unless otherwise authorized by the board, and to sanitary sewers unless in accordance with 9VAC25-740-110 B 2 c.

These proposed amendments add design requirements for reclaimed water distribution systems to ensure proper maintenance, and address the proper disposal of flush water from the maintenance of these systems.

- The RAP's discussions of the proposed amendments included the following:
 - Some confusion was noted over the concept of "flushing" for a reclaimed water distribution system" where there may of may not be access to a sewer system for "disposal" of "flushing" water. What is the difference?
 - Staff noted that parts of these amendments were being proposed to provide options for disposal of reclaimed water flushed from a distribution system as part of maintenance.
 - Can't conceptualize how this would work.
 - If you don't have access to a sewer system, you could flush the line with potable water.
 - It was noted that you can't put it on the ground, because it would result in an unpermitted discharge.
 - Perhaps we need to allow for flushing but should not mandate it.
 - We want to encourage reuse but can't have an unregulated discharge.
 - A question of "main breaks" and unauthorized discharges was raised. This is addressed in the VPDES regulation.
 - A report to DEQ regarding this type of break is required. Need to report and repair. The severity of the break would be assessed on a case-by-case basis. A break is an unauthorized discharge.
 - If you put it in the River, it is gone, it is not a discharge.
 - Need to fundamentally change our mind set. We shouldn't be considering it or calling it a sanitary sewer overflow.
 - Need to revise these proposed amendments.
 - Need to look at unintended consequences.

- o A question of frequency was raised.

ACTION ITEM: Marcia Degen will work on language for addressing this concept and will get back with program staff with any revised proposed language.

ACTION ITEM: RAP members will route any suggested language to Bill Norris for redistribution to the RAP and the staff for consideration.

ACTION ITEM: Staff will reconsider the proposed amendments and bring any revised language back to the RAP for consideration.

17. Tier I Significant Amendments –Facilitated Discussions (Valerie Rourke; Angela Neilan and RAP Members) –Identification, labeling and signage requirements for new and existing reclaimed water distribution systems (9VAC25-740-110 B 7 and B 9 a and b)

9VAC25-740-110. Design criteria.

B. Reclaimed water distribution system.

~~6-7.~~ Existing potable water distribution systems, sewer and wastewater pipelines-collection systems, and irrigation distribution systems may be converted for use as reclaimed water distribution-pipelines systems.

a. The following information shall be submitted to the board for approval ~~of the conversion~~ not less than 90 days prior to conversion of systems described in subdivision B 7 of this section to reclaimed water distribution systems, excluding irrigation distribution systems that are not under common ownership or management with reclamation systems, SRSs or reclaimed water distribution systems providing reclaimed water to the irrigation distribution systems:

~~a-~~ (1) The location and identification of the facilities to be converted;

~~b-~~ (2) The location of all connections to the facilities to be converted;

~~c-~~ A description of measures to be taken to ensure that existing connections will be eliminated;

~~d-~~ (3) Description of procedures to be used to ensure that all connections and cross-connections shall be eliminated. This may include physical inspections, dye testing, or other testing procedures;

~~e-~~ Description of marking, signing, labeling, or color coding to be used to identify the converted facility as a reclaimed water transmission facility;

(4) Description of the physical and operational modifications necessary to convert the existing system to a reclaimed water distribution system that shall comply with applicable design criteria in subsections B and C of this section, and the operations and maintenance requirements of 9VAC25-740-140 D 2;

~~f-~~ (5) Description of cleaning and disinfection procedures to be followed before the converted facilities will be placed into operation for reclaimed water distribution. For the conversion of existing sewer and wastewater collection systems, cleaning and disinfection of the system shall be conducted in accordance with AWWA standards (ANSI/AWWA C651-05, effective June 1, 2005). Disposal of flush water from cleaning or disinfection of

the system shall not result in a discharge to state waters unless otherwise authorized by the board and shall comply, as applicable, with subdivision B 2 c of this subsection;

~~g-(6)~~ Assessment of the physical condition and integrity of facilities to be converted; and
~~h-(7)~~ Reasonable assurance that cross-connections will not result, public health will be protected and the integrity of potable water, wastewater, and reclaimed water systems will be maintained when the conversion is made.

b. Existing potable water distribution systems, sewer or wastewater collection systems, or irrigation distribution systems that are converted to reclaimed water distribution systems after [effective date of amended regulation], shall be retrofitted to meet identification, notification and signage requirements of subdivision B 9 with the following exceptions:

(1) For conversion of systems requiring approval by board in accordance with subdivision B 7 a of this subsection, existing in-ground converted piping shall be retrofitted to a distance not less than 10 feet from locations where converted piping crosses a potable water supply line or sanitary sewer line.

(2) For all other converted systems not addressed by subdivision B 7 b (1) of this subsection, identification, notification and signage requirements specified in subdivision B 9 of this subsection for in-ground piping shall not apply.

~~8-9.~~ Reclaimed water distribution systems shall have the following identification, notification and signage:

a. ~~All reclaimed~~ Reclaimed water piping with an outer diameter greater than or equal to one inch, installed in-ground after [effective date of amended regulation] or above-ground shall ~~have display~~ the words "CAUTION: RECLAIMED WATER - DO NOT DRINK" embossed, integrally stamped, or otherwise affixed to the piping, and shall be identified by one or more of the following methods:

~~(1) Painting the piping purple (Pantone 522) and stamping the piping with the required caution statement on opposite sides of the pipe, repeated at intervals of three feet or less.~~

~~(2)-(1) Using stenciled pipe~~ Stenciling or stamping the piping with two- to three-inch letters on opposite sides of the pipe piping, placed at intervals of three to four feet. For pipes piping less than two inches in and greater than or equal to one inch outer diameter, lettering shall be at least 5/8 inch, placed on opposite sides of the pipe piping, and repeated at intervals of one foot.

~~(3)-(2) Wrapping the piping with purple (Pantone 522) polyethylene vinyl wrap or adhesive tape, placed longitudinally at three-foot intervals. The width of the wrap or tape shall be at least three inches, and shall display the required caution statement in either white or black lettering.~~

~~(4)-(3) Permanently affixing purple (Pantone 522) vinyl adhesive tape on top of the piping, parallel to the axis of the pipe piping, fastened at least every 10 feet to each pipe section, and continuously for the entire length of the piping. The width of the tape shall be at least three inches, and shall display the required caution statement in either white or black lettering.~~

(4) Using an alternate method that assures the caution statement will be displayed to provide an equivalent degree of public notification and protection if approved by the board.

b. Additional methods to identify reclaimed water piping with an outer diameter greater than or equal to one inch (e.g., permanently color coding the piping purple (Pantone 522)), if provided, shall not obscure any portion of the caution statement required pursuant to subdivision B 9 a of this subsection.

c. Reclaimed water piping with an outer diameter less than one inch shall require the following:

(1) Where installed in-ground after [effective date of amended regulation] or above ground, the piping shall be permanently color coded purple (Pantone 522). Longitudinal purple striping of the piping may be allowed provided the cumulative width of the stripes is greater than or equal to 25 percent of the outer pipe diameter.

(2) Where installed within a building or structure, the piping shall have in addition to color coding required per subdivision B 9 c(1) of this subsection, the words "CAUTION: RECLAIMED WATER - DO NOT DRINK" embossed, stenciled, stamped or affixed with adhesive tape on the piping, placed on opposite sides of the piping and repeated at intervals of one foot. Lettering of the caution statement shall be of a size easily read by a person with normal vision at a distance of two feet.

b.-d. All ~~visible, other~~ above-ground portions of the reclaimed water distribution system, including reclaimed water ~~piping,~~ valves, outlets (including fire hydrants) and other appurtenances shall be ~~colored~~ color coded, taped, labeled, tagged or otherwise marked to notify the public and employees that the source of the water is reclaimed water, not intended for drinking or food preparation. For reclaimed water treated to Level 2, such notification shall also inform employees to practice good personal hygiene for incidental contact with reclaimed water and the public to avoid contact with the reclaimed water.

e.-e. Each mechanical appurtenance of a reclaimed water distribution system shall be colored purple and legibly marked "RECLAIMED WATER" to identify it as a part of the reclaimed water distribution system and to distinguish it from mechanical appurtenances of a potable water distribution system or a wastewater collection system.

~~d. Existing underground distribution or collection pipelines and appurtenances retrofitted for the purpose of distributing reclaimed water shall be colored coded, taped, labeled, tagged or otherwise identified as described in subdivisions 8 a, b and c of this subsection. This identification need not extend the entire length of the retrofitted reclaimed water distribution system but is required within 10 feet of locations where the distribution system crosses a potable water supply line or sanitary sewer line.~~ *[Moved to 9VAC25-740-110.B.7.b]*

e.-f. Valve boxes for reclaimed water distribution systems shall be painted purple. Valve covers for reclaimed water distribution lines shall not be interchangeable with potable water supply valve covers.

These proposed amendments were originally discussed at the first RAP meeting and based on those discussions were fleshed out and brought back for the RAP's consideration as a Tier II Significant Amendment. These proposed amendments address identification, labeling, and signage requirements for new and existing reclaimed water distribution systems.

- The RAP's discussions of these proposed amendments included the following:
 - If a system that is to be converted is not under common ownership with the reclamation

system, SRSs or reclaimed water distribution providing reclaimed water to the system, the underground portion of the converted system is not subject to the labeling requirements.

- What purpose or goal is there for having existing water line that is converted to a reclaimed water line being labeled? A contractor digging down won't know which line is which if they are not labeled.
- New installations are required to be labeled.
- Existing water system lines where the lines intersect or cross need to be labeled.
- Who is going to know where these lines are? Who is going to be responsible for knowing where they are?
- Going forward who is going to know which is which for those existing lines that are not labeled? What safe guards will there be?
- Staff developed these proposed amendments in an attempt to balance the requirements for all situations.
- The proposed amendments requiring labeling and identification of reuse water lines inside buildings are compatible with the requirements of the Uniform Statewide Building Code.
- Have to consider the risks and balance the benefits of the requirements.
- Don't want cross-connection.
- The idea of a virtual representation on a map to recognize a certain type of use was raised. The possible use of electronic records to keep track of the locations of reuse lines/piping was discussed.
- These types of systems and locations should be identified on a map in some method.

ACTION ITEM: RAP members will look at the proposed language and get back to Bill Norris with any proposed revisions for redistribution to the RAP and to staff for consideration.

18. Public Comment Period

No public comments were offered during the Public Comment Period.

19. Input from the RAP – (RAP Members and Angela Neilan):

Staff asked the RAP members for any additional thoughts or ideas for the good of the RAP discussions. Additional thoughts included the following:

- It was noted that it was good to hear the concept of “risk consideration” as a part of today’s discussions by the RAP. The risks associated with reuse water are minimal.
- It was noted that other items related to water supply planning and notification of authorizations for water reuse projects were brought up during the discussions at the first meeting. The question was raised as to whether these items would be brought up for consideration by the RAP. Staff noted these issues are being discussed internally and may be brought to this group for consideration later. If there are other items that should be considered then those items should be sent in for consideration.

ACTION ITEM: Other items that RAP members feel should be discussed by the RAP and/or by the group that will be addressing Delegate Morgan’s request should be sent to Bill Norris for

consideration.

20. Next RAP Meeting:

The next meeting of the RAP is scheduled for Thursday, June 2, 2011 at the DEQ Piedmont Regional Office and is scheduled to begin at 9:30 AM.

21. Meeting Adjournment:

The meeting was adjourned at 3:25 PM.