



Final Regulation Agency Background Document

Agency name	State Water Control Board
Virginia Administrative Code (VAC) citation	9VAC25-740
Regulation title	Water Reclamation and Reuse Regulation
Action title	Adoption of the Water Reclamation and Reuse Regulation
Date this document prepared	December 5, 2007

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 36 (2006) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Brief summary

Please provide a brief summary (no more than 2 short paragraphs) of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed. Alert the reader to all substantive matters or changes. If applicable, generally describe the existing regulation. Also, please include a brief description of changes to the regulation from publication of the proposed regulation to the final regulation.

The regulation establishes requirements for the reclamation and reuse of wastewater that are protective of state waters and public health. Contained in the regulation are two sets of treatment standards and monitoring requirements for the reclamation of municipal wastewater, and provisions to develop treatment standards for the reclamation of industrial wastewater on a case-by-case basis. For six reuse categories (urban – unrestricted access, irrigation - unrestricted access, irrigation – restricted access, landscape impoundments, construction, and industrial), the regulation specifies minimum standard requirements of reclaimed water for the reuses in those categories and allows for the approval of other unlisted reuses. This regulation also details requirements for application and permitting; design, construction, operation and maintenance of water reclamation systems and reclaimed water distribution systems; management of pollutants from significant industrial users; access control and signage; public education and notification; management of reclaimed water in use areas; record keeping; and reporting.

Changes have been made throughout the regulation based on public comment. Changes to address significant areas of comment include revisions to Section 70 concerning the point of compliance for Level 1 reclaimed water and resampling and diversion requirements for the bacterial corrective action and in Section 80 for time requirements for bacterial sampling. Also, in Section 100 language concerning the assumed nutrient losses to state waters from irrigation reuse with non-BNR reclaimed water linked to

nutrient credits allowed for reclamation and reuse was deleted and moved to a new Section 105. Final action on the new Section 105 was deferred to a future meeting.

Statement of final agency action

Please provide a statement of the final action taken by the agency including (1) the date the action was taken, (2) the name of the agency taking the action, and (3) the title of the regulation.

On December 4, 2007, the State Water Control Board (Board) voted unanimously to adopt the Water Reclamation and Reuse Regulation with amendments presented at that time, except for 9VAC25-740-105. For only 9VAC25-740-105, the Board also voted unanimously to defer action and directed DEQ staff to reconvene the technical advisory committee for further discussion of this section and return to the Board no later than June 2008 with recommendations for a subsequent Board action.

Legal basis

Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly chapter numbers, if applicable, and (2) promulgating entity, i.e., agency, board, or person. Describe the legal authority and the extent to which the authority is mandatory or discretionary.

The legal authority to promulgate this regulation is contained in Section 62.1-44.2 et seq. of the Code of Virginia. Specifically, Section 62.1-44.2 establishes the purpose of the State Water Control Law to, among other things, promote and encourage the reclamation and reuse of wastewater in a manner protective of the environment and public health. Further, Section 62.1-44.15(15) authorizes the State Water Control Board to promote and establish requirements for the reclamation and reuse of wastewater that are protective of state waters and public health as an alternative to directly discharging pollutants into state waters. The full texts of the referenced code can be found at the following web site address: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC62010000003000010000000>

Purpose

Please explain the need for the new or amended regulation. Describe the rationale or justification of the proposed regulatory action. Detail the specific reasons it is essential to protect the health, safety or welfare of citizens. Discuss the goals of the proposal and the problems the proposal is intended to solve.

As mandated by the 2000 General Assembly in House Bill 1282 and contained in §62.1-44.15 of the Code of Virginia, the Board must promote and establish requirements for the reclamation and reuse of wastewater that are protective of state waters and public health as an alternative to directly discharging pollutants into state waters. The purpose of the Water Reclamation and Reuse Regulation is to satisfy these requirements of the law by establishing: (1) treatment standards for reclaimed water relative to the potential for discharge to state waters or human contact by specific reuse categories, and (2) technical and operational requirements for the reclamation and distribution of wastewater. Therefore, the regulation is essential for protection of the Commonwealth’s environment and natural resources from pollution, impairment or destruction; and to protect the health, safety and welfare of its citizens.

Substance

Please identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. A more detailed discussion is required under the "All changes made in this regulatory action" section.

The regulation establishes requirements for the reclamation and reuse of wastewater that are protective of state waters and public health. Contained in the regulation are two sets of treatment standards and monitoring requirements for the reclamation of municipal wastewater, and provisions to develop treatment standards for the reclamation of industrial wastewater on a case-by-case basis. For six reuse categories (urban – unrestricted access, irrigation - unrestricted access, irrigation – restricted access, landscape impoundments, construction, and industrial), the regulation specifies minimum standard requirements of reclaimed water for the reuses in those categories and allows for the approval of other unlisted reuses. This regulation also details requirements for application and permitting; design, construction, operation and maintenance of water reclamation systems and reclaimed water distribution systems; management of pollutants from significant industrial users; access control and signage; public education and notification; management of reclaimed water in use areas; record keeping; and reporting. The treatment standards and other requirements of the regulation will be implemented through VPDES or VPA permits issued primarily to generators and distributors of the reclaimed water.

Issues

Please identify the issues associated with the proposed regulatory action, including:

- 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions;*
 - 2) the primary advantages and disadvantages to the agency or the Commonwealth; and*
 - 3) other pertinent matters of interest to the regulated community, government officials, and the public.*
- If there are no disadvantages to the public or the Commonwealth, please indicate.*
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The advantages of the regulation to the public are that it will provide: (i) uniform and consistent requirements for water reclamation and reuse statewide; (ii) permitting requirements for primarily generators and distributors of reclaimed water, but rarely for end users; (iii) minimal additional permits by implementation through existing VPDES and VPA permit programs and minor modification of or administrative authorization in association with existing permits; (iv) two sets of standards for the reclamation of municipal wastewater that most wastewater treatment facilities can meet today without significant additional upgrade or change in operation; (v) standards of reclaimed water treatment for six reuse categories that are commensurate with level of human health protection necessary for those reuses; and (vi) a process for case-by-case approval of unlisted reuses. In response to public comments and where appropriate, the agency also further refined the regulation to insure that it meets the stated purpose of State Water Control Law to promote and encourage the reclamation and reuse of wastewater in a manner protective of the environment and public health.

Although a regulatory framework for land treatment of wastewater has been established through the Sewage Collection and Treatment Regulations (9 VAC 25-790-10 et seq.), the Virginia Pollution Abatement (VPA) Permit Regulation (9 VAC 25-32-10 et seq.) and the Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation (9 VAC 25-31-10 et seq.), these regulations do not clearly distinguish reuse irrigation from land treatment irrigation and do not prescribe reclaimed water treatment standards and technical requirements for other uses of reclaimed water (e.g., industrial cooling processes, fire protection, street washing, construction, etc.). The regulation will address these issues for the agency while maintaining the same permitting options used for land treatment of wastewater. The disadvantage to the agency resulting from this regulation will be additional costs and labor for the review

and data storage of monthly monitoring reports, inspections, enforcement and general program administration.

The following are some of the more significant issues identified among public comments received on the draft Water Reclamation and Reuse Regulation. DEQ staff addressed these issues through revisions to the regulation as described below.

1. Point of compliance for Level 1 reclaimed water (9VAC25-740-70 B)

The Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA) and the Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC), stated that the point of compliance for Level 1 reclaimed water after open storage at the reclamation system was operationally impractical and recommended that there be no difference in the point of compliance for Level 1 and Level 2 reclaimed water treatment. They also recommended deleting the requirement that reclaimed water at the reclamation system meet applicable reclaimed water standards prior to discharge to a reclaimed water distribution system, and instead, transferring this responsibility to the reclaimed water distribution system, citing existing language under 9VAC25-740-110 B 9 of the regulation which requires maintenance of reclaimed water quality in the distribution system.

DEQ staff agreed that the point of compliance for Level 1 reclaimed water should be the same as that for Level 2 reclaimed water at the reclamation system and language in 9VAC25-740-70 B was revised to reflect this. It is reasonable and appropriate to expect that reclaimed water from the reclamation system meet the standards for which it is permitted prior to discharge to a reclaimed water distribution system. Any degradation of Level 1 reclaimed water once in the reclaimed water distribution system will be addressed per 9VAC25-740-110 B 9, which requires the quality of reclaimed water in a distribution system be maintained to meet standards for the intended reuses of the reclaimed water in accordance with 9VAC25-740-90.

However, DEQ staff did not believe it was appropriate to delete the requirement that reclaimed water at the reclamation system meet applicable reclaimed water standards prior to discharge to a reclaimed water distribution system. Design and operational requirements for reclaimed water distribution systems contained in the regulation are not intended to correct substandard water received directly from the reclamation system. Therefore, no further changes to the language in 9VAC25-740-70 B were made. New language was also added to 9VAC25-740-100 C 1 requesting a description of how reclaimed water quality in a distribution system will be maintained to satisfy requirements of 9VAC25-740-110 B 9 and to further clarify responsibilities of the generator versus the distributor to maintain reclaimed water quality.

2. Time requirements for bacterial sampling (9VAC25-740-80 A 4 a)

HRSD, VAMWA and HRPDC stated that the universal requirement to collect bacterial samples for reclamation systems treating municipal wastewater between 10:00 a.m. and 4:00 p.m. should be revised to: (a) allow for greater flexibility on a case-by-case basis, and (b) to address a conflict this creates with corrective action threshold resampling for bacteria specified in 9VAC25-740-70 C.

DEQ staff did not believe this suggested change was justified. Bacterial sampling at the reclamation system should be representative of peak flows to the system during which the greatest volume of water will be treated. For a reclamation system of municipal wastewater, at least one peak flow can be anticipated within the period between 10:00 a.m. and 4:00 p.m. This sampling period is unrelated to periods of peak demand for the reclaimed water from the reclamation system, particularly where flow equalization is available at the reclamation system. The bacterial sampling period between 10:00 a.m. and 4:00 p.m. is consistent with bacterial sampling periods included in the Sewage Collection and Treatment Regulations (9VAC25-790). However, in order to allow more flexibility, DEQ staff modified the language to allow a permittee an exception to the requirement where they can demonstrate that peak flows to the reclamation system occur outside this time frame, and to exclude bacterial resampling performed in accordance with 9VAC25-740-70 C.

3. Assumed nutrient losses to state waters from irrigation reuse with non-BNR reclaimed water linked to nutrient credits allowed for reclamation and reuse (9VAC25-740-100 C 2)

The draft regulation advertised for public comment contained Department of Conservation and Recreation (DCR) recommendations concerning the reduced waste load discharge of total nitrogen (N) and total phosphorus (P) a wastewater treatment facility with the General VPDES Watershed Permit (9VAC25-820) could report. These recommendations included: (i) an increase in assumed losses to state waters of annual N and P loads applied within a service area by non-bulk irrigation with reclaimed water not meeting biological nutrient removal (non-BNR reclaimed water) (i.e., annual average 8 mg/l total N and 1

mg/l total P) from 10 percent for both N and P to 30 and 20 percent for N and P, respectively; and (ii) the addition of assumed losses to state waters of 15 and 10 percent of annual N and P loads, respectively, that are applied within a service area by bulk irrigation with non-BNR reclaimed water, in addition to nutrient management plan requirements for this type of irrigation.

During the public comment period, the agency received several comments from HRSD, VAMWA, HRPDC, Virginia Tech, Loudon County Sanitation Authority, the WasteReuse Association, and Mr. Bernard C. Nagelvoort, all opposing the language recommend by DCR. Major concerns expressed in the comments were as follows:

Imposing assumed nutrient losses on irrigation reuse of non-BNR reclaimed water will provide only a small nutrient load reduction compared to the reductions from wide-scale implementation of point source nutrient controls, and will act to discourage water reclamation and reuse and the associated positive benefits to the Chesapeake Bay.

For bulk irrigation reuse (>5 acres) with non-BNR reclaimed water, application of assumed nutrient losses is not necessary given all the other measures to manage nutrients that are required in the regulation for these sites, including a nutrient management plan prepared by a nutrient management planner certified by DCR, stringent irrigation setbacks, prohibition against any runoff, and "supplemental" rates or irrigation.

For non-bulk irrigation (\leq 5 acres) with non-BNR reclaimed water, the TAC agreed to an approach that would manage nutrients by service area rather than by individual end users, whereby the provider of the reclaimed water would use total volume of reclaimed water reused for non-bulk irrigation and concentrations of N and P in the reclaimed water to calculate monthly N and P loads to the service area. The TAC also agreed initially to the concept of assumed nutrient losses of 10 % for both total N and total P. The revised percentages of assumed nutrient loss in the draft regulation greatly exceeded what was agreed upon by the TAC and were never justified regarding need, efficacy or scientific basis to the TAC. The assumed nutrient loss percentages are not scientifically and technically sound because assumptions for nutrient loss from the landscape should not be drawn from nutrient efficiencies measured for non-irrigated agriculture or irrigated agriculture performed under imprecise water management plans; appropriately irrigated vegetation with reclaimed water containing soluble, and readily plant available, N and P should enable rapid and efficient plant assimilation of these nutrients; appropriately operated irrigation should not result in runoff from the reuse sites; and the soluble (largely non-particulate) P that occurs in reclaimed water should rapidly infiltrate into the soil where it is less likely to be transported in surface runoff than surface applied P from a nutrient source such as animal manure.

The NPDES permit program in general and the General VPDES Watershed Permit (9VAC25-820) are not designed to accommodate accounting and reporting of assumed nutrient losses from irrigation reuse with non-BNR reclaimed water.

The assumed nutrient losses should be applied equitably to all forms of irrigation, not just to irrigation reuse with reclaimed water, which could potentially contribute nutrients to surface waters.

Given the complex nature of this issue, DEQ staff felt that it should be referred back to the technical advisory committee (TAC) for further discussion and resolution. However, to avoid delaying adoption of the regulation, subdivisions C 3 b (3) and C 3 c (5) of section 9VAC25-740-100 were moved to a new section, 9VAC25-740-105. On December 4, 2007, the State Water Control Board (Board) voted to adopt the Water Reclamation and Reuse Regulation, except for 9VAC25-740-105. For only 9VAC25-740-105, the Board also voted to defer action and directed DEQ staff to reconvene the TAC for further discussion of this section and return to the Board no later than June 2008 with recommendations for a subsequent Board action.

4. Resampling and diversion requirements for the bacterial corrective action threshold (CAT) (9VAC25-740-70 C)

HRSD, VAMWA and HRPDC initially stated that the resampling requirements for the bacterial corrective action threshold (CAT) were impractical to implement. DEQ staff subsequently revised the language to make the resampling procedures for the bacterial CAT more practicable. However, these initial revisions created another problem for which VAMWA requested that the requirement to resample within one hour of reaching the bacterial CAT be deleted entirely, or changed to allow bacterial resampling and diversion within 48 hours of analysis indicating the bacterial CAT had been reached

DEQ acknowledged that routine bacterial sampling required by 9VAC25-740-80 A of the regulation would be sufficient to monitor bacteria without CAT resampling. Therefore, the bacterial CAT resampling and diversion requirements of 9VAC25-740-70 C were deleted. This modification recognizes that there are other instantaneous measurements required by the regulation that are better immediate control parameters to ensure disinfection. The bacterial sampling acts to confirm that these surrogate parameters, specifically TRC and turbidity, are working properly. However, the time lag between collecting the bacterial sample and getting the results (approximately 24 hours) makes it a poor operational control parameter.

When a sample does reach the bacterial CAT, the facility will still be required to initiate an operational review to identify the source of the disinfection problem and correct it. Language of 9VAC25-740-70 C was revised to specify that a second consecutive routine bacterial monitoring result to reach the bacterial CAT will be a violation. By allowing for one CAT result before imposing a violation, this language provides an exception for those one-time inaccurate sample results (e.g., poor sample technique, false positives, etc.) that are not uncommon for bacteria samples. Because two consecutive CAT results are indicative of a true disinfection problem that remains unresolved, the agency believes that imposing a violation under these circumstances is appropriate.

Changes made since the proposed stage

Please describe all changes made to the text of the proposed regulation since the publication of the proposed stage. For the Registrar’s office, please put an asterisk next to any substantive changes.

Section number	Requirement at proposed stage	What has changed	Rationale for change
General	Several requirements throughout regulation	Replaced “treatment facility” with “treatment works”.	The term “treatment works” is defined in the regulation, while the term “treatment facility” is not.
General	Several requirements throughout regulation	Replaced “regulation” with “chapter”.	Change was made to be consistent with format revisions by the Virginia Register to the regulation.
10	Definition of “Biological Nutrient Removal (BNR)”	Changed “8 mg/l total nitrogen” and “1 mg/l total phosphorus” to “8.0 mg/l total nitrogen” and “1.0 mg/l total phosphorus” in the definition.	Change was made to make definition of BNR in the regulation consistent with the definition of BNR in the Regulation for Nutrient Enriched Waters and Discharges within the Chesapeake Bay Watershed, 9VAC25-40.
10*	Definition of “Class I reliability”	In the second sentence of the definition, replaced “Design features of this class shall include” with “This class includes design features, such as”, replaced “unit operations” with “units”, and deleted “for alternate”.	Changes were made: (i) to clarify that design features listed in the definition are examples that may be used to achieve Class I Reliability and not all are required; and (ii) in response to comments received from the Hampton Roads Sanitation District (HRSD), the Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities

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			Committee (HRPDC) in agreement with comments by VAMWA.
10	None	Inserted new definition for "Reject water storage".	This term was used in several places of the regulation but was not defined. This definition was also needed to distinguish term from "system storage" and "non-system storage" of reclaimed water.
10*	Definition of "Supplemental irrigation"	<ol style="list-style-type: none"> 1. Deleted "with reclaimed water in addition to rainfall". 2. Replaced "the water demands of the irrigated vegetation" with "but does not exceed the water necessary" and inserted "of the irrigated vegetation" at the end of the sentence. 	<p>These changes were made:</p> <ol style="list-style-type: none"> 1. To be consistent with 9VAC25-740-110 B 2 c that allows potable water to supplement reclaimed water for reuse, including irrigation reuse; and to account for all sources of water, including rainfall, potable water, reclaimed water and other non-potable water sources. 2. In response to comments from Virginia Tech and to further clarify: (i) the difference between supplemental irrigation with reclaimed water and land treatment of wastewater described in the Sewage Collection and Treatment Regulations; and (ii) the need to apply enough water to meet the water demands of the irrigated vegetation and, as necessary, to leach salts accumulated in the soil that are toxic and/or may cause unsuitable soil conditions for growth of the irrigated vegetation.
30, subsection B*	Inclusion of water reclamation and reuse requirements in existing VPDES and VPA permits	Created three subdivisions (B 1, 2 and 3) under subsection B regarding the addition of water reclamation and reuse requirements to existing VPA and VPDES permits. B 1 maintains changes to VPA permits as minor modifications; B 2 is new language that allows administrative authorization of such requirements without modification of the VPDES permit; and B 3 is also new language that requires a permit application in accordance with 9VAC25-740-100 for water reclamation and reuse projects requiring a minor	These changes were made in response to comments from the US EPA, Region III (EPA) stating that the addition of water reclamation and reuse requirements to a VPDES permit could not be considered a VPDES minor modification under the Clean Water Act, but administrative authorization of these requirements in association with a VPDES permit could be allowed without a permit modification. This eliminates the fees associated with a major modification and public notice of a VPDES permit, thereby serving to promote and encourage water reclamation and reuse while providing the same level protection to the environmental and public health.

Section number	Requirement at proposed stage	What has changed	Rationale for change
		modification of a VPA permit per B 1 or administrative authorization associated with a VPDES permit per B 2.	
40, subsection C	Service agreement or contract requirement between end users and reclaimed water provider	Replaced “Regulation” with “Monitoring”.	This change was made in response to comments from the Department of Planning and Budget.
40, subsections D, E, F and G	Permitting requirements for a specific category of reclaimed water distribution systems	Inserted new subsection D, which eliminates permitting requirements for reclaimed water distribution systems that serve only the owner or management of that system and no other end users, if a service agreement is established between the reclamation system that provides reclaimed water to the reclaimed water distribution system and the reclaimed water distribution system. Subsequently, changed existing subsections D, E and F to E, F and G, respectively.	This change was made to be consistent with 9VAC25-740-40 C for reclaimed water distribution systems that are essentially the equivalent of an end user.
40, subsection E	Permitting requirements for end users receiving reclaimed water from multiple reclaimed water providers	Formerly subsection D. 1. Replaced “shall” with “may” in 1 st sentence; 2. Replaced “user only if the end user receives” with “users receiving” in 1 st sentence; and 3. Replaced “owns or manages” in last sentence with “is under common ownership or management with” in 2 nd sentence.	These changes were made to: 1. Acknowledge that some of these end users with good compliance records will not create an enforcement problem for multiple providers of reclaimed water having multiple service agreements with that end user; 2. Correct a grammatical error; and 3. Be consistent with permitting requirements of other subsections in 9VAC25-740-40.
40, subsection F	Permitting requirements for property irrigated with reclaimed water that is under common ownership or management with a reclaimed water generator or provider	Formerly subsection E. 1. Inserted “, satellite reclamation system” after “reclamation system”; 2. Replaced “the” with “that” after “management with”; 3. Deleted “receiving the reclaimed water” after “property”; and 4. Replaced “, whichever directly supplies” with	These changes were made: 1. To be consistent with other sections of the regulation, in particular 9VAC25-740-100 B 3; 2. To correct a grammatical error; 3. To eliminate redundancy in the sentence; and 4. To allow irrigated property under common ownership with a reclamation system providing reclaimed water indirectly to the irrigation property to be covered

Section number	Requirement at proposed stage	What has changed	Rationale for change
		"providing".	under the same permit issued to the reclamation system. This situation could occur where the reclaimed water distribution system is under ownership different from that of the irrigation property and reclamation system.
50, subdivision A 3*	Exclusion from the regulation for nonpotable water produced and utilized on-site by the same treatment works	Added language to: 1. Limit the exclusion to treatment works with a VPDES or VPA permit, and 2. Make ineligible for the exclusion those treatment works issued a VPDES general permit for domestic discharges $\leq 1,000$ gpd.	These changes were made: 1. To ensure through the issuance of a VPDES or VPA permit that there is a primary method of disposal or use of the non-potable water other than "incidental landscape irrigation"; and 2. To ensure the protection of public health. Most domestic treatment works discharging $\leq 1,000$ gpd will likely produce Level 2 reclaimed water not suitable for unrestricted urban reuses where there is potential for public contact. Also owners of these systems will not be licensed operators familiar with the proper handling and hygiene necessary for Level 2 reclaimed water. Lastly, these facilities are required to be inspected no more often than once per 5 years and do not have reporting requirements. Therefore, compliance with treatment standards in the VPDES general permit would not likely be verified more often than once per 5 years.
50, subdivision A 5 c	Exclusion from the regulation for industrial effluent used in re-circulating, recycling or reuse systems at the same industrial facility	Inserted ", including but not limited to, applicable federal and state occupational safety and health standards and requirements," after "Other measures are in place".	Change was made: (i) to acknowledge that existing federal (OSHA) and state (DOLI – VOSH) safety and health standards and requirements could serve among "other measures" to inform and protect employees from pathogens or other constituents that may be harmful to human health in industrial wastewaters to be re-circulated, recycled or reused at an industrial facility, and (ii) in response to comments from the Virginia Manufacturers Association.
60, subsections A and B	Relationship of the propose regulation to the VPA and VPDES Permit Regulations	In subsection A, added "Water reclamation and reuse requirements contained in a VPA permit shall be enforced through existing enforcement	These changes were made to address comments from the Department of Planning and Budget.

Section number	Requirement at proposed stage	What has changed	Rationale for change
		mechanisms of the VPA permit.” In subsection B, made a similar change related to VPDES permits.	
60, subsection D*	Relationship of the propose regulation to the Regulation for Nutrient Enriched Waters and Discharges within the Chesapeake Bay Watershed (9VAC25-40)	Replaced “the reuse of wastewater to reduce loads of” with “for credit to be given for reductions in” and “equivalent to reductions that would be provided by biological nutrient removal technology or state-of-the-art nutrient removal technology” with “discharged loads through recycle or reuse of wastewater when determining technology requirements associated with new or expanded discharges”.	These changes were made: (i) to provided a more accurate description of the relationship between the regulation and 9VAC25-40, and (ii) in response to comments from HRSD, VAMWA and HRPDC in agreement with comments by VAMWA
60, subsection E*	Relationship of the proposed regulation to the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9VAC25-820)	Replaced “allows facilities to report a reduced waste load discharge of total nitrogen and total phosphorus for reclaiming and reusing water. A permittee reporting this reduction must demonstrate that the reuses of water will result in a reduced nutrient load to the Chesapeake Bay and its tributaries, and that these reuses are not alternative transport mechanisms for the nutrient load.” with “regulates point sources of nutrients and establishes a framework for nutrient credit trading and offsets. Water reclamation and reuse provides an opportunity to reduce point source nutrient loads.”	These changes were made: (i) to provided a more accurate description of the relationship between the regulation and 9VAC25-820, and (ii) in response to comments from HRSD, VAMWA and HRPDC in agreement with comments by VAMWA.
70, subdivisions A 1 and 2	Reclaimed water standards for Level 1 and Level 2	Changed “1 mg/l” to “1.0 mg/l” in A 1 c and A 2 c, and changed “CBOD” to “CBOD ₅ ” in A 1 e, A 2 e and the 5 th footnote (****)	These changes were made to provide technical accuracy, clarification, and consistency with other regulations and policies of the State Water Control Board.
70, subsection B*	Point of compliance at which reclamation	Revised language to make the point of compliance for Level 1 reclaimed water the	This change was made in response to comments from VAMWA and HRPDC in agreement with

Section number	Requirement at proposed stage	What has changed	Rationale for change
	systems must meet reclaimed water standards	same as that for Level 2 reclaimed water at the reclamation system.	comments by VAMWA.
70, subsection C*	Corrective action threshold (CAT) procedures for turbidity, total residual chlorine (TRC) and bacteria	Changed subdivisions C 1 a, C 1 b and C 2 to C 1, C 2 and C 3, respectively. Deleted CAT resampling and diversion requirements for bacteria; added clarification that two consecutive routine bacterial monitoring results to reach the bacterial CAT will be a violation; added option to divert substandard or reject water rather than resample turbidity and TRC; and added requirement to resample turbidity and TRC within one hour of resuming treatment after diversion.	These changes were made: (i) to improve the applicability and operational flexibility of CAT procedures for turbidity, TRC and bacteria; and (ii) in response to comments from HRSD, VAMWA and HRPDC in agreement with comments by VAMWA.
80, subdivision A 3 and subsection B	Sampling and analysis requirements for reclaimed water monitoring	Changed "CBOD" to "CBOD ₅ ".	This change was made to provide technical accuracy, clarification, and consistency with other regulations and policies of the State Water Control Board.
80, subdivision A 4 a*	Sampling requirements for bacteria in reclaimed water	1. Changed the letters to numbers [i.e., a, b and c to (1), (2) and (3)] of all footnotes in the table of subdivision A 4 a; and 2. Added new language to the end of footnote (2) that provides special case exceptions for bacterial sampling outside the 10:00 a.m. to 4:00 p.m. period of operation for Level 1 reclamation systems.	These changes were made: 1. To adhere to appropriate Virginia Register style requirements for regulations; and 2. In response to comments from HRSD, VAMWA and HRPDC in agreement with comments by VAMWA.
90, subsection A*	Minimum standard requirements for reuses of reclaimed water	Added option allowing windblown spray generated by once-through cooling or recirculating cooling towers that utilize Level 2 reclaimed water to reach areas accessible to workers or the public if Level 1 disinfection of the reclaimed water is provided.	This change was made in response to comments from HRSD, VAMWA and HRPDC in agreement with comments by VAMWA.
100, subsection A	Application for permit coverage of reclamation and reuse projects	In last sentence of subsection, deleted "the following" and replaced "." with "required by	These change were made to clarify changes resulting from format revisions by the Virginia Register to this section of the regulation.

Section number	Requirement at proposed stage	What has changed	Rationale for change
		subsections B and C of this section.”	
100, subdivision B 1	Design and site plan information for systems that produce and distribute reclaimed water	Added “reclamation systems and reclaimed water distribution systems” to 2 nd sentence to include more facilities for which information may not be needed when previously permitted.	This change was made to eliminate unnecessary information in the permit application.
100, subdivision B 2	General location map for systems that produce and distribute reclaimed water	Inserted “e.g.” before examples in parenthesis. Also, replaced “B 1 a” with “C 1 a”.	These changes were made to be consistent with Virginia Register style requirements, and format revisions by the Virginia Register to this section of the regulation.
100, subdivisions B 3, 4 and 5	General application information for reclamation and reuse projects	In the first sentence of each subdivision, deleted “proposed” and inserted “to be permitted”.	This change was made to acknowledge that not all reclamation systems or satellite reclamation systems requiring permits will be new projects.
100, subdivisions B 3 b, c and d	General information for wastewater treatment works that provide source water for reclamation	Deleted subdivision B 3 b, which requested flow information about the wastewater treatment works. Subsequently, changed subdivisions B 3 c and d to B 3 b and c, respectively.	Subdivision B 3 b was deleted because this information is not needed for the permit application but will be obtained, instead, at the preliminary engineering stage of the project.
100, subdivision B 3 c	General information for wastewater treatment works that provide source water for reclamation	Formerly subdivision B 3 d. Inserted “the” before “facility”.	This change was made to correct a grammatical error.
100, subdivision B 4 a	General information for sewage collection system that provide source water for satellite reclamation systems	Replaced “collections” with “collection”.	This change was made to correct a grammatical error.
100, subdivision B 4 a	General information for sewage collection system that provide source water for satellite reclamation systems	For sewage collection systems that provide source water to satellite reclamation systems, a requirement to submit flow information was replaced with a requirement to submit the name of the sewage collection system and the owner of that system.	This change was made because information regarding the flow to be diverted from the sewage collection system to the satellite reclamation systems is not needed for the permit application, but will be obtained at the preliminary engineering stage of the project. Information regarding the name and the owner of the sewage collection system is needed to identify any operational and/or compliance problems associated

Section number	Requirement at proposed stage	What has changed	Rationale for change
			with that system which could potentially impact the satellite reclamation system.
100, subdivision B 4 b	Significant industrial users (SIUs) discharging to sewage collection systems that provide source water for satellite reclamation systems	<ol style="list-style-type: none"> 1. Inserted the acronym “(SIUs)” after “significant industrial users” in first line and replaced “significant industrial users” with “SIUs” thereafter; 2. Inserted “directly or indirectly” after “discharge” and deleted “same”; 3. Inserted language making it unnecessary to provide information on any downstream SIUs whose discharge has no potential to backflow to the satellite reclamation system intake; and 4. Inserted “or lines” after “line”. 	<p>These changes were made:</p> <ol style="list-style-type: none"> 1. To eliminate unnecessary redundancy and to improve readability of the text; 2. To address both SIUs that will discharge directly to the sewage collection line on which the intake to the satellite reclamation system is located, and SIUs that will discharge to another sewage collection line that flows to the line on which the satellite reclamation system intake is located; 3. To eliminate the need to submit unnecessary information regarding downstream SIUs; and 4. To address SIUs that discharge indirectly via other lines to the sewage collection line from which the satellite reclamation system will withdraw sewage.
100, subdivision B 4 c	Characterization of sewage from sewage collection systems that provide source water for satellite reclamation systems	<ol style="list-style-type: none"> 1. Replaced “Analysis” with “Characterization”; 2. Replaced “by” with “from”; 3. Inserted “satellite” before “reclamation system”; 4. Deleted “or representative of that point”; and 5. Added “Analysis of the sewage may be required where SIUs described in subdivision 4 b of this subsection discharge to the sewage collection system.” 	<p>These changes were made:</p> <ol style="list-style-type: none"> 1. To eliminate unnecessary analysis of sewage, the composition of which is well documented and consistent; 2. To correct a grammatical error; 3. To clarify that this requirement applies specifically to satellite reclamation system and not all reclamation systems; 4. To eliminate redundant language; 5. To require, as may be necessary, analysis of the sewage to assess potential impacts of discharges from SIUs on the ability of the satellite reclamation system to produce reclaimed water. The need for such analysis will be determined primarily by the location and proximity of SIUs to the satellite reclamation system within the sewage collection system and pollutants of concern discharged by the SIUs.
100, subdivision B 5	General information regarding reclamation systems and satellite reclamation	<ol style="list-style-type: none"> 1. Replaced “Expected reclaimed water characteristics and current and design flows of the proposed” with “Information 	<p>These changes were made:</p> <ol style="list-style-type: none"> 1. To better reflect the broader range of information that is required by this subdivision and to eliminate the submittal of “current” flow

Section number	Requirement at proposed stage	What has changed	Rationale for change
	systems	regarding each”; 2. Moved “Design” flow to B 5 c; and 3. Replaced “to include” with “, including”.	information at the time of application to be obtained at the preliminary engineering stage of the project; 2. To replace other flow information to be submitted at the time of application (see Section 100 B 5 c); and 3. To correct the grammar of the sentence subsequent to other changes described above.
100, subdivision B 5 c	General information regarding reclamation systems and satellite reclamation systems	Replaced “Monthly average and daily maximum flows” with “Design flow”, which was moved from 9VAC25-740-100 B 5.	This change was made because information on monthly average and daily maximum flows for reclamation systems and satellite reclamation systems is not needed at the time of application, but will be obtained at the preliminary engineering stage of the project. Design flow is needed at the time of application to determine the operational flow of the system included in the permit.
100, subsection B	General application information for systems that produce and distribute reclaimed water	In the last paragraph of the section, inserted “specific” after “referencing”.	This change was made to provide clarification regarding application information to be submitted for a permit.
100, subdivision C 1 a	Service area information for the reclaimed water management (RWM) plan	Deleted “A service area or portions of a service area shall not be covered under more than one RWM plan to avoid redundant service to the same area.”	This change was made to eliminate a conflict between the subject statement and 9VAC25-740-40 E, which contains provisions for an end user to receive reclaimed water from more than one reclamation system, satellite reclamation system, reclaimed water distribution system, or combination thereof. The end user in this scenario could create potential overlap of service areas for two or more reclaimed water providers. Redundant service to the same area may be necessary where one provider is unable to meet the reclaimed water quantity or quality needs of one or more end users in that area.
100, subdivision C 1 c	Water balance information for the RWM plan	Deleted “daily” in the second sentence.	This change was made to eliminate information that is not used to calculate reclaimed water usage in the water balance.
100, subdivision C 1 d	Example service agreements or contracts for the RWM plan	Inserted “to the applicant or permittee” after “report” in the second sentence.	This change was made to clarify that information regarding potable and non-potable water supply wells is to be reported by property owners to

Section number	Requirement at proposed stage	What has changed	Rationale for change
			the applicant or permittee and not to DEQ.
100, subdivision C 1 g	Cross-connection and backflow prevention program for the RWM plan	<ol style="list-style-type: none"> 1. Moved “and” following subdivision C 1 g (2) to the end of subdivision C 1 g (3); and 2. Inserted “(4) Insures that cross-connection and backflow prevention design criteria specified in 9VAC25-740-110 B for reclaimed water distribution systems are implemented.” at the end of subdivision C 1 g. 	<p>These changes were made:</p> <ol style="list-style-type: none"> 1. To correct the grammar of subdivisions C 1 g (2) and C 1 g (3) with the addition of new subdivision C 1 g (4); and 2. To satisfy 9VAC25-740-110 B 2 that specifically requires design criteria for the cross-connection and backflow prevention program of reclaimed water distributions systems to be implemented through the RWM plan.
100, subdivisions C 1 h and i*	Description of water quality maintenance within a reclaimed water distribution system for the RWM plan	<p>Inserted new subdivision C 1 h requiring the applicant or permittee that is or will be the reclaimed water provider to describe how water quality within the reclaimed water distribution system will be maintained to meet existing requirements under 9VAC25-740-110 B 9 of the regulation. Subsequently, changed existing subdivision C 1 h to C 1 i.</p>	<p>This change was made: (i) to provide further clarification of generator versus distributor responsibilities to maintain reclaimed water quality to meet the standards for the intended reuses of that water specified in 9VAC25-740-90 of the regulation, and (ii) in response to public comments from VAMWA and HRPDC in agreement with comments by VAMWA.</p>
100, subdivision C 1 i	Abbreviated RWM plan for reclaimed water providers that are also sole end user	<p>Formerly subdivision C 1 h.</p> <ol style="list-style-type: none"> 1. Inserted “provider of reclaimed water, the”; 2. Replaced “the” with “that” before “reclaimed water”; and 3. Deleted “that is generated” following “reclaimed water”. 	<p>These changes were made:</p> <ol style="list-style-type: none"> 1. To further clarify which applicants and permittees this language applies to; 2. To identify the reclaimed water as specifically “that” from the provider; and 3. To provide clarification.
100, subdivisions C 2 and C 3 through C 8	Supplemental irrigation and nutrient management requirements for irrigation reuse	<p>Maintained first sentence pertaining to supplemental irrigation as subdivision C 2 and moved the remainder of subdivision C 2 under a new subdivision C 3 pertaining to nutrient management plan requirements for irrigation reuse of reclaimed water. Subsequently, changed subdivisions C 3 through C 7 to C 4 through C 8, respectively; and changed “C 2 b and c” to “C 3 b and c” in subdivision C 1 d.</p>	<p>These changes were made to separate two different, but equally significant items regarding irrigation reuse to be addressed in the RWM plan.</p>

Section number	Requirement at proposed stage	What has changed	Rationale for change
100, subdivision C 3 a	Exception to nutrient management plan requirements for irrigation reuse with BNR reclaimed water	Replaced "B 3" with "C 4".	This change was made to be consistent with format revisions by the Virginia Register to this section and to reflect renumbering of subdivisions within the subsection.
100, subdivisions C 3 b and c*	Reporting of assumed nutrient losses to surface waters from bulk and non-bulk irrigation reuses of reclaimed water not treated to achieve BNR, by treatment works subject to 9VAC25-820	Moved subdivisions C 3 b (3) and C 3 c (5) to new section 9VAC25-740-105.	These changes were made to consolidate provisions of subdivisions C 3 b (3) and C 3 c (5) into a new section that the State Water Control Board could defer for adoption, further discussion by the technical advisory committee and a second, later Board action based on DEQ staff recommendations. See also rationale for changes for 9VAC25-740-105.
100, subdivision C 4 a	Nutrient management plan requirement for bulk irrigation reuse that is independent of the reclaimed water nutrient content	Formerly subdivision C 3 a. Deleted "or" before "satellite reclamation system" and added "or reclaimed water distribution system" after.	This change was made to be consistent with other sections of the regulation, in particular 9VAC25-740-40 F.
100, subdivision C 8	Amendment of the RWM plan to add new end users after issuance/reissuance of the permit	Formerly subdivision C 7. Added to last sentence of the subdivision "unless the new end users will require the addition of different reclaimed water standards, monitoring requirements and conditions not contained in the permit."	This change was made to clarify when the addition of a new end user to the RWM Plan would be considered a modification to a permit.
105*	Reporting of discharged total N and total P by treatment works subject to 9VAC25-820	Consolidated 9VAC25-740-100 C 3 b and c into this new section.	These changes were made to create a new section that the State Water Control Board (Board) could defer for adoption, thereby avoiding delayed adoption of the entire regulation. At their 12/4/07 meeting, the Board voted to defer adoption of only 9VAC25-740-105 and directed DEQ staff to reconvene the technical advisory committee to further discuss provisions of this section, and to return to the Board no later than June 2008 with recommendations for a subsequent Board action.
110, subdivision C 6 c	Design criteria of impoundments and ponds used for reject water storage	Inserted "table" after "seasonal high water".	This change was made for clarification.

Section number	Requirement at proposed stage	What has changed	Rationale for change
	and reclaimed water system storage		
110, subdivision C 15 b	Inventory of reclaimed and reject water storage facilities	Inserted “including” before “latitude and longitude”.	This change was made for clarification.
110, subdivision C 16	Design criteria applicability for reclaimed water storage facilities of industrial end users	Replaced “. These facilities shall be subject to regulation under the end user’s industrial wastewater permit” with “where such facilities are regulated by an existing water permit issued by the board to the industrial end user, or the industrial end user is also the generator of reclaimed water stored in the these facilities and is excluded under 9VAC25-740-50 A”.	This change was made to address situations where an industrial end user may have a reclaimed water storage facility, yet not have a water permit under which the facility would be regulated to ensure the protection of state waters and human health. This change, however, does not eliminate the exemption from storage facility design requirements for industrial end users that have on-site reclaimed water storage facilities regulated by an existing water permit, and clarifies the applicability of this provision to industrial facilities excluded by the regulation.
140, subsection A	Development and submittal requirements for operations and maintenance manuals of reclamation systems and satellite reclamation systems	In the first sentence of the subsection: 1. Deleted “reclaimed water distribution systems”; and 2. Deleted “any”.	These changes were made: 1. To be consistent with 9VAC25-740-120 B 3 f, which makes no reference to reclaimed water distribution systems; and 2. For clarification as there is only one combination involving two types of systems
140, subsections B through G	Operation and maintenance manuals for water reclamation and reuse projects	Inserted new subsection B regarding operation and maintenance manual requirements for reclaimed water distribution systems. Subsequently, changed existing subsections B through F to C through G, respectively.	These changes were made to address operation and maintenance manual requirements for reclaimed water distribution systems that were not addressed by 9VAC25-740-120 B 3 f and incorrectly addressed in subsection A.
140, subdivisions D 2 b	Operation and maintenance manual requirements for reclaimed water distribution systems	Replaced “B” with “C” in “9VAC25-740-100 B 1 g”.	This change was made to be consistent with format revisions made by the Virginia Register to 9VAC25-740-100 of the regulation.
170, subdivisions 170 A 1 and K	Education and notification program requirements for specific end uses of reclaimed water and setback distances	Replaced “B” with “C” in “9VAC25-740-100 B 1 d”.	Theses changes were made to be consistent with format revisions made by the Virginia Register to 9VAC25-740-100 of the regulation.

Section number	Requirement at proposed stage	What has changed	Rationale for change
	for open cooling towers that use Level 2 reclaimed water		
170, subdivisions H 4 a through d*	Reduced setback distances for sites irrigated with Level 2 reclaimed water	Deleted all reference to "property lines" in subdivision H 4 a and inserted new subdivision H 4 b that states "Up to 100 % from property lines with written consent from adjacent landowners." Subsequently, changed existing subdivisions H 4 b and c to H 4 c and d, respectively.	These change were made: (i) to allow up to a 100 % reduction in the setback distance from a property line for a site irrigated with Level 2 reclaimed water with written consent from an adjacent land owner and (ii) in response to public comments from Bernard C. Nagelvoort, Chairman, Lord Fairfax Soil and Water Conservation District.
170, subdivisions H 2 and 4	No or reduced setbacks distances for sites irrigated with reclaimed water	Replaced "to" with "from" in the first sentence of H 2, and following "50 %", "100 feet" and "25 feet" in H 4 a, c and d, respectively.	These changes were made to correct grammatical errors.

Public comment

Please summarize all comments received during the public comment period following the publication of the proposed stage, and provide the agency response. If no comment was received, please so indicate.

Commenter	Comment	Agency response

See Attachment A.

All changes made in this regulatory action

Please detail all changes that are being proposed and the consequences of the proposed changes. Detail new provisions and/or all changes to existing sections.

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change and rationale

This action is for the adoption of a new regulation and does involve changes to an existing regulation. Therefore, the following table includes all sections of the regulation and the rationale for each section and, in some cases, subsections.

Proposed new section	Proposed requirement and rationale
9VAC25-740-10	Definitions. Contains the definitions of words and terms used in the regulation for which the meaning is not evident within the context of the regulation.
9VAC25-740-20	Purpose. States the purpose of the regulation, which is to satisfy mandates specified in the Code of Virginia regarding the reclamation and reuse of wastewater, and how this is achieved in general terms.
9VAC25-740-30	Applicability and transition. Subsection A describes generally what reclamation and reuse projects will require a permit among those that are newly proposed, existing and permitted, or existing and unpermitted. Subsection B describes the addition of water reclamation and reuse requirements to existing VPDES or VPA permits through administrative authorization or permit modification, respectively. Language of this section is typically included in new regulations with requirements to be implemented through existing permits or permit programs for clarification.
9VAC25-740-40	Permitting requirements. Describes permitting requirements for reclamation systems, satellite reclamation systems, reclaimed water distribution systems and a limited group of end users, individually or as combinations of these systems and/or end users under one permit, to further clarify who must obtain what permits.
9VAC25-740-50	Exclusions and prohibitions. Subsection A lists and describes activities that are specifically excluded from the requirements of the regulation to clarify the scope and authority of the regulation. Subsection B lists and describes activities that are prohibited by the regulation for the protection of the environment and public health in accordance with §62.1-44.15 of the Code of Virginia.
9VAC25-740-60	Relationship to other board regulations. Describes the relationship of the regulation to other regulations including: A. Virginia Pollution Abatement Permit (VPA) Regulation (9VAC25-32); B. Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation (9VAC25-31); C. Sewage Collection and Treatment Regulation (9VAC25-790); D. Regulation for Nutrient Enriched Waters and Discharges within the Chesapeake Bay Watershed (9VAC25-40); E. General VPDES Watershed Permit for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9VAC25-820); and F. Local and Regional Water Supply Planning Regulation (9VAC25-780) This information is needed to clarify how these other board regulations will work in association with or will technically support the regulation.
9VAC25-740-70	Standards for reclaimed water. Specifies two sets of treatment standards for the reclamation of municipal wastewater and allows treatment standards to be developed on a case-by-case basis for the reclamation of industrial water. Also, establishes the point of compliance for reclamation systems of municipal wastewater, describes procedures to be initiated in response to corrective action threshold monitoring results, and contains provisions for the Board to require alternative or additional reclamation treatment of municipal or industrial wastewater when determined necessary to protect public health and the environment. These standards are to satisfy provisions of §62.1-44.15 of the Code of Virginia.
9VAC25-740-80	Reclaimed water monitoring requirements for reuse. Specifies reclaimed water sampling procedures, frequency and type to verify compliance with the standards specified in 9VAC25-740-70 and to operate treatment processes in accordance with 9VAC25-740-140. Also allows the Board to require other or additional reclaimed water monitoring for alternative or additional treatment required by 9VAC25-740-70 to verify the efficacy of

Proposed new section	Proposed requirement and rationale
	such treatment for the protection of the environment and public health.
9VAC25-740-90	Minimum standard requirements for reuses of reclaimed water. Establishes six reuse categories (urban – unrestricted access, irrigation - unrestricted access, irrigation – restricted access, landscape impoundments, construction, and industrial) and the minimum standard requirements of reclaimed water for reuses in each category. Also allows the Board to approve other unlisted reuses and their minimum standard reclaimed water requirements on a case-by-case basis. Requirements of this section are to ensure that the level of reclaimed water treatment is commensurate with the intended reuse of the reclaimed water in accordance with §62.1-44.15(15) of the Code of Virginia.
9VAC25-740-100	<p>Application for permit.</p> <p>A. Provides information about permit requirements for water reclamation and reuse projects.</p> <p>B. Describes general information to be submitted in a permit application for projects that involve water reclamation and the distribution of reclaimed water.</p> <p>C. Describes required items of a reclaimed water management plan to be submitted by applicants or permittees that provide reclaimed water directly to end users, as part of the permit application.</p> <p>This section requires the above information because it is not required by the VPDES or VPA Permit Regulations and programs through which the regulation will be implemented, and is considered necessary for establishing the appropriate standards, monitoring requirements and conditions to be contained in the permit for the project.</p>
9VAC25-740-105	Reporting of discharged total N and total P by treatment works subject to 9VAC25-820. Establishes assumed nutrient losses to surface waters from bulk and non-bulk irrigation reuses of reclaimed water not treated to achieve BNR, and requires reporting of these losses by wastewater treatment facilities that provide source water for reclamation and reuse through their General VPDES Watershed Permit (9VAC25-820), as applicable. This section is to account for nutrient losses transferred from a point source (i.e., a wastewater treatment facility discharge) to a non-point source through the reuse of reclaimed water (i.e., for irrigation) with a nutrient content greater than BNR as defined in the propose regulation.
9VAC25-740-110	Design criteria. Establishes design criteria and other requirements for reclamation systems, reclaimed water distribution systems and storage facilities of both reclaimed and reject water. This section is necessary to establish consistency and a minimum level of design for water reclamation and reuse projects that ensure protection of the environment and public health in accordance with §62.1-44.15(15) of the Code of Virginia.
9VAC25-740-120	Construction requirements. Requires submittal of a preliminary engineering report (PER) for water reclamation and reuse projects that are newly proposed or are an expansion or modification of an existing system, with a provision to waive the PER under specific circumstances. Also describes requirements to acquire certificates to construction and to operate new, expanded or modified reclamation systems or satellite reclamation systems. Requirements of this section are necessary to verify that projects comply with design requirements of 9VAC25-740-110 and are constructed according to their approved design. These requirements correspond to construction requirements for sewage treatment works with similar treatment processes contained in the Sewage Collection and Treatment (SCAT) Regulations (9VAC25-790).
9VAC25-740-130	Operator requirements and system reliability. Describes the procedure for classifying a reclamation system and operator in charge; requires Class I reliability for Level 1 reclamation systems with some exceptions; allows Class I reliability requirements to be applied to independent reclamation systems and reclamation systems of industrial wastewater; and allows the Board to approve alternate measures to achieve Class I reliability. These requirements are to ensure a minimum level of staffing and reliability at

Proposed new section	Proposed requirement and rationale
	which a reclamation system must be operated for the protection of the environment and public health, and are similar to operator and system reliability requirements for sewage treatment works with comparable treatment processes in the SCAT Regulations (9VAC25-790).
9VAC25-740-140	Operations and maintenance. Requires and specifies items to be included in an operation and maintenance manual for reclamation systems, satellite reclamation systems and reclaimed water distribution systems. These requirements are necessary to ensure that persons responsible for the operation and maintenance of these facilities will have the information they need to produce and distribute reclaimed water that complies with the standards and requirements of the regulation.
9VAC25-740-150	Management of pollutants from significant industrial users. Describes programs to be implemented and contractual requirements to be established by reclamations systems receiving source water from municipal wastewater treatment works with significant industrial users in order to produce reclaimed water that meets Level 1 standards or for reuse in areas accessible to the public or where human contact is likely.
9VAC25-740-160	Access control and advisory signs. Describes public access control required for reclamation systems, satellite reclamation systems and system storage facilities; and specifies the minimum warning statement, appearance of and posting location for advisory signs or placards. These requirements are intended to protect public health in accordance with §62.1-44.15(15) of the Code of Virginia by eliminating or reducing the potential for public contact or ingestion.
9VAC25-740-170	Use area requirements. Describes an education and notification program to be implemented only by providers of reclaimed water for reuses that will require Level 1 reclaimed water, will be in areas accessible to the public, or are likely to have human contact. Other provisions in this section include general requirements applicable to all reuses, all irrigation reuses and/or bulk irrigation reuses of reclaimed water; and setback distances from irrigation, indoor aesthetic features and open cooling towers that reuse reclaimed water. These requirements are to ensure that reuses of reclaimed water will be conducted in a manner protective of the environment and public health in accordance with §62.1-44.2 of the Code of Virginia.
9VAC25-740-180	Operational flow requirements. Requires the permittee of a reclamation system or satellite reclamation system to submit a plan of action when the monthly average flow into the system reaches 95% of the system's design capacity for 3 consecutive months. This requirement is to ensure continued compliance with the reclaimed water standards and conditions of the permit under operating conditions that do not typically provide optimal treatment.
9VAC25-740-190	Record keeping. Describes operating records for reclamation systems, and the location and period of retention for these records. Also requires monthly summaries of operating records be maintained at the facility. Requirements of this section are necessary to support operation, maintenance and reporting requirements of 9VAC25-740-140 and 200.
9VAC25-740-200	Reporting. Describes scheduled reporting requirements for generators and distributors of reclaimed water, and periodic reporting for events such as, but not limited to, loss of reclaimed water supply to the service area or discharge of partially treated water to the reclaimed water distribution system that does not meet reclaimed water standards of the permit. Requirements of this section are necessary to verify compliance with the permit and the regulation.
9VAC25-740-210	Delegation of authority. Delegates the authority of the Board provided in the regulation to the Director of DEQ or the Director's designee. This is standard language included in water regulations to be implemented by the DEQ.

Regulatory flexibility analysis

Please describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.

The regulation provides wastewater reclamation and reuse as an alternative to directly discharging pollutants into waters of the state on a voluntary basis. Although the regulation will require generators and distributors of reclaimed water to obtain a VPDES or a VPA permit, conditions and requirements for water reclamation and distribution may be added to an existing VPDES or VPA permit as a minor modification in most cases. The regulation also contains provisions to consolidate permitting requirements where both the generation and distribution of the reclaimed water are under common ownership or management. Reporting requirements will utilize the existing reporting procedures established for VPDES and VPA permits.

With rare exception, end users of reclaimed water will not be required to obtain a permit, thereby eliminating the need for general permits that were originally proposed concurrent with the development of this regulation. However, end users will be required to enter into a service agreement or contract with the provider of the reclaimed water, specifying the proper use and handling of the reclaimed water for its intended reuses. Exclusions from the requirements of the regulation will also be provided for treatment works and many industries that will recirculate, recycle or reuse their wastewater or reclaimed water on site.

Family impact

Please assess the impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

The regulatory action allows outdoor domestic or residential reuses of reclaimed water for such things as lawn watering, non-commercial car washing, and others that may be approved on a case-by-case basis. As an incentive for end users, including residential home owners, to use reclaimed water in lieu of potable for uses that do not require water of potable quality, future and existing purveyors of reclaimed water have indicated that they intend to offer the reclaimed water at a lower cost than potable water. This is expected to increase the disposable income of residential end users of reclaimed water.

Attachment A

Summary of Public Comments on the Draft Water Reclamation and Reuse Regulation (9VAC25-740)

November 2007

1.	<p>Subject: General support of regulation</p> <p>Commenter: Garvis M. Reynolds, EcoOptions, LLC</p> <p>Text: I am extremely pleased to finally see these proposed regulations. I believe they are sound in principle and should be adopted. The time has come for wastewater reclamation and reuse in Virginia. Adopting this regulation will place Virginia in a leadership role, protect our water resources, stimulate technology and provide a better environment for all Virginians.</p>
2.	<p>Subject: General support of regulation</p> <p>Commenter: Penelope Radd</p> <p>Text: I'm very glad to hear that Virginia is planning to recycle wastewater. I believe the use of recycled water for golf courses, parks, and industrial use would be wonderful. Firefighting would also be a natural along with any non-food-direct use. I suspect golf courses generally use well water and use of wastewater would slow the depletion of our aquifers. We must save our planet – as far as we know, it's the only one in the universe with chocolate!</p>
3.	<p>Subject: General support of regulation</p> <p>Commenter: Diana Etheridge</p> <p>Text: I'm all for recycling treated wastewater. The 9/29/07 article in The Virginia-Pilot says "because raw water remains ample and relatively cheap here ...". That's no excuse! We must do all that we can to conserve and protect our natural resources. I believe the farmers crops wouldn't have suffered as much this dry summer, if they had been access to recycled water. Why is wastewater from sewage plants discharged into public waterways? How disgusting! Giving credit to utilities and industries that recycle is a great incentive. All the ways that you listed where recycled wastewater could be used made perfect sense (fighting fires, washing cars, making concrete, etc.). We have the future to think and care about. Changes need to be made. We can't take our natural resources for granted. I hope we follow what 24 other states have successfully adopted in reclamation programs.</p>
4.	<p>Subject: General support of regulation</p> <p>Commenter: Raleigh M. Smith</p> <p>Text: I read the article regarding the recycling of wastewater in Virginia. I am totally in favor of the principal, but would like to withhold total approval until there is more information on the infrastructure to accomplish this project. I have total confidence in HRSD [Hampton Roads Sanitation District] providing recycled wastewater for this project.</p> <p>As an aside, I think the state should also strive to push the recycling of wastewater. It can be done has been done, and should be done here. I always seems to be such a waste to watch HRSD Chesapeake-Elizabeth River discharging all that treated fresh water to Little Creek Harbor instead of the Norfolk/ Virginia water treatment system.</p>
5.	<p>Subject: General support of regulation</p>

	<p>Commenter: Sharon Karlake</p> <p>Text: I support the reuse of treated wastewater or reclaimed water. Virginia needs to investigate all possibilities to Save the Bay.</p>
6.	<p>Subject: General support of regulation</p> <p>Commenter: Kathie Trapkin</p> <p>Text: I think water recycling is a great idea whose time has come. Hopefully it will be implemented quickly and will be found to be a success.</p> <p>I do wonder why, with a little nutrient removal, the water can't be put back into the lake-reservoirs at a point far enough back in the supply-line that it wouldn't affect our, or the environment's health, but this is a great step.</p>
7.	<p>Subject: General support of regulation</p> <p>Commenter: Jo Ann Jackson, WateReuse Association</p> <p>Text: The mission of the WateReuse Association is to “advance the beneficial and efficient use of water resources through education, sound science, and technology using reclamation, recycling, reuse and desalination for the benefit of our members, the public, and the environment.” We feel that the overall goals of the Virginia DEQ draft regulation are in concert with this mission and we applaud your efforts.</p>
8.	<p>Subject: General support of regulation</p> <p>Commenter: Steve Edgemon on behalf of the members of Mission H₂O</p> <p>Text: Mission H₂O fully supports the need to explore and use nontraditional alternatives for increasing available water supply. There is a necessary balance between regulating the development of alternative sources and promoting their use. The Department [DEQ] has struggled in the past with achieving that balance in the context of water reuse and reclamation. The proposed regulation appears to better strike that balance.</p>
9.	<p>Subject: General support of regulation</p> <p>Commenter: Virginia Water Environment Association (VWEA) and Virginia Section, American Water Works Association (VA AWWA)</p> <p>Text: VWEA and VA AWWA supports the responsible use of appropriately treated reclaimed water for non-potable uses, DEQ’s efforts to promote and encourage water reclamation and reuse for non-potable uses, and the overall goal of the proposed Water Reclamation and Reuse Regulation, 9 VAC 25-740-10 et seq.</p>
10.	<p>Subject: General support of regulation</p> <p>Commenter: Loudon County Sanitation Authority (LCSA)</p> <p>Text: LCSA supports the responsible use of appropriately treated reclaimed wastewater for non-potable uses and we support DEQ’s efforts to promote and encourage the reclamation and reuse of wastewater in Virginia. LCSA supports the adoption of a Virginia water reuse regulation that is protective of human health and the Commonwealth’s environment.</p>
11.	<p>Subject: General support of regulation</p> <p>Commenter: Hampton Roads Planning District Commission, Directors of Utilities Committee</p>

	<p>Text: The HRPDC Directors of Utilities Committee is pleased that the Department of Environmental Quality has developed the proposed Regulation in order to address water reclamation and reuse. Establishment of this regulatory framework is an important step in ensuring that reclaimed water may become a viable component of public water supply.</p>
<p>12.</p>	<p>Subject: General support of regulation</p> <p>Commenter: Ann Amundsen</p> <p>Text: I very much support the program for recycling wastewater.</p> <p>I think reducing the discharge into the Chesapeake Bay is even more important that conserving raw water.</p> <p>It is so great to see Virginia getting into the environmental sphere. Surely there is far more job potential in this for Norfolk than in selling water.</p>
<p>13.</p>	<p>Subject: Discrepancies between versions of draft regulation posted on websites of the Virginia Town Hall and Virginia Register of Regulations</p> <p>Commenter: Loudon County Sanitation Authority (LCSA)</p> <p>Text: There appears to be two slightly different versions of the draft regulation on the Virginia Town Hall website. LCSA comments are based on the version published in the Virginia Register of Regulations.</p> <p><u>Comment on 9VAC25-740-100 Application for Permit:</u></p> <p>A. In Paragraph B.2: Double check the reference to “subdivision B.1.a”.</p> <p>B. In Paragraph C.2.a: Double check the reference to “subdivision B.3”.</p> <p>Agency Response: Where there is a discrepancy between versions of the same regulation posted on the Virginia Register and the Virginia Regulatory Town Hall websites, the version on the Virginia Register website is the official version. In the case of the draft Water Reclamation and Reuse Regulation, the content of the regulation posted on both websites is basically the same with the exception of format changes to 9VAC 25-740-100 posted on the Virginia Register website that were made by the Registrar. This resulted in lettering changes to subsections within this section and any reference to these subsections in subsequent sections of the regulation.</p> <p>References to “subdivision B.1.a” in 9VAC25-740-100 B 2 and “subdivision B.3” in 9VAC25-740-100 C 2 a have been corrected.</p>
<p>14.</p>	<p>Subject: Modifications of VPDES Permits to add water reclamation and reuse standards, monitoring requirements and conditions (major vs. minor)</p> <p>Commenter: Evelyn MacKnight, US Environmental Protection Agency, Region III</p> <p>Text: The federal NPDES Permit Regulation upon which Virginia’s VPDES Permit Regulation is based, does not adequately address the addition of water reclamation and reuse standards, monitoring requirements and conditions as a <i>minor</i> modification to a NPDES permit.</p> <p>Agency Response: EPA confirmed that administrative authorization of these requirements in association with an existing VPDES permit could be allowed without a permit modification. Therefore, 9VAC25-740-30 B of the proposed regulation has been revised to allow administrative authorization of water reclamation and reuse requirements for existing VPDES permits. This change eliminates the fees associated with a major modification and public notice of a VPDES permit, thereby serving to promote and encourage water reclamation and reuse while maintaining the same level of environmental protection.</p>

<p>15.</p>	<p>Subject: Reuse of reclaimed water on a temporary basis</p> <p>Commenter: Charles Kolakowski, City of Bedford</p> <p>Text: Has there been any consideration of allowing localities to utilize reused water for dust suppression or street cleaning purposes on a temporary basis because of the severe drought conditions? My question is really aimed at immediate use of the reclaimed water now during this current drought emergency. The City would greatly benefit by it being allowed to reuse some of this water now.</p> <p>Agency Response: Until adoption of the proposed regulation, use of treated effluent from a wastewater treatment plant for dust suppression or street cleaning will need to be evaluated on a case-by-case basis and will require permit coverage. For the temporary use of reclaimed water under emergency conditions, such as those that may result from a prolonged period of drought, the DEQ is developing guidelines whereby authorization may be granted without a permit.</p> <p>The currently proposed regulation will not, in most cases, require a permit for end users of reclaimed water. However, a service agreement or contract must be established between the provider of the reclaimed water and the end user specifying certain restrictions as to how the reclaimed water must be handled for the protection of human health and the environment. Assuming a service agreement or contract has been established between the provider and end user of the reclaimed water, the quantity and frequency of use by an end user (i.e., intermittently or on a routine basis) is a matter agreed upon by the provider and end user. Some providers of reclaimed water have indicated that they intend to meter use of reclaimed water by end users and charge a fee for the reclaimed water at a rate less than that for potable water. Such fees, however, are not required by the regulation and will influence how much reclaimed water some end users might use.</p>
<p>16.</p>	<p>Subject: Permit fees for water reuse</p> <p>Commenter: Charles Kolakowski, City of Bedford</p> <p>Text: From my review of the regulations it would appear that municipalities would be subjected to additional fees for these permits. This would only serve to discourage municipalities from participating in this important and useful program.</p> <p>Agency Response: Currently, any facility in Virginia that treats wastewater must have either a VPDES or a VPA permit. An existing VPDES or VPA permitted facility that intends to reclaim wastewater for reuse will not be required to obtain a new and separate permit for this activity. Instead, conditions for water reclamation and reuse will be added to an existing VPA permit, in most cases, as a minor modification, and will be administratively authorized in association with an existing VPDES permit, requiring no fee in either situation. New facilities that will produce and/or distribute reclaimed water for reuse, and, in rare cases, some end users of reclaimed water will need to obtain either a VPDES or VPA permit with a permit issuance fee. It is anticipated that the vast majority of facilities planning to produce reclaimed water in the future will already have a VPDES or VPA permit, requiring administrative authorization or a minor modification, respectively, to include water reclamation and reuse requirements.</p>
<p>17.</p>	<p>Subject: Regulatory hurdles and permitting fees</p> <p>Commenter: Loudon County Sanitation Authority (LCSA)</p> <p>Text: We would like a system [for the reclamation and reuse of wastewater] that requires the least amount of new regulatory hurdles and permitting fees.</p> <p>Agency Response: The proposed regulation is a technology regulation and not a permit regulation. Therefore, requirements of the proposed regulation will be implemented through the existing VPDES and VPA permit programs. Conditions for water reclamation and reuse will be</p>

	<p>added to an existing VPA permit, in most cases, as a minor modification, and will be administratively authorized in association with an existing VPDES permit, requiring no fee in either situation. All other fees as specified in the Fee Regulation (9VAC25-20) for the issuance or reissuance of a VPDES or VPA permit for reclamation and reuse projects will apply.</p>
<p>18.</p>	<p>Subject: 9VAC25-740-10 Definition of supplemental irrigation</p> <p>Commenter: Dr. Greg Evanylo, Virginia Tech</p> <p>Text: Definition of supplemental irrigation, 9VAC25-740-10, does not identify/describe specific basis for irrigation. Concern is that irrigation permitted will not allow agronomically desirable small leaching fraction (e.g., 10%) of water beyond topsoil root zone. This limitation is also stated with inadequate description in section 9VAC25-740-100 C.2.</p> <p>Agency Response: The definition of supplemental irrigation in the proposed regulation has been revised to allow for an agronomically desirable small leaching fraction of water beyond the topsoil root zone and to better clarify the distinction between supplemental irrigation and land treatment of wastewater described in the Sewage Collection and Treatment Regulations (9VAC25-790).</p>
<p>19.</p>	<p>Subject: 9VAC25-740-10 Definitions</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text:</p> <p>Class I Reliability – The definition implies multiple backup power sources, requires the design to provide continuous satisfactory operation during a flood, and requires additional flow storage capacity, even for facilities with controlled influent flows. These requirements are not consistent with the SCAT regulation and are unnecessary to protect public health and the environment in most cases. HRSD, VAMWA and HRPDC recommend changing the definition to provide a regulatory definition consistent with the SCAT regulation.</p> <p>Sewage & Wastewater – Both terms are used and they are defined differently with no apparent purpose. HRSD, VAMWA and HRPDC recommend that one term with one meaning be used throughout. (In addition, one VAMWA member mentioned during our review that the term “wastewater” is used in the regulation where the intended meaning is “reclaimed water,” which should be corrected.)</p> <p>VPDES Permit – The definition correctly notes that a VDPES permit is the equivalent of an NPDES permit under federal regulations. For consistency with state only VPA permits and general law, the VDPES Permit definition should note that the reuse regulation requirements are Virginia-only requirements (not federal Clean Water Act requirements). This will simply make clear that the subset of reuse permittees who take permit terms in their VDPES permits (rather than VPA permits) are not taking on added liability exposure to U.S. EPA and third parties as private enforcers of and under federal law. Of course, the State Water Control Board and DEQ would have full enforcement power as under VPA permits. HRSD, VAMWA and HRPDC recommend inserting, after “equivalent to an NPDES permit,” the following: “; however, as state-only requirements not mandated by the federal NPDES permit program, water reuse and reclamation permit terms and conditions issued pursuant to this regulation are subject to enforcement by means of Virginia but not federal law.</p> <p>Agency Response:</p> <p>Class I Reliability: The definition of “Class I Reliability” has been revised to clarify that design features listed in the definition are examples that may be used to achieve Class I Reliability.</p> <p>Sewage and wastewater: Sewage refers specifically to municipal wastewater, while wastewater</p>

	<p>can refer to either municipal or industrial wastewater depending on the context in which it is used in the proposed regulation. Note that the proposed regulation allows the reclamation of both municipal and industrial wastewater for reuse. In all cases where “wastewater” is used in the proposed regulation, it can not be replaced by “reclaimed water”.</p> <p>VPDES Permit: Suggested changes to the definition of “Virginia Pollutant Discharge Elimination System (VPDES) Permit” are not appropriate as these are Clean Water Act issues enforced by EPA through our delegated program.</p>
<p>20.</p>	<p>Subject: 9VAC25-740-20 Purpose</p> <p>Commenter: Hampton Roads Sanitation District, Virginia Association of Municipal Wastewater Agencies, Inc., and Hampton Roads Planning District Commission – Directors of Utilities Committee</p> <p>Text: Because the term “water reclamation” is already defined in section 10 (definitions), the phrase “the reclamation of wastewater, here after referred to as” is redundant and should be deleted.</p> <p>Agency Response: The State Water Control Law (§62.1-44.2) makes reference to the “reclamation and reuse of wastewater”, while the Technical Advisory Committee that assisted DEQ with the development of this regulation, preferred the use of the terms “water reclamation”. This paragraph provides the transition between the two sets of terms that essentially state the same thing. Thereafter, only “water reclamation” is used in the proposed regulation. No change is needed.</p>
<p>21.</p>	<p>Subject: 9VAC25-740-30 A - Transitional Authority</p> <p>Commenter: Virginia Manufacturers Association</p> <p>Text: The transitional provision in 9 VAC 25-740-30 suggests that the technical requirements of the Reuse Proposal “may” be applied to existing permitted facilities and “shall” be applied to new and expanding facilities, as well as existing unpermitted facilities. Where reuse infrastructure is already in place, it may be infeasible to modify or replace it to meet the design and construction requirements in 9 VAC 25-740-110 and -120. In those situations, the Department should authorize alternative compliance options on a case-by-case basis.</p> <p>Agency Response: This permitting requirement applies to portions of an existing facility to be newly modified or expanded and not to other existing, unchanged portions of the facility unless their operation would affect the ability of the newly modified or expanded portions to meet permit requirements.</p>
<p>22.</p>	<p>Subject: 9VAC25-740-50 A 5 – Exclusions for Industry</p> <p>Commenter: Virginia Manufacturers Association</p> <p>Text: During the advisory committee process, we identified several industrial reuse opportunities that should be exempt based on their unique facts and circumstances. These exemptions are reflected, at least in part, in 9 VAC 25-740-50. The last of these exemptions (A.5) applies to “industrial effluents or other industrial water streams created prior to final treatment and used for water re-circulation, recycle, or reuse systems” as long as (a) the water does not contain harmful quantities of pathogens, or (b) the reuse systems are isolated to prevent worker contact, or (c) other measures are in place to inform and protect employees. We appreciate the Department’s interest in balancing reuse opportunities against the need to protect public health. However, in the industrial setting, Occupational Safety and Health Administration (“OSHA”) regulations are ubiquitous and are specifically tailored to protect worker health and safety. In this setting, we believe that compliance with OSHA regulations serves as effective “other measures” to inform and protect employees, consistent with the exemption in 9 VAC 25-740-50.A.5.c. We ask that the Department acknowledge this connection in its response-to-comment document.</p>

	<p>Agency Response: Language in 9VAC25-740-50 A 5 c has been revised to include applicable federal and state occupational safety and health standards and requirements among “other measures” to inform and protect employees from pathogens or other constituents that may be harmful to human health in the water to be re-circulated, recycled or reused at the industrial facility.</p>
<p>23.</p>	<p>Subject: 9VAC25-740-50 A 7 and 8 – Scope of Rulemaking</p> <p>Commenter: Virginia Manufacturers Association</p> <p>Text: This rulemaking, like the underlying statutory mandate, must focus on the reuse of wastewater prior to discharge into waters of the State. However, portions of the Reuse Proposal seem to deviate from this focus to post-discharge scenarios (see, in particular, the definitions of “indirect reuse” and “indirect potable reuse”). It appears as if the Department has defined these scenarios in order to support corresponding exemptions in 9 VAC 25-740-50.A7 and 8 (the latter of which is limited to existing projects and future expansions). However, VMA questions whether these post-discharge scenarios are legitimately within the scope of the current rulemaking.</p> <p>Agency Response: The Code of Virginia sections 62.1-44.2, 62.1-44.15:5, 62.1-44.15:10 and 62.1-44.15(15) as referenced in the Notice of Intended Regulatory Action for the proposed regulation, do not limit the focus of the regulation to strictly reuse of reclaimed water prior to discharge into state waters. Section 62.1-44.2 defines the purpose of the State Water Control Law to, among other things, promote and encourage the reclamation and reuse of wastewater in a manner protective of the environment and public health; section 62.1-44.15:5 authorizes the Board to issue a Virginia Pollution Discharge Elimination System (VPDES) permit or a Virginia Pollution Abatement (VPA) permit for the reuse of reclaimed wastewater including, but not limited to, land irrigation; section 62.1-44.15:10 authorizes the Board to adopt regulations as it deems necessary to enforce the general water quality management program; and section 62.1-44.15:15 authorizes the Board to promote and establish requirements for the reclamation and reuse of wastewater that are protective of state waters and public health as an alternative to directly discharging pollutants into state waters.</p> <p>Provisions to regulate future indirect potable reuse projects were inserted at the request of the Virginia Department of Health, Office of Drinking Water during development of the regulation.</p>
<p>24.</p>	<p>Subject: 9VAC25-740-50 B 6 – Return Water</p> <p>Commenter: Virginia Manufacturers Association</p> <p>Text: The Reuse Proposal addresses situations where the owner of a reclamation system does not meet applicable quality standards. But the proposal does not adequately address situations where deficient water is distributed to an end user. In these situations, the end user should have the right to return the reclaimed water. However, the prohibition in 9 VAC 25-740-50.B.6 seems to deny end users this recourse. The Department should specify that an end user may return reclaimed water to the distribution system whenever it does not meet applicable quality standards (whether set by the Department or by the relevant service agreement).</p> <p>Agency Response: The proposed regulation attempts to prevent delivery of substandard water to end users in 9VAC25-740-110 B 9, which requires that all reclaimed water distribution systems be maintained to minimize losses and to ensure safe and reliable conveyance of reclaimed water such that the reclaimed water will not be degraded below the standards required for the intended reuse or reuses. Where substandard water enters the reclaimed water distribution system from the reclamation system, 9VAC25-740-170 A 2 of the regulation requires notification of end users and the affected public of treatment failures at the reclamation system that can adversely impact human health, or result in loss of reclaimed water service. This applies to the distribution of reclaimed water for reuses that require Level 1 reclaimed water, will be in areas accessible to the public, or are likely to have human contact.</p>

	<p>Both as a prohibition under 9VAC25-740-50 B 6 and as a requirement of the cross-connection and backflow prevention program under 9VAC25-740-110 B 2 d, the proposed regulation does not allow an end user to return reclaimed water to the distribution system after it has been delivered to the end user to prevent potential contamination of the reclaimed water supply. Although not specified in the proposed regulation, substandard reclaimed water received by an industry may be returned via sanitary sewers determined by quantity and the impact this would have on the receiving wastewater treatment facility. Where sanitary sewers are not available, the end user could optionally arrange with the reclaimed water provider to have flow of reclaimed water to the industrial facility interrupted through the use of valves at the service connection when the reclaimed water failed to meet requirements of the regulation and/or other quality criteria agreed upon by the provider and end user. Such arrangements, however, are beyond the scope of the proposed regulation.</p>
<p>25.</p>	<p>Subject: 9VAC25-740-60 D - Regulation for Nutrient Enriched Waters and Discharges within the Chesapeake Bay Watershed</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The referenced statute and regulation mention reuse not to establish that reuse is “allowed,” but to provide relief from the otherwise required technology standards for new or expanding discharges under Va. Code § 62.1- 44.19:15. This is specifically provided in the statutory definitions of “biological nutrient removal technology” and “state-of-the-art nutrient removal technology” in Va. Code § 62.1-44.19:12. Therefore, HRSD, VAMWA and HRPDC recommend the following as a more accurate description for section 60.D. of this regulation: “... allows for credit to be given for reductions in total nitrogen or total phosphorus discharged loads through recycle or reuse of wastewater when determining technology requirements associated with new or expanded discharges.”</p> <p>Agency Response: The agency concurs with these comments and has revised the language of the proposed regulation as suggested.</p>
<p>26.</p>	<p>Subject: 9VAC25-740-60 E - General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus and Nutrient Trading</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: This section of the proposed regulation contains multiple misstatements of the law in these two sentences: “The General VPDES Watershed Permit ... allows facilities to report a reduced waste load discharge of total nitrogen and total phosphorus for reclaiming and reusing wastewater. A permittee reporting this reduction must demonstrate that the reuses of water will result in a reduced nutrient load to the Chesapeake Bay and its tributaries, and that these reuses are not alternative transport mechanisms for the nutrient load.”</p> <p>There is no such allowance for reduced reporting of discharges in the General Permit. Instead, in a manner consistent with and required by federal law, the General Permit prescribes exactly how the discharge is to be monitored (frequency, sample type, test method) and monthly and annual loads calculated and reported. This is all spelled out in a high level of detail in 9VAC25-820-70, Part I, Section E (Monitoring requirements) and Section F (Annual reporting). In these sections, there is no such reduced reporting allowance.</p> <p>Not only is there no such allowance, there is no requirement in the General Permit calling for the referenced demonstrations related to transport mechanisms. To the contrary, federal and state NPDES regulations specifically require the discharger to report on the Discharge Monitoring Report the nutrient loads that are monitored and discharged from the outfall. There is no allowance in</p>

	<p>federal NPDES permit regulations for adding (or for that matter subtracting) quantities of pollutants from the DMR-reported values.</p> <p>Notwithstanding DEQ’s recent and appreciated initial efforts to streamline reporting under the General Permit and Individual VPDES Permits, nutrient discharge reporting remains complex and confusing to many permittees and, at times, involves contradictory regulatory requirements. DEQ has been working to address these problems. The proposed statement in 60.E. would add another (we believe impermissible) layer of complexity to VPDES reporting under the General Permit and Individual Permits.</p> <p>HRSD, VAMWA and HRPDC agree with the general intent of DEQ’s proposal to include adequate environmental protection as reclaimed water is used by end users. Indeed there are multiple layers of protection under this regulation, and we agree that most of these are appropriate (see comments below). However, re-writing the General Permit reporting requirements through this regulation is neither necessary nor appropriate for the reasons described above. As drafted, the provision is contrary to federal and state law and regulation. HRSD, VAMWA and HRPDC believe the law requires, and strongly recommends, deleting “allows facilities to report” to the end of section E, and replacing that deletion with “regulates point sources of nutrients and establishes a framework for nutrient credit trading and offsets.”</p> <p>Agency Response: The agency concurs with these comments and has revised the language of the proposed regulation as suggested. The relationship between the proposed regulation and the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9VAC25-820) has been further clarified by adding to 9VAC25-740-60 E the statement “Water reclamation and reuse provides an opportunity to reduce point source nutrient loads.”</p>
<p>27.</p>	<p>Subject: 9VAC25-740-70 Standards for Reclaimed Water</p> <p>Commenter: Loudon County Sanitation Authority</p> <p>Text: Paragraph A.1.f: We recommend that the frequency of the discrete measurement be clarified, either in the regulation or in the Implementation Guidance Document.</p> <p>Paragraph C 1.a: The resampling requirement for within one hour of first reaching the CAT may be impractical for small water reclamation facilities that are not staffed on a continuous basis. We recommend consideration for increasing the time from one hour to two hours for resampling/diversion after notification of first reaching the CAT.</p> <p>Agency Response:</p> <p>9VAC25-740-70 A 1 f: The frequency of discreet measurements for turbidity monitoring of Level 1 reclaimed water is specified in the proposed regulation under 9VAC25-740-80 A 1.</p> <p>9VAC25-740-70 C 1 a: 9VAC25-740-70 C 1 specifically states that if “the reclamation system is unattended, the diversion of reject water shall be initiated and performed with automatic equipment.” With diversion by automatic equipment, resampling is not expected because the reject water will no longer be moving through the treatment train of the reclamation system to sample. Sampling of the water in the reclamation system is not to resume until treatment problems within the system are corrected.</p>
<p>28.</p>	<p>Subject: 9VAC25-740-70 B - Point of Compliance</p> <p>Commenter: Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA) and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: VAMWA and HRPDC believe that there should be no difference in the point of compliance of</p>

	<p>Level 1 and Level 2 water treatment. Also, it is impractical to require compliance following open system storage. For example, residual chlorine in open storage exposed to sunlight will dissipate and even though the water has been disinfected to compliance levels, it will be difficult and, in some cases unnecessary to preserve a residual of 1.0 mg/L to maintain bacteria levels in the reclaimed water. A Level 1 compliance point after open storage will most likely require additional treatment of the reclaimed water to meet standards that were already met following treatment without any added human health or environmental benefits. There are no restrictions to protect public health or the environment for using surface waters for similar purposes (i.e. irrigation of food crops or public accessed lands) and these uncovered surface waters are exposed to water fowl contamination. The purpose of the point of compliance for bacterial quality should be to ensure that the reclaimed water has been successfully put through a pathogen disinfection process. Furthermore, section 9VAC25-740-110 Design criteria, paragraph B.9., requires the reclaimed water distribution system to be maintained ...such that the reclaimed water will not be degrade below the standards required for the intended reuse or reuses in accordance with 9VAC25-740-90. This requirement ensures safe and reliable conveyance of reclaimed water to meet the needs of the customers. Therefore, both qualifiers for Level 1 (after any open storage) and for Level 2 (prior to discharge to a reclaimed water distribution system) are unnecessary. Left as is, these two aspects of the draft regulations will create a significant deterrent to reuse. VAMWA and HRPDC recommend that this section be reworded to eliminate unnecessary redundancy consistent with this comment. The recommended revision is “The point of compliance for Level 1 and Level 2 treatment shall be after all reclaimed water treatment.”</p> <p>Agency Response: Language in 9VAC25-740-70 B has been revised to make the point of compliance for Level 1 reclaimed water the same as that for Level 2 reclaimed water at the reclamation system. It is reasonable and appropriate to expect that reclaimed water from the reclamation system meet the standards for which it is permitted prior to discharge to a reclaimed water distribution system. Any degradation of Level 1 reclaimed water once in the reclaimed water distribution system will be addressed per 9VAC25-740-110 B 9, which requires the quality of reclaimed water in a distribution system be <i>maintained</i> to meet standards for the intended reuses of the reclaimed water in accordance with 9VAC25-740-90. Design and operational requirements for reclaimed water distribution systems contained in the proposed regulation are <i>not</i> intended to <i>correct</i> substandard water received directly from the reclamation system. Therefore, no further changes to the language 9VAC25-740-70 B were made.</p> <p>New language has also been added to 9VAC25-740-100 C 1 requesting a description of how reclaimed water quality in a distribution system will be maintained to satisfy requirements of 9VAC25-740-110 B 9.</p>
<p>29.</p>	<p>Subject: 9VAC25-740-70 C 1 - Bacterial compliance with CAT</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: Our comment relates directly to operational flexibility and ability to comply. One sentence “Resampling shall occur within one hour of first reaching the corrective action threshold (CAT).” was added to the paragraph concerning management of reclaimed water that fails to comply with the standards. This sentence creates a contradiction within the regulation for bacteriological compliance. Bacterial samples must be transported and planted within six hours. Since the prescribed procedure takes 24 hours to produce analytical results, numbers will not be available to determine compliance status until late in the day following sampling. No resample is possible until the following day. Therefore, it appears that it would be impossible to comply with timing requirement of the resample provision (i.e., mandatory resample “within one hour of first reaching the CAT”). HRSD, VAMWA and HRPDC believe it is not DEQ’S intent to mandate an impossible to achieve one hour resample for bacterial compliance. HRSD, VAMWA and HRPDC recommend this added sentence be deleted to eliminate the contradiction without deleting the one hour resample requirements that is addressed in a subsequent paragraph (9VAC25-740-70.C.1.a.) for other</p>

	<p>parameters.</p> <p>Agency Response: DEQ acknowledges that routine bacterial sampling required by 9VAC25-740-80 A of the proposed regulation, would be sufficient to monitor bacteria without CAT resampling. Therefore, the bacterial CAT resampling and diversion requirements of 9VAC25-740-70 C have been deleted. This modification recognizes that there are other instantaneous measurements required by the regulation that are better immediate control parameters to ensure disinfection. The bacterial sampling acts to confirm that these surrogate parameters, specifically TRC and turbidity, are working properly. However, the time lag between collecting the bacterial sample and getting the results (approximately 24 hours) makes it a poor operational control parameter.</p> <p>When a sample does reach the bacterial CAT, the facility will still be required to initiate an operational review to identify the source of the disinfection problem and correct it. Language of 9VAC25-740-70 C has been revised to specify that a second consecutive routine bacterial monitoring result to reach the bacterial CAT will be a violation. By allowing for one CAT result before imposing a violation, this language provides an exception for those one-time inaccurate sample results (e.g., poor sample technique, false positives, etc.) that are not uncommon for bacteria samples. Because two consecutive CAT results are indicative of a true disinfection problem that remains unresolved, the agency believes that imposing a violation under these circumstances is appropriate.</p>
<p>30.</p>	<p>Subject: 9VAC25-740-70 E – Reclamation of Industrial Wastewater</p> <p>Commenter: Virginia Manufacturers Association</p> <p>Text: If not exempt, the reclamation of industrial wastewater is subject to standards determined on a case-by-case basis in accordance with 9 VAC 25-740-70.E. VMA strongly supports the Department’s decision to evaluate industrial wastewater differently than municipal wastewater instead of attempting to craft a one-size-fits-all approach. However, VMA believes that the Department’s case-by-case decisions for industrial reuse should be guided by an objective standard that accounts for both feasibility and reasonableness. VMA urges the Department to articulate this standard in the final regulation.</p> <p>Agency Response: Determination of appropriate reclaimed water standards and monitoring requirements for a specific industrial wastewater will be established in agency guidance to provide consistency and objectivity to this process, and will insure that reuse of that reclaimed industrial wastewater is protective of the environment and public health.</p>
<p>31.</p>	<p>Subject: 9VAC25-740-80 A 4 a - Time requirement for bacterial sampling.</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The universal requirement that bacterial samples for reclamation systems treating municipal wastewater shall be collected between 10:00 a.m. and 4:00 p.m. should be revised to allow for greater flexibility on a case-by-case basis for several reasons.</p> <p>One important consideration is diurnal flow rate patterns for reclaimed water systems, which may be different from standard wastewater plant flows. For example, it is very likely that the reclaimed water flows will peak during late night and/or early morning hours for irrigation reuses. In that case, flow during the 10 a.m. to 4 p.m. time period may be minimal and non-representative of the reuse water.</p> <p>In addition, sample collection between these hours creates an unnecessary hardship in sample transportation and analysis to comply with the sample holding requirements, which leads to increased operational costs (passed on to the public) and increased risks of holding time non-compliance, with no documented benefit. HRSD has provided numerous studies to DEQ showing that well-designed facilities have effective disinfection at all times and thus demonstrating that the restricted sampling time period requirement provides no benefit. DEQ and HRSD are currently</p>

	<p>collaborating on a study to confirm the results of these earlier studies.</p> <p>Another reason to revise this provision is that the sample time period requirement is also in apparent conflict with the CAT resampling scenario (resampling is required promptly for CAT resampling, but this provision could require waiting until 10:00 a.m. for the resample to be considered valid).</p> <p>Finally, HRSD, VAMWA and HRPDC request that DEQ take into account as well that for VDPES permit sampling times are not defined by regulation; a similar approach would be appropriate to enable permits to contain appropriate sampling requirements under the circumstances.</p> <p>HRSD, VAMWA and HRPDC recommend this additional bacterial sampling time requirements be addressed not by regulation but to the extent necessary in guidance to allow for the development of appropriate permit conditions on a facility-specific basis in light of the facility's operational characteristics.</p> <p>Agency Response: Bacterial sampling at the reclamation system should be representative of peak flows to the system during which the greatest volume of water will be treated. For a reclamation system of municipal wastewater, at least one peak flow can be anticipated within the period between 10:00 a.m. and 4:00 p.m. This sampling period is unrelated to periods of peak demand for the reclaimed water from the reclamation system, particularly where flow equalization is available at the reclamation system. The bacterial sampling period between 10:00 a.m. and 4:00 p.m. is consistent with bacterial sampling periods included in the Sewage Collection and Treatment Regulations (9VAC25-790). However, in order to allow more flexibility, we have modified the language to allow the permittee an exception to the requirements where they can demonstrate that peak flows to the reclamation system occur outside this time frame.</p> <p>Subsequent to corrections to 9VAC25-740-70 C that eliminated resampling and diversion requirements for the bacterial corrective action threshold, bacterial sampling requirements of 9VAC25-740-80 A no longer conflict with 9VAC25-740-70 C. Therefore, no further change to 9VAC25-740-80 A is necessary.</p>
<p>32.</p>	<p>Subject: 9VAC25-740-80 Reclaimed Water Monitoring Requirements</p> <p>Commenter: Loudon County Sanitation Authority</p> <p>Text: Paragraphs A.1 and A.2.a: The manual collection of turbidity/disinfection samples for Level 1 reclaimed water when an on-line meter is out of service may be problematic for small water reclamation facilities that are not staffed on a continuous basis. We recommend consideration to allow the four hour collection intervals to be conducted "during normal staffing hours as required by the O&M Manual" up to a maximum of five days.</p> <p>Paragraphs A.1 and A.2.a: We recommend that the definition for "continuous" monitoring be clarified, either in the regulation or in the Implementation Guideline Document.</p> <p>Agency Response: Due to the likely potential for public contact with reuses of Level 1 reclaimed water, the sampling procedures for turbidity and disinfection described in 9VAC25-740-80 A 1 and A 2 a are necessary for the protection of public health. Alternatively, flow through the reclamation system could be stored for later treatment or diverted to other options/discharge for five consecutive days, after which the continuous on-line monitoring equipment for turbidity or disinfection would need to be placed back in service and functioning properly.</p> <p>The proposed regulation does not have a definition for "continuous monitoring". Instead, the meaning of "continuous monitoring" will be clarified in implementation guidance for the regulation, and will be based on limits of the monitoring technology.</p>

<p>33.</p>	<p>Subject: 9VAC25-740-90 Minimum Standard Requirements for Reuses of Reclaimed Water</p> <p>Commenter: Loudon County Sanitation Authority (LCSA)</p> <p>Text: Paragraph B: LCSA operates several below-ground drip irrigation systems and we expect more to be installed in the future. We recommend that the regulation allow below-ground drip irrigation systems for irrigation of Level 1 or Level 2 reclaimed water. We recommend the removal of all special requirements for below-ground drip irrigation systems such as those implied in Paragraph B: "... the Board may prescribe specific reclaimed water standards and monitoring requirements...".</p> <p>Agency Response: The below-ground drip irrigation systems referenced in this comment are designed to treat and dispose of wastewater and are, therefore, regulated by the Virginia Department of Health. As such, they are excluded from the proposed regulation under 9VAC25-740-50 A 1. The proposed regulation will allow below-ground drip systems to be authorized for irrigation reuse on a case-by-case basis, provided these systems will deliver the reclaimed water at supplemental irrigation rates. This, in turn, will be influenced by site-specific factors and the vegetation to be irrigated. Note that the language from 9VAC25-740-90 B referenced above includes the term "may". Therefore, it should not be assumed that project-specific reclaimed water standards and monitoring requirements will be required in all these cases.</p>
<p>34.</p>	<p>Subject: 9VAC25-740-90 A 4 (Table) - Landscape Impoundments</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The "no potential for public access or contact" could be interpreted in an extremely limiting manner that could preclude some otherwise desirable or economical reuse opportunities. Given the absolute sounding nature of the phrase "no potential" and the fishable/swimmable quality of Level 2 water, HRSD, VAMWA and HRPDC recommend that DEQ retain greater discretion in this category by revising the Level 2 reuse from "No Potential" to "Minimal Potential" and the Level 1 to "Greater Potential".</p> <p>Agency Response: In 9VAC25-740-90 A 4, the use of "potential" and "no potential" associated with Level 1 and Level 2, respectively, is intentionally stringent to clarify the intended public accessibility to reclaimed water in landscape impoundments. Disinfection requirements for Level 1 reclaimed water are more stringent than those for Level 2 reclaimed water; therefore, reclaimed water meeting Level 1 standards offers a greater range of reuse options than reclaimed water meeting Level 2 standards where public access or contact is involved. By providing two levels of reclaimed water treatment, the regulation does not "preclude some otherwise desirable or economic reuse opportunities" but expands them. Also, water reuse rules and regulations across the nation have tended to be more stringent than surface water quality standards affecting point source discharges from wastewater treatment facilities, to provide an adequate factor of public safety and to increase public confidence in and acceptance of reclaimed water.</p>
<p>35.</p>	<p>Subject: Concerned about reclaimed water reuses for livestock watering and irrigation of crops for human consumption</p> <p>Commenter: Ann Amundsen</p> <p>Text: It is essential that contracts comply with health and environmental standards or you will lose more than you gain. I am nervous about using [reclaimed water] for livestock drinking water and spraying it on crops for human consumption.</p> <p>Agency Response: The proposed regulation has two sets of reclaimed water standards referred to as Level 1 and Level 2. Level 1 requires greater disinfection compared to Level 2, resulting in a much lower concentration of bacteria in the reclaimed water. Although not safe for direct potable</p>

	<p>consumption, Level 1 reclaimed water is considered safe for irrigating crops that are not commercially processed due to exposure of the negligible remaining number of bacteria to environmental conditions that enhance their die off. Similar bacteria die off is expected when Level 1 reclaimed water is consumed by livestock as a result of the animals' natural digestive processes. At higher bacteria concentrations in the reclaimed water, such as that allowed for Level 2, there is greater probability for survival of bacteria on crops irrigated with the reclaimed water or passing into the milk of livestock that drink the reclaimed water. Therefore, the regulation does not allow the use of Level 2 reclaimed water to irrigate crops that will not be commercially processed, including crops consumed raw, or to water milking livestock unless the reclaimed water meets Level 1 disinfection requirements. The regulation also requires a 15-day exclusion period following irrigation with Level 2 reclaimed water for grazing of milking livestock unless the reclaimed water meets Level 1 disinfection requirements. Therefore, requirements of the proposed regulation when properly implemented, will insure the safe use of reclaimed water to irrigate crops for human consumption and to water livestock, particularly milking animals that produce milk for human consumption.</p>
<p>36.</p>	<p>Subject: 9VAC25-740-90 A - Footnote c Restrictions for irrigation with reclaimed water treated to Level 2</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The following restrictions were originally listed in the EPA 2004 Guidelines for Water Reuse as suggested guidelines:</p> <p style="padding-left: 40px;">For irrigation with reclaimed water treated to Level 2, the following shall be prohibited unless Level 1 disinfection is provided:</p> <ol style="list-style-type: none"> 1. Grazing by milking animals on the irrigation reuse site for 15 days after irrigation with reclaimed water ceases, and 2. Harvesting, retail sale or allowing access by the general public to ornamental nursery stock or sod farms for 14 days after irrigation with reclaimed water ceases. <p>These suggested guidelines are incorporated into the regulation as strict mandates and are not practical for implementation in all cases. An example of this is for milking animals. DEQ is concerned about the specific instance of human consumption of milk within 24 hours of animals ingesting reclaimed water from grazing on a site irrigated with Level 2 reclaimed water, yet the above time restriction is very broadly applied to all milking animals (even those whose milk is not used for human consumption). Both restrictions are onerous and are just not practical for application or use. Therefore, these restrictions effectively eliminate the use of Level 2 irrigation options for milking animals, nurseries, and sod farms.</p> <p>Both of these time restrictions are based on a single study (Feacham <i>et al.</i> 1983) published in Britain, which neither DEQ or the TAC reviewed. Referencing an unverified 24-year study old is inadequate justification for turning EPA recommended guidelines into regulatory absolutes that would limit reuse opportunities in Virginia contrary to the purpose of the regulation. It would be a shame to essentially write off water recycling at dairy farms, nurseries and sod farms without sound scientific justification.</p> <p>It is important to note that the Level 2 reclaimed water quality, over which there is so much concern, meets Virginia's definition of swimmable waters for fecal coliform.</p> <p>HRSD, VAMWA and HRPDC view the time restrictions as excessive and likely to change with updated research and believes there are better alternatives than for DEQ to adopt as a regulation this provision that would limit its ability to adjust this operational issue with updated scientific knowledge.</p> <p>California and Florida, which have the most experience in water reuse in terms of both quantity and time, do not have these broad restrictions in their regulations. California places a 14 day harvesting,</p>

	<p>retail sale or allowing public access restrictions only on areas irrigated with UNDISINFECTED secondary recycled water. Florida has a 15 day grazing restriction in areas of restricted public access only for cattle “whose milk is intended for human consumption.” “There is no restriction on the grazing of any other cattle” in Florida.</p> <p>DEQ should not base regulation on 24-year old data, when much more is now known about water reuse. DEQ should look to the highly successful and more current California and Florida programs.</p> <p>HRSD, VAMWA and HRPDC recommend removing the time restriction from the regulation and addressing this issue in guidance for application on a case-by-case basis. This will allow the flexibility to address site-specific practices as well as provide a convenient means of updating the state program based on updated scientific data and studies.</p> <p>Agency Response: Footnote c 1 of 9VAC25-740-90 applies only to animals that produce milk for human consumption. Milking animals are a smaller subset of lactating animals. Lactating animals include all mammals capable of producing milk, while milking animals are known in the dairy industry as animals that produce milk for human consumption. In an earlier iteration of the draft regulation, “lactating” was replaced with “milking” to acknowledge this difference. Therefore, the exclusion period in the proposed regulation for milking animals following irrigation with Level 2 reclaimed water is essentially equivalent to the 15 day grazing restriction in areas of restricted public access only for cattle “whose milk is intended for human consumption” specified in the Florida Water Reuse Rules. Both the proposed regulation and the Florida Water Reuse Rules mirror the exclusion requirement for milking animals following irrigation with reclaimed water of comparable quality to Level 2 in the EPA 2004 Guidelines for Water Reuse. The Florida Water Reuse Rules, however, are more stringent than the proposed regulation because they do not require the exclusion period for milking animals following irrigation with only reclaimed water that is more highly disinfected than either Level 1 or Level 2 reclaimed water.</p> <p>Although Level 2 reclaimed water (requiring a minimum of secondary treatment with standard disinfection) meets Virginia’s surface water quality standards for fecal coliform in swimmable waters, water reuse rules and regulations of other states are typically more stringent than surface water quality standards where public contact is involved to provide an adequate factor of public safety and to increase public confidence in and acceptance of reclaimed water. Where increased disinfection of Level 2 reclaimed water will not be provided for irrigation reuses that have potential for public contact or for consumption by milking animals, the proposed regulation alternatively requires exclusions periods to allow die off of human pathogens.</p> <p>The exclusion periods following irrigation with Level 2 reclaimed water for grazing of milking animals and harvesting, retail sale or allowing access by the general public to ornamental nursery stock or sod farms in the proposed regulation are based on information and recommendations contained in the EPA 2004 Guidelines for Water Reuse (EPA Guidelines). The EPA Guidelines represent the best science currently available and until other sound scientific information becomes available indicating other exclusion periods should apply, the exclusion periods contained in the proposed regulation will be maintained. We are not aware of the scientific basis by which the state of California established a similar exclusion period for harvesting, retail sale or allowing access by the general public to ornamental nursery stock or sod farms following irrigation with a reclaimed water less disinfected than Level 2 reclaimed water.</p>
<p>37.</p>	<p>Subject: 9VAC25-740-90 A - Footnote h Windblown Spray</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: HRSD, VAMWA and HRPDC do not object to the intent of this provision limiting with windblown spray but are concerned that the provision could lead to liability in the event of unusually strong winds if incorporated as a permit condition for a Level 2 operation. HRSD, VAMWA and</p>

	<p>HRPDC recommend revising this sentence as follows: “If windblown spray is generated by once-through cooling or recirculating cooling towers using reclaimed water is expected under normal weather conditions to reach areas used by workers or the public, the reclaimed water shall be Level 1.”</p> <p>Agency Response: The proposed regulation does not relieve any permittee from liability, but does specify standards and requirements for the reclamation and reuse of wastewater that when properly implemented by the permittee, protect the environment and public health in accordance with the laws and regulations of the Commonwealth of Virginia. 9VAC25-740-170 K, referenced in footnote h of 9VAC25-740-90 A and containing setback requirements for open cooling towers, provides options for permittees or end users to eliminate setbacks and concerns related to strong winds at a cooling tower that reuses Level 2 reclaimed water. These options include increased disinfection of the Level 2 reclaimed water to meet the more stringent Level 1 standards, or installation of drift or mist eliminators (by the end user) on the cooling tower to reduce or eliminate windblown spray from leaving the property of the end user. Footnote h of 9VAC25-740-90 A has been revised to allow one option similar to that in 9VAC25-740-170 K, whereby windblown spray generated by once-through cooling or recirculating cooling towers using Level 2 reclaimed water will be allowed to reach areas accessible to workers or the public if Level 1 disinfection of the reclaimed water is provided.</p>
<p>38.</p>	<p>Subject: 9VAC25-740-100 B 5 b Reclaimed Water Characteristics</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The regulation requires the reclaimed water generator to provide information on “Any other physical, chemical, and biological characteristics and constituent concentrations that may affect the intended reuse of the reclaimed water with respect to adverse impacts to public health or the environment.” Though HRSD, VAMWA and HRPDC agree with the concept of providing relevant information in the permit application, this particular language would create an extremely broad requirement and one that could be read as imposing a requirement for the reclaimed water generator to determine risk to public health, which is a task that generators are typically not equipped to do. Typically agencies such as the Virginia Department of Health and EPA have the role of determining the health effects of various constituents. HRSD, VAMWA and HRPDC strongly recommend that this provision be modified to be more consistent with the capabilities of generators and the traditional roles of the regulatory agencies by rephrasing the requirement as follows: “Any other known physical, chemical, and biological characteristics and constituent concentrations expected to affect the intended reuse of the reclaimed water with respect to adverse impacts to public health or the environment.” As a practical matter, this is the most generators are reasonably capable of doing and, therefore, is consistent with the concept of promoting reuse.</p> <p>Agency Response: The proposed regulation authorizes the reclamation of both municipal and industrial wastewater. While the composition of municipal wastewater is relatively consistent and well known, absent indirect discharges from significant industrial users, the composition of industrial wastewater is much more variable. Therefore, it is not possible for DEQ to know the composition and character of all industrial wastewater to request more specific information in the permit application. The permittee or applicant is expected to be more familiar with the composition and character of the wastewater to be reclaimed to insure that it is appropriately treated relative to the intended reuse of the reclaimed water. In a situation where a permittee or applicant is unsure of what characteristics and constituent concentrations of a particular wastewater may adversely impact the intended reuse of water reclaimed from that wastewater, the permittee or applicant can discuss what information should be submitted with DEQ staff during the permit application process. This will be further addressed in implementation guidance for the proposed regulation.</p>
<p>39.</p>	<p>Subject: Nutrient losses, trading and management related to water reuses</p> <p>Commenter: Mark Smith, US Environmental Protection Agency, Region III</p>

	<p>Text: If a discharger took a portion of their flow of known nutrient concentration and applied [it] to a park next to the river an argument could be made that this is not a zero discharge scenario. Yet, they would be able to trade that as if it were. The reuse flow may need to be accounted for somewhere in the basin with a BMP type efficiency attached to it, or some directions/restrictions applied to its use.</p> <p>Agency Response: DEQ acknowledges that a portion of point source nutrient load will be transferred to nonpoint source nutrient load where a wastewater treatment facility chooses to divert all or part of its discharge to water reclamation and reuse, particularly irrigation reuse. Therefore, the proposed regulation contains several provisions to manage nutrients from bulk and/or non-bulk irrigation reuse. These include nutrient management plan requirements for bulk irrigation reuse sites that apply non-BNR reclaimed water (i.e., annual average concentrations of total nitrogen and total phosphorus > 8 mg/l and 1 mg/l, respectively), “supplemental irrigation” requirements for all irrigation reuse to address leaching losses of nutrients, irrigation site setback distances from surface waters and potential conduits to groundwater, and prohibitions for application during saturated, frozen or snow covered soil conditions; reclaimed water runoff from the irrigation reuse site; and overspray of surface waters. As far as we have been able to determine, this is the only water reuse regulation in the country to address the amount of nutrients applied through irrigation reuse.</p> <p>DEQ believes that these provisions will significantly control and reduce nonpoint nutrient loadings from irrigation reuse. Consequently, the overall percentage of total nutrient load to surface waters resulting from irrigation reuse will be very small, now and into the future. Accounting for water reclamation and reuse flows within a basin with a BMP type efficiency attached could be included in Chesapeake Bay modeling and implemented through updates to the tributary strategies.</p> <p>Language in the draft regulation specifically addressing assumed nutrient losses to surface waters from bulk and non-bulk irrigation reuses of non-BNR reclaimed water (i.e., annual average concentrations of total nitrogen and total phosphorus > 8 mg/l and 1 mg/l, respectively), and reporting of these losses by wastewater treatment facilities that provide source water for reclamation and reuse through their General VPDES Watershed Permit (9VAC25-820), has been moved and consolidated under new section 9VAC25-740-105. For this new section, the DEQ is recommending: (i) deferred adoption in order to further discuss and resolve issues regarding language of the section with the technical advisory committee, and (ii) a second action by the Board based on subsequent DEQ staff recommendations.</p>
<p>40.</p>	<p>Subject: 9VAC25-740-100 C 1</p> <p>Commenter: City of Norfolk, Department of Utilities</p> <p>Text: Par. C.1.: Add a statement that the Reclaimed Water Management Plan shall be the responsibility of the generator not the distribution system only owner. Proposed statement can read, “For reclaimed water distribution system only owner, the RWM shall be submitted by the reclaimed water generator, not the distribution system owner.” This statement can be inserted after the first sentence in that paragraph.</p> <p>Agency Response: All items required for the Reclaimed Water Management (RWM) plan apply most appropriately to the party that will ultimately provide reclaimed water to the end user. This includes distributors of reclaimed water and to generators that are also the distributor of the reclaimed water they produce. In situations where the generator of reclaimed water does not own or manage the reclaimed water distribution system to which it delivers reclaimed water, the generator should not be responsible for the requirements of the RWM plan.</p>
<p>41.</p>	<p>Subject: 9VAC25-740-100 C 2 - Assumed nutrient losses to state waters from irrigation reuse with non-BNR reclaimed water linked to nutrient credits allowed for reclamation and reuse</p>

	<p>Commenter: Dr. Greg Evanylo, Virginia Tech</p> <p>Text: [In 9VAC25-740-100 C 2 b (3) and 9VAC25-740-100 C 2 c (5) of the regulation], upon what scientific basis were the values of assumed nutrient loss to the environment of 30% of N and 20% of P from non-bulk irrigation of reclaimed water not meeting BNR and 15% of N and 10% of P from bulk irrigation of reclaimed water not meeting BNR obtained? Such figures need to be supported by scientific data. Assumptions for nutrient loss from the landscape should not be drawn from nutrient efficiencies measured for non-irrigated agriculture or irrigated agriculture performed under imprecise water management plans. Appropriately irrigated vegetation with reclaimed water containing soluble, and readily plant available, nitrogen and phosphorus should enable rapid and efficient plant assimilation of these nutrients. Most nitrogen losses occur when leaching winter rainfall transport unused soil nitrogen that may have accumulated either (1) due to poor assimilation during summer drought and/or (2) slowly mineralized organic N that wasn't fully available during the period of plant growth when N uptake is high (i.e., summer). Neither of these scenarios is likely when irrigating efficiently with reclaimed water. Phosphorus loss is normally via surface runoff of particulate-bound P. Again, appropriately applied irrigation should result in no runoff from the reclaimed water management plan. Furthermore, the soluble (largely non-particulate) P that occurs in reclaimed water should rapidly infiltrate into the soil where it is less likely to be transported in surface runoff than surface applied P from a nutrient source such as animal manure.</p> <p>Agency Response: Subdivisions C 2 b (3) and C 2 c (5) of 9VAC25-740-100 have been moved to a new section, 9VAC25-740-105, of the proposed regulation. Due to the complicated nature of this issue, the DEQ recommended that the State Water Control Board (Board) adopt the regulation except for 9VAC25-740-105, which will be the subject of further discussion by the technical advisory committee and a second, later Board action.</p>
<p>42.</p>	<p>Subject: 9VAC25-740-100 C 2 - Assumed nutrient losses to state waters from irrigation reuse with non-BNR reclaimed water linked to nutrient credits allowed for reclamation and reuse</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC). in agreement with VAMWA</p> <p>Text:</p> <p>Default nutrient losses to state waters. This section represents the area of greatest concern to HRSD, VAMWA and HRPDC, especially for the major changes made after the close of the TAC process. The concept of default nutrient deductions was discussed by the TAC only for residential irrigation with reclaimed water of higher nutrient content (non-BNR). It is our understanding that the Department of Conservation and Recreation (DCR), which was involved throughout the TAC process, requested after the close of the TAC that DEQ impose additional requirements for default nutrient losses. HRSD, VAMWA and HRPDC believe that these additional requirements are not technically defensible, practicable or implementable for the reasons discussed below.</p> <p>POTWs are managers of a valuable water resource which is vital for helping to meet the Commonwealth's water needs. Reclaimed water is a commodity available to fulfill and maintain many of the non-potable water needs currently being satisfied with water of drinking quality. HRSD, VAMWA and HRPDC encourage DEQ to focus on the "big picture" on this issue and avoid onerous or impractical requirements for small nutrient loads (especially compared to the reductions coming from wide scale implementation of point source nutrient controls) that could impair reuse projects and decrease recycling.</p> <p>Bulk Irrigation - Application of default nutrient loss rates is not necessary given the multiple other management measures included in the regulation. First, A Nutrient Management Plan (NMP) is required for bulk irrigation (>5 acres) with reclaimed water that is not treated to the BNR level (< 8 mg/l nitrogen and < 1 mg/l phosphorus). (The TAC agreed that this requirement was reasonable for bulk sites to insure irrigation rates were monitored and prevent excess nutrients from being applied and ultimately migrating to state waters.). Second, the NMP must be prepared by a nutrient</p>

management planner certified by DCR and then approved by the DCR. Certified Plans are subject to numerous substantive planning requirements for plan development, as required by DCR, so this alone ensures nutrient management meets DCR's requirements. Third, the proposed regulation includes stringent irrigation setbacks. Fourth, the proposed regulation includes a prohibition against any runoff. Fifth, the proposed regulation mandates that all reclaimed water irrigation must be merely "supplemental" in nature. This is a comprehensive package of management measures that ensures nutrients are properly managed. The imposition of loss rates for sites with NMPs as yet another layer of regulation is unwarranted and a further disincentive to undertaking reuse. Below we discuss non-bulk water and provide further background on the loss rate concept.

Non-Bulk (Residential) Irrigation - The TAC agreed that requiring a NMP for a residential homeowner irrigating less than 5 acres with reclaimed water not treated to BNR level was burdensome and not realistic. The possibility was discussed to restrict this residential activity; however, it has been proven to be highly successful. St. Petersburg, FL, implemented a city-wide irrigation system in lieu of upgrading their wastewater treatment plant to BNR. Their program was cost effective, reduced the nutrients discharged creating improved receiving water quality, and resulted in potable water demands being held constant for more than 25 years despite population growth. In light of the current planned treatment plant upgrades and that retrofitting existing development is costly and therefore unlikely; the overall percent of potential irrigation projects with non-BNR treated reclaimed water will be very low throughout Virginia. Accordingly, rather than restrict this small but potential beneficial reuse, the TAC logically concluded that it was better to manage the nutrients on a large scale basis. This was to be accomplished by the reclaimed water generator through both flow and nutrient monitoring requirements to promote proper usage and deter homeowner over-application of nutrients.

The TAC agreed that some nutrients for the non-BNR treated reclaimed water used for irrigation with no NMP could be considered losses to state waters, mainly through overspray of sprinklers on pavement and streets. The TAC consensus was that this loss of nutrient would be minimal and agreed to consider a 5 or 10% of the nutrients (both nitrogen and phosphorus) to be potentially lost to state waters as a compromise.

Following the TAC consensus (which included the DCR's input) on this issue, the DCR unilaterally overrode the TAC and requested that the potential losses for irrigation of less than 5 acre sites with non-BNR treated reclaimed water be increased from the original 5% to 10 %, then 20%, and then again to 30% for nitrogen and 20% for phosphorus. To our knowledge, this recommendation was unsubstantiated as to efficacy and no scientific basis or justification was presented to substantiate the need for this late change. Furthermore, the presumption that nitrogen is some how lost at a higher rate than phosphorus is also without support or merit.

In our view, default loss rates add an excessive layer of conservatism to an otherwise valuable water and nutrient source with very minor potential effect on the Chesapeake Bay. Given the extensive limitations and management measures applicable to bulk and non-bulk usage in the proposed regulation, HRSD, VAMWA and HRPDC respectfully submit that default nutrient losses are not appropriate.

Even if DEQ were inclined to impose the loss rate approach as described here, it cannot do so through this regulation for the federal and state legal and regulatory reasons under the NPDES permit regulation as discussed above in our comments on 9VAC25-740-60.E Relationship to other board regulations/General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus and Nutrient Trading. (Rather than repeating those comments here, please refer to the referenced section above.) The one potential application of default nutrient losses that could be utilized (though we disagree with the need for the reasons stated) is in evaluating the technology standard for new or expanded dischargers taking into account recycling and reuse, as discussed above.

In summary, redundant oversight through NMPs, direct approval of DCR, requirements to provide only supplemental irrigation, and setback requirements of the regulation are more than adequate to control nutrient loss, and neither the NPDES permit program generally nor the Watershed General

	<p>Permit are designed to accommodate this approach as an NPDES matter. HRSD, VAMWA and HRPDC strongly recommend that all of the default nutrient loss provisions be deleted.</p> <p>Agency Response: Subdivisions C 2 b (3) and C 2 c (5) of 9VAC25-740-100 have been moved to a new section, 9VAC25-740-105, of the proposed regulation. Due to the complicated nature of this issue, the DEQ recommended that the State Water Control Board (Board) adopt the regulation except for 9VAC25-740-105, which will be the subject of further discussion by the technical advisory committee and a second, later Board action.</p>
<p>43.</p>	<p>Subject: 9VAC25-740-100 C 2 - Assumed nutrient losses to state waters from irrigation reuse with non-BNR reclaimed water linked to nutrient credits allowed for reclamation and reuse</p> <p>Commenter: Loudon County Sanitation Authority</p> <p>Text: The default nutrient losses proposed in the regulation lack supporting documentation and scientific basis. They were not thoroughly reviewed by DEQ’s Technical Advisory Committee (TAC). Since the regulation already contains multiple layers of control for nutrient management (i.e., supplemental irrigation, nutrient management plan, setbacks, etc.), the regulatory need for additional fixed nutrient losses for water reuse irrigation is not clear. LCSA cannot support the inclusion of default nutrient losses in the regulation without a complete understanding of their specific need and application.</p> <p>Please remove the default nutrient losses in 9 VAC 25-740-100 Application for Permit.</p> <p>Agency Response: Subdivisions C 2 b (3) and C 2 c (5) of 9VAC25-740-100 have been moved to a new section, 9VAC25-740-105, of the proposed regulation. Due to the complicated nature of this issue, the DEQ recommended that the State Water Control Board (Board) adopt the regulation except for 9VAC25-740-105, which will be the subject of further discussion by the technical advisory committee and a second, later Board action.</p>
<p>44.</p>	<p>Subject: 9VAC25-740-100 C 2 - Assumed nutrient losses to state waters from irrigation reuse with non-BNR reclaimed water linked to nutrient credits allowed for reclamation and reuse</p> <p>Commenter: Jo Ann Jackson, WateReuse Association</p> <p>Text: There are some areas of the rule [draft Water Reclamation and Reuse Regulation] that are unique to your state. 9VAC25-740-100 C 2 [regarding] default nutrient losses to state waters is one such unique area. We understand your concerns and needs to protect the Chesapeake Bay and its tributaries, but we are concerned with the approach used in the draft rule. We feel that specific reuse requirements related to nutrient losses should be supported by sound science and should be applied equitably to all forms of irrigation, not just reuse sources, which could potentially contribute nutrients to surface waters.</p> <p>Agency Response: Subdivisions C 2 b (3) and C 2 c (5) of 9VAC25-740-100 have been moved to a new section, 9VAC25-740-105, of the proposed regulation. Due to the complicated nature of this issue, the DEQ recommended that the State Water Control Board (Board) adopt the regulation except for 9VAC25-740-105, which will be the subject of further discussion by the technical advisory committee and a second, later Board action.</p>
<p>45.</p>	<p>Subject: 9VAC25-740-100 C 2 - Assumed nutrient losses to state waters from irrigation reuse with non-BNR reclaimed water linked to nutrient credits allowed for reclamation and reuse</p> <p>Commenter: Bernard C. Nagelvoort, Chairman, Lord Fairfax Soil and Water Conservation District</p> <p><i>Text: These proposed regulations not only do not encourage reclamation and reuse of wastewater, but they very openly and directly discourage reclamation and reuse.</i></p> <p><i>The most direct obstacle is language added after the last TAC meeting which imposes an automatic penalty for any reclamation and reuse system by preventing</i></p>

	<p><i>use of the reduction or elimination of the discharge of nitrogen and/or phosphorus to the Chesapeake Bay watershed for nutrient trading purposes. An equivalent of BNR levels of N and P are imposed automatically on reclamation and reuse systems EVEN IF THERE IS NO DISCHARGE TO SURFACE WATERS. This language appears under Section C. Reclaimed Water Management Plan, sub paragraph 2., b., (3).</i></p> <p><i>What this language totally ignores is a practical fact in agriculture. Farmers apply fertilizer at the time they plant crops. If adequate rain falls, the crops take up most of the fertilizer. If there is a drought, a substantial part of the fertilizer will remain in the ground and will be subject to percolation to groundwater during winter groundwater recharge periods or subject to runoff during the non-growing season. In Virginia, drought conditions upset fertilizer utilization in two years out of five according to the Virginia Tech soils professor who served on both TACs. While fertilizer levels in wastewater are generally insufficient to provide crop needs, supplemental fertilizer can be supplied through the irrigation system at optimal levels to produce maximum crop production and fertilizer uptake. Not only is any threat of movement of the nutrients in wastewater to surface waters essentially eliminated, but the process substantially reduces the amount of fertilizer otherwise applied to crops from reaching groundwater or surface waters. Yet these proposed regulations discourage this benefit.</i></p> <p>Agency Response:</p> <p>The DEQ believes the proposed regulation will do much to promote and encourage water reclamation and reuse by establishing specific standards and requirements for the production, distribution and reuse of reclaimed water that are protective of the environment and public health. Two sets of reclaimed water standards are included in the proposed regulation to allow a greater number of currently existing wastewater treatment facilities the option to do water reclamation without significant change and upgrades to their existing treatment processes. Fees to add water reclamation and reuse requirements to existing VPDES and VPA permits have also been eliminated to further encourage water reclamation and reuse.</p> <p>Regarding comments in the second paragraph, subdivisions C 2 b (3) and C 2 c (5) of 9VAC25-740-100 have been moved to a new section, 9VAC25-740-105, of the proposed regulation. Due to the complicated nature of this issue, the DEQ recommended that the State Water Control Board (Board) adopt the regulation except for 9VAC25-740-105, which will be the subject of further discussion by the technical advisory committee and a second, later Board action.</p> <p>Regarding comments in the third paragraph, the proposed regulation requires management of nutrients from irrigation reuse only where the reclaimed water has an annual average concentration of total nitrogen (N) and total phosphorus (P) greater than 8 and 1 mg/l, respectively. Where reclaimed water with higher concentrations of total N and total P will be used for irrigation, the regulation requires a nutrient management plan (NMP) for bulk irrigation reuse sites and monitoring of monthly N and P loads to the service area from non-bulk irrigation reuse. For farmers that would be bulk end users of reclaimed water, their NMP would still address the nutrient needs of the crop but would also account for the nutrients contributed by the reclaimed water used for irrigation. Per the proposed regulation, all irrigation reuse is at supplement rates to meet the water demands of the irrigated vegetation. Higher rates of irrigation are allowed but are consider land treatment and not reuse of reclaimed water. Design and operation requirements for land treatment systems are contained in the Sewage and Collection and Treatment Regulations (9VAC25-790).</p>
<p>46.</p>	<p>Subject: 9VAC25-740-100 C 2 – Sufficient land, rate of application and nutrient management plan requirements for irrigation reuse</p>

	<p>Commenter: Bernard C. Nagelvoort, Chairman, Lord Fairfax Soil and Water Conservation District</p> <p><i>Text: There are several omissions from these regulations that ought also to be included in order to assure irrigation systems utilizing reclaimed wastewater are adequate for the anticipated flows from the treatment facilities. Before a permit to construct the treatment facilities is issued, there must be sufficient land under contract or owned by the facility to receive the irrigation water produced by the treatment facility for the anticipated life of the facility.</i></p> <p><i>In conjunction with this requirement there must be an established irrigation rate agreed upon which will define the amount of land needed for irrigation.</i></p> <p><i>In addition, Nutrient Management Plans need to be established on the lands to be irrigated before a permit to construct is issued, which will help determine irrigation rates.</i></p> <p>Agency Response: Irrigation reuse authorized pursuant to the proposed regulation is not the same as land treatment of wastewater described in the Sewage Collection and Treatment Regulations. Irrigation reuse is strictly a reuse of reclaimed water, while land treatment is first and foremost a method of treating and disposing of wastewater, and secondarily planned or unplanned reuse. However, there are situations where a provider (or generator that is also the provider) of reclaimed water, similar to a land treatment system, will not have the option to dispose of reclaimed water and provides most or all of the reclaimed water to end users not under common ownership or management with the provider. This leaves the reclaimed water provider potentially vulnerable to hardship where for any reason end users, particularly those that consume bulk quantities of reclaimed water annually, decide to discontinue their use. DEQ currently has the authority contained in the VPDES and VPA Permit Regulations to require an applicant or permittee to provide additional information as part of a permit application. Determined on a case-by-case basis, this could include evidence demonstrating that end users will receive all of the reclaimed water distributed annually by the provider where the provider does not have an option to dispose of the reclaimed water. Therefore, it is not necessary to include contract requirements in the proposed regulation to address this situation.</p> <p>All irrigation reuse of reclaimed water is supplemental irrigation. Supplemental irrigation is defined in the proposed regulation as irrigation, which in combination with rainfall, meets but does not exceed the water necessary to maximize production or optimize growth of the irrigated vegetation. Therefore, irrigation reuse is not determined by the crop nutrient demand but by the crop water demand. With some exception, a nutrient management plan (NMP) will typically be required for irrigation reuse on sites greater than five acres and where the annual average concentrations of total nitrogen and total phosphorus in the reclaimed water are greater than 8 and 1 mg/l, respectively. The NMP does not determine the rate and amount of reclaimed water used. Rather, the NMP must account for nutrients applied via supplemental irrigation. Where the provider of the reclaimed water is also the end user, a NMP when required for the end user’s irrigation reuse must be submitted with the Reclaimed Water Management plan as part of a permit application for water reclamation and reuse.</p>
<p>47.</p>	<p>Subject: 9VAC25-740-100 Application for permit</p> <p>Commenter: Loudoun County Service Authority</p> <p>Text: In Paragraph C 2 c (4): We recommend that the Implementation Guideline Document provide latitude for different calculation and reporting frequencies should a monthly meter reading not be practicable for nonbulk irrigation with non-BNR water.</p> <p>In Paragraph C 3 a: The word “and” is critical to the interpretation of the regulation. It requires both “3.a” <u>and</u> “3.b” to exist before the NMP and other restrictions are required by the regulation. This interpretation is important to LCSA since for some applications, LCSA will have common ownership</p>

	<p>of the water reclamation facility and the irrigated property. We recommend that DEQ clarify in the regulation or in the Implementation Guideline Document the critical interpretation of the word “and” so that it is clear to everyone.</p> <p>Agency Response: For 9VAC25-740-100 C 2 c (4), nitrogen (N) and phosphorous (P) loads are the product of total reclaimed water volume reused for non-bulk irrigation within the service area, multiplied by concentrations of total N and total P in the reclaimed water. This is an appropriate and standard method for calculating N and P loads to the service area resulting from non-bulk irrigation with reclaimed water not achieving BNR concentrations of total N and total P. Although monitoring of N and P loads is required monthly, 9VAC25-740-200 C requires only annual reporting of the monthly monitoring results by distributors of the reclaimed water. The DEQ believes an annual reporting frequency will be reasonable and practicable.</p> <p>Although we believe the language in 9VAC25-740-100 C 3 a and b is clear and would not readily be subject to misinterpretation, further clarification of the subdivision may be provided in the implementation guidance for the proposed regulation.</p>
<p>48.</p>	<p>Subject: 9VAC25-740-100 C 3 b - DCR review</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The regulation requires NMPs to be reviewed by DCR. Given that the NMP must be developed by a DCR-certified planner, and presumably the planner’s certification (or license) could be revoked for noncompliance, VAMWA questions whether there is any need for DCR review of nutrient management plans. Additional considerations include cost-benefit (what will be the expense to state payers in relation to the benefit of DCR reviewing plans prepared by DCR-certified planners) as well as potential for time delays (a water resource issue for the Commonwealth and a cost issue for reclamation system owners and end users). If DCR review is deemed appropriate, there should be a time limit. There are time limits set for application and submittals by the generator, reviews by DEQ, but no time limits are identified for DCR.</p> <p>HRSD, VAMWA and HRPDC recommend deleting the requirement for DCR review of NMPs prepared by DCR-certified planners, or, if DCR review remains, that DCR commit to 30 day review period, which is consistent with the SCAT Regulation review periods applicable to other portions of the facility design. This will insure reclaimed water distributors can adequately plan and implement projects in a timely manner.</p> <p>Agency Response: DCR review of nutrient management plans (NMPs) required by the proposed regulation applies only to limited number of bulk irrigation reuse sites described under 9VAC25-740-100 C 3 that have the greatest potential to be used for disposal rather than reuse of reclaimed water. Although such bulk irrigation reuse sites are anticipated to be among the minority over time, they can represent the greatest sources of groundwater and nonpoint source pollution. Therefore, DCR review provides a reasonable verification of the NMP adequacy for the most probable situations of misapplication with the greatest potential for adverse environmental impact.</p> <p>DCR review of NMPs required per 9VAC25-740-100 C 3 is not anticipated to delay permit processing for the limited number of water reclamation and reuse projects to which this requirement applies. Therefore, we do not believe it is necessary to establish a time limit for DCR review and approval of the NMPs in the proposed regulation. VPA General Permit Regulations for Poultry Waste Management and for Animal Feeding Operations contain a similar requirement for DCR approval of NMPs. While these regulations do not specify a time limit within which DCR must approve the NMPs for the general permits, DCR approval is not causing issuance of the permits to be delayed. If DCR review and approval of NMPs should delay permitting of water reclamation and reuse projects, the problem would be more appropriately addressed through a memorandum of understanding between DEQ and DCR, establishing a time limit on DCR review and approval of the</p>

	<p>NMPs.</p>
<p>49.</p>	<p>Subject: 9VAC25-740-100 C 5 b - Identification of all potable and non-potable supply wells</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The required Reclaimed Water Management Plan includes a site map identifying the location of all potable and non-potable water supply wells within 250 feet of the irrigation site. This item was removed during the TAC review and it surprised HRSD and VAMWA members to find it reinserted. While it is reasonable to require wastewater agencies to consult with DEQ groundwater records and experts to obtain information on known water supply wells, permittees have no ability or legal authority to otherwise locate and identify water supply wells located on private property. HRSD, VAMWA and HRPDC recommend that this section be reworded to reflect these legal limitations by adapting the approach to this issue DEQ has employed in the Local and Regional Water Supply Planning Regulation (9VAC 25-780), which routinely qualifies information gathering requirements “to the extent that information is available.” The revised provision would read: “To the extent that information is available, the location of all potable and non-potable supply wells....”</p> <p>Agency Response: Requirements of 9VAC25-740-100 C 5 b apply only to bulk irrigation end users and not to all irrigation end users. 9VAC25-740-100 C 6 further clarifies that site plan information required per 9VAC25-740-100 C 5 will be the responsibility of the end user to submit when the irrigation site is not under common ownership or management with the facility from which it receives reclaimed water for irrigation. Therefore, it is not the responsibility of the permittee (i.e., the generator or provider of the reclaimed water) in all cases to provide information required per 9VAC25-740-100 C 5.</p> <p>A setback from areas irrigated with reclaimed water to non-potable wells has been included in the regulation. Therefore, we believe it is necessary to identify the location of non-potable wells on the site plan.</p>
<p>50.</p>	<p>Subject: 9VAC25-740-110 Design criteria for storage facilities</p> <p>Commenter: Loudon County Service Authority</p> <p>Text: In Paragraph C.14: We recommend that DEQ clarify the requirement for the 25-year 24-hour storm design condition for storage systems that are covered and not under the influence of storm water events.</p> <p>Agency Response: This requirement, which prohibits a discharge from a storage facility, applies to <u>all</u> storage facilities whether or not they are covered. While it is acknowledged that covered facilities are less likely to have a weather related discharges, they may still discharge from leaks caused by damage to or disrepair of the facility.</p>
<p>51.</p>	<p>Subject: 9VAC25-740-110 C - Storage requirements</p> <p>Commenter: Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: VAMWA and HRPDC believe that some of the storage requirements in this section are overly restrictive, especially for finished Level 1 reclaimed water and that these restrictions may be more appropriate for reject water storage. Level 1 water is suitable for discharge to surface waters that are unlined and may be of better quality than the underlying ground water. If the Level 1 storage pond is non-system storage, the requirements are less restrictive and reasonable. Requiring additional levels of regulation for Level 1 system storage over Level 1 non-system storage is burdensome and inequitable treatment of reclaimed water generators. At minimum, the permittee</p>

	<p>should have the choice of hydrogeologic evaluation or ground water monitoring to demonstrate no significant impact on ground waters from an unlined pond as suggested by members of the TAC. These choices should be allowed in addition to the choice to use a liner for system storage ponds. These three alternatives should address the need for ground water protection. VAMWA and HRPDC recommend the burdensome storage requirements for system storage be eliminated to provide equitable treatment of all parties. The system storage requirements should be the same as non-system storage for Level 1 water. At minimum, provide reasonable alternatives to installing liners for system storage of Level 1 water.</p> <p>Agency Response: DEQ does not consider these requirements overly restrictive and believes they will ensure that reject water storage and system storage facilities serve their intended purpose rather than as a means of disposal.</p>
<p>52.</p>	<p>Subject: 9VAC25-740-110 Design Criteria</p> <p>Commenter: City of Norfolk, Department of Utilities</p> <p>Text: Par. C.1. - Add a statement that the storage requirement is the responsibility of the generator, not the distribution system only owner. Proposed statement can read, "Reclaimed water system storage is the responsibility of the reclaimed water generator, not the distribution system owner." This statement can be inserted as the first sentence in that paragraph.</p> <p>Agency Response: "System storage" for reclaimed water as defined in the proposed regulation can apply to a reclamation system, satellite reclamation system or reclaimed water distribution system. System storage requirements for a reclaimed water distribution system will vary according to supply arrangements made between a reclamation system and reclaimed water distribution system, and the need for flow equalization within the distribution system. Therefore, system storage for reclaimed water cannot be the sole responsibility of the reclamation system or reclaimed water generator.</p>
<p>53.</p>	<p>Subject: 9VAC25-740-120 Construction Requirements</p> <p>Commenter: City of Norfolk, Department of Utilities</p> <p>Text: Par. B.1. - Add a statement that the Certificate to Construct (CTC) and Certificate to Operate (CTO) will not be required for distribution system only owner. Proposed statement can read, "A CTC and/or CTO shall not be required for a reclaimed water distribution system only owner. The certificates shall be obtained by the reclaimed water generator." This statement can be inserted as the last sentence in that paragraph.</p> <p>Agency Response: Provisions for CTCs and CTOs contained in 9VAC25-740-120 of the proposed regulation apply to reclamation systems and satellite reclamation systems only. Therefore, no change is necessary to the proposed regulation.</p>
<p>54.</p>	<p>Subject: 9VAC25-740-140 Operation and Maintenance</p> <p>Commenter: Loudon County Service Authority</p> <p>Text: In Paragraph F: We recommend that DEQ review the special "common ownership" requirements specified in Paragraph F and compare them to Paragraph C.3.a in 9 VAC 25-740-100 and determine if the special requirements in Paragraph F should be exempt for VPDES permitted water reclamation facilities.</p> <p>Agency Response: Subsequent to other changes to the regulation, subdivision C 3 is now subdivision C 4 of 9VAC25-740-100, and subsection F is now subsection G of 9VAC25-740-140. Both 9VAC25-740-100 C 4 and 9VAC25-740-140 G address situations where a bulk irrigation reuse site is under common ownership or management with a facility providing reclaimed water to the irrigation site. However, 9VAC25-740-100 C 4 relates to nutrient management plan (NMP)</p>

	<p>requirements, while 9VAC25-740-140 G relates to supplemental irrigation requirements for the irrigation reuse site. 9VAC25-740-140 G specifically addresses situations where facilities that provide reclaimed water to the irrigation site are more likely to over apply (or dispose of) their reclaimed water, including but limited to, periods when the reclaimed water cannot be used for irrigation (e.g., due to inclement weather conditions) or circumstances where reclaimed water providers do not have adequate storage, do not have an option to discharge via a VPDES permit, or have a VPDES permit but cannot discharge their full nutrient load under design flow. Therefore, a bulk irrigation reuse site under common ownership or management with a facility providing reclaimed water to the irrigation site and required to have a NMP per 9VAC25-740-100 C 4, will not be exempt from requirements under 9VAC25-740-140 G of the proposed regulation.</p>
<p>55.</p>	<p>Subject: 9VAC25-740-170 Use Area Requirements Commenter: City of Norfolk, Department of Utilities</p> <p>Text: Par. A. - Add a statement that in the event of a distribution system only owner, the generator is responsible for providing the education and notification program. Proposed statement can read, "For reclaimed water distribution system only owner the education and notification program shall be developed and maintained by the reclaimed water generator. The distribution system only owner can develop and maintain one on a voluntary basis." This statement can be inserted as the last sentence in that paragraph.</p> <p>New Par. L. - Provide clarification on handling requirements for reclaimed water flushed from the distribution system or in the event of a distribution main break. Proposed new paragraph can read, "L. Reclaimed water flushed from the distribution system or lost in the event of a distribution main break or leak shall not be considered a sanitary sewer overflow." This new paragraph can be inserted after paragraph K.</p> <p>Agency Response:</p> <p>9VAC25-740-170 A: Per 9VAC25-740-100 C 1 of the proposed regulation, providers of reclaimed water, which may include reclamation systems, satellite reclamation systems or reclaimed water distribution systems; are responsible for preparing the Reclaimed Water Management (RWM) plan to be submitted with the application for a permit to distribute reclaimed water in accordance with 9VAC25-740-40 A. Per 9VAC25-740-170 A, an Education and Notification Program must be included in the RWM plan to be submitted by the provider of the reclaimed water for reuses that require Level 1 reclaimed water, will be in areas accessible to the public, or are likely to have human contact. Therefore, a reclaimed water distribution system is expected to submit a RWM plan but may not be required to include an Education and Notification Program within the RWM plan if reuses of the reclaimed water distributed will not require Level 1 reclaimed water, will not be in areas accessible to the public, or are not likely to have human contact.</p> <p>9VAC25-740-170, new subsection. L: This is already addressed, in part, by 9VAC25-740-140 C 2 of the proposed regulation, which requires an Operations and Maintenance (O&M) Manual for reclaimed water distribution systems. Flushing of reclaimed water shall be performed in accordance with the approved O&M Manual. Reclaimed water lost in the event of a distribution main break or leak will be considered an unauthorized discharge of pollutants. An enforcement response to unauthorized discharges of reclaimed water is expected to be commensurate with the degree to which the unauthorized discharge adversely impacts the environment and human health.</p>
<p>56.</p>	<p>Subject: 9VAC25-740-170 A 1 - Education Commenter: Hampton Roads Sanitation District (HRSD)</p> <p>Text: HRSD considers the use of all modes of communication listed in this section excessively burdensome and overly redundant. For small projects where there is limited exposure to reclaimed water, the use of news media, such as, TV and radio is unnecessary and quite expensive. HRSD</p>

	<p>recommends that the modes of communication in this section be included as examples and potential tools available rather than making them absolute minimum requirements.</p> <p>Agency Response: The proposed regulation does not require that <i>all</i> modes of communication listed in 9VAC25-740-170 A 1 (e.g., meetings, distribution of written information, the news media and advisory signs as described in 9VAC25-740-160) be used, but does require a description of modes of communication <i>to be used</i>. No change is necessary.</p>
<p>57.</p>	<p>Subject: 9VAC25-740-170 Use Area Requirements</p> <p>Commenter: Loudoun County Service Authority</p> <p>Text: In Paragraph H 4: We recommend that Paragraph H 4 be revised to specifically allow the use of below-ground drip irrigation as a means to achieve the specified 50% setback reductions for Level 2 reclaimed water.</p> <p>For below-ground irrigation of landscaped areas with narrow and linear shapes (such as near roadways and property lines) with Level 2 reclaimed water, we recommend no setback distance since setbacks may make it impossible to irrigate these areas. Since Level 2 reclaimed water is permitted for street washing, it should be allowed for below-ground irrigation along streets.</p> <p>Agency Response: In accordance with 9VAC25-740-90 B of the proposed regulation, below-ground drip irrigation systems that reuse reclaimed water must be approved on a case-by-case basis. This is due largely to the variability of site-specific factors influencing the design, installation and operation of these systems, and to determine what agency, DEQ or the Virginia Department of Health, will have regulatory jurisdiction over each system that is proposed. Allowable setback distances for below-ground drip irrigation of reclaimed water will be determined during this approval process.</p> <p>Although setback provisions in 9VAC25-740-170 H 4 a and c of the proposed regulation do not preclude below-ground drip irrigation as a means of reducing setback distances for irrigation reuse, they do not specifically include this method of irrigation because of the case-by-case approval required for below-ground drip irrigation systems in 9VAC25-740-90 B.</p> <p>In the proposed regulation, Level 2 reclaimed water is not allowed for irrigation of areas where there is potential for public contact due to the greater risk to public health associated with Level 2 reclaimed water. Although below-ground drip irrigation systems will be buried, thereby reducing potential for public contact, there remains some potential for public contact through surfacing. Therefore, a zero setback distance for below-ground irrigation systems reusing Level 2 reclaimed water will not be allowed.</p> <p>Street washing with Level 2 reclaimed water is not anticipated to have the same public health risks as below-ground drip irrigation due to the rates and time at which the reclaimed water is used for street washing, conditions less conducive to bacterial survival on paved streets, and limited access and duration of exposure that pedestrians would have to streets compared to areas irrigated with reclaimed water to maintain sod, etc.</p>
<p>58.</p>	<p>Subject: 9VAC25-740-170 H – Restrictions related to buffer areas around irrigation areas</p> <p>Commenter: Bernard C. Nagelvoort, Chairman, Lord Fairfax Soil and Water Conservation District</p> <p>Text: [The proposed regulation discourages] reclamation and reuse by imposing tougher restrictions related to buffer areas around irrigation areas, again having a serious negative impact on reuse. The change from current regulations prevents an adjacent landowner from waiving any buffer requirement and imposes a mandatory minimum 50 foot buffer from ANY property line. If my brother owns the land next door he cannot waive the 50 foot buffer. If I rent the land next door to</p>

	<p>farm if the landowner cannot waive the buffer. Fifty feet may not seem like much, but on a long, narrow field it may eliminate entirely the potential use of that land for irrigation even though there may be circumstances where there is no threat from aerosols from irrigation to a neighboring landowner.</p> <p>Agency Response: 9VAC25-740-170 H of the proposed regulation has been revised to allow up to a 100 % reduction in the setback distance from a property line for a site irrigated with Level 2 reclaimed water with written consent from an adjacent land owner. However, all setback requirements for irrigation with reclaimed water under subsection H are subject to limitations of subdivision H 5 which states that “For irrigation reuses where more than one setback distance may apply, the greater setback distance shall govern.” Therefore, the amount that a setback distance from a property line can be reduced must be evaluated on a case-by-case basis.</p>
<p>59.</p>	<p>Subject: 9VAC25-740-180 Operational flow requirements</p> <p>Commenter: Hampton Roads Sanitation District (HRSD), Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA), and Hampton Roads Planning District Commission – Directors of Utilities Committee (HRPDC) in agreement with VAMWA</p> <p>Text: The following requirement found in this section is appropriate for a wastewater treatment plants which are designed to ensure adequate capacity for reasonable future growth.</p> <p style="padding-left: 40px;">“When the monthly average flow into a wastewater treatment plant reaches 95% of the design capacity authorized by the VPDES or VPA permit issues to that system for each month of any three-month period, the permittee shall within 30 days notify the Board in writing and within 90 days submit a plan of action for ensuring continued compliance with the terms of the permit.”</p> <p>However, this requirement may not be appropriate for reuse applications. Reclamation systems are frequently designed for a specific flow demand to meet a specific known water need and ideally will operate at full capacity. Therefore, this requirement is not universal to all reclamation systems or satellite reclamation systems and will create unnecessary repetitive paperwork for both the permittee and DEQ, while providing no benefit in some cases. HRSD, VAMWA and HRPDC recommend that this requirement be addressed in the guidance to apply only to systems that need to provide growth capacity and not be applied to systems designed to operate at full-capacity for a specified demand.</p> <p>Agency Response: The DEQ agrees that the need for a corrective action plan and the detail of the plan will vary from reclamation system to reclamation system. In those cases where a reclamation system chooses to operate at or near design flow, a letter stating the plan of action will in most cases satisfy the requirements of 9VAC25-740-180. Inclusion of this requirement in the proposed regulation rather than in guidance also insures a more consistent approach to addressing adequate capacity for proper treatment at the reclamation system.</p>
<p>60.</p>	<p>Subject: 9VAC25-74-200 Reporting</p> <p>Commenter: City of Norfolk, Department of Utilities</p> <p>Text: Par. B. - Provide clarification on requirements for reclaimed water flushed from the distribution system or lost in the event of a distribution main break. Proposed statement can read, “Reclaimed water flushed from the distribution system or lost in the event of a distribution main break or leak shall not be considered a sanitary sewer overflow.” This statement can be inserted as the second sentence in that paragraph.</p> <p>Par. C. - Add a statement that for a distribution system only owner, the generator is responsible for providing that information to the distribution owner. Proposed statement can read, “For reclaimed water distribution system only owner the reclaimed water generator shall provide the information required in paragraphs 2 and 3 below.” This statement can be inserted as the second sentence in that paragraph.</p>

	<p>Agency Response:</p> <p>9VAC25-74-200 B: This is already addressed, in part, by 9VAC25-740-140 C 2 of the proposed regulation, which requires an Operations and Maintenance (O&M) Manual for reclaimed water distribution systems. Flushing of reclaimed water shall be performed in accordance with the approved O&M Manual. Reclaimed water lost in the event of a distribution main break or leak will be considered an unauthorized discharge of pollutants. An enforcement response to unauthorized discharges of reclaimed water is expected to be commensurate with the degree to which the unauthorized discharge adversely impacts the environment and human health.</p> <p>9VAC25-74-200 C: Information required by 9VAC25-74-200 C 2 and 3 of the proposed regulation is the responsibility of “Permittees of reclaimed water distribution systems” to submit in annual report. Independent of the requirements of this regulation, however, it may be possible to establish an agreement between the generator and the distributor or provider of reclaimed water, whereby the generator will provide information to the distributor to include in the annual report that satisfies requirements of 9VAC25-74-200 C 2 and 3.</p>
<p>61.</p>	<p>Subject: End Users</p> <p>Commenter: Virginia Manufacturers Association (VMA)</p> <p>Text: The Reuse Proposal calls for the end user to be regulated by service agreement with the owner of the reclamation system rather than by permit. VMA strongly supports this approach, as it would be unduly burdensome, duplicative and unnecessary to require the end user to obtain a permit simply to receive reclaimed water. That said, the quality of an end user’s discharge will be influenced by the quality of the reclaimed water. The Department should provide relief to end users in situations where they do not add pollutants but simply pass them through from the reclaimed water system to their discharge point (whether indirect to a POTW or direct to a surface water).</p> <p>Agency Response: Standards for reclaimed water in the proposed regulation apply to water that is produced and distributed. Discharge of reclaimed water to a surface water by an end user will not be subject to the standards of the proposed regulation but must comply with effluent limits contained in a VPDES permit issued to the owner of the discharge, which in this case is also the end user of reclaimed water. Therefore, end users are responsible for the quality of reclaimed water that they discharge through their permitted outfall.</p> <p>Independent of the requirements in the proposed regulation, generators/providers of reclaimed water and end users may negotiate through the service agreement or contract, or other instrument: (1) additional standards and treatment to meet specifications for a particular reuse by the end user, or (2) an option for the end user to acquire a portion of nutrient credits received by the generator/provider of the reclaimed water for diverting all or a portion of their discharge to reclamation and reuse.</p>
<p>62.</p>	<p>Subject: Burden on small treatment facilities</p> <p>Commenter: Loudoun County Sanitation Authority</p> <p>Text: [The] regulation may place a significant burden on small treatment facilities wanting to provide Level 1 or Level 2 reclaimed water. The cost for sampling and monitoring will probably be cost prohibitive, especially if ground water monitoring is required.</p> <p>Agency Response: The proposed regulation does contain provisions that minimize or reduce additional sampling for small reclamation systems. 9VAC25-740-80 C allows a reclamation system that produces reclaimed water intermittently or seasonally to monitor only when the system discharges to a reclaimed water distribution system, a non-system storage facility, or directly to a reuse. For the production of Level 2 reclaimed water, sampling for most parameters to be</p>

	<p>monitored will be the same sample type and at the same frequency based on flow required for sewage treatment works. Therefore sampling and monitoring costs for small reclamation systems that will produce Level 2 reclaimed water are expected to be comparable to sampling and monitoring costs for a sewage treatment works with the same design flow.</p> <p>Compared to sampling and monitoring requirements for the production of Level 2 reclaimed water, those for the production of Level 1 reclaimed water are more rigorous for bacteria and residual disinfectant, the same for pH and BOD₅ or CBOD₅, and include analyses for turbidity but not total suspended solids. Most treatment standards for Level 1 reclaimed are more stringent than those for Level 2 reclaimed water to ensure its safety for reuses where there is potential for public contact. Consequently, requirements to verify compliance with disinfection standards (i.e., bacteria and residual disinfection) of Level 1 reclaimed water are more rigorous than those required for Level 2 reclaimed water available for reuses with no potential for public contact. Smaller reclamation systems that can not afford the additional sampling and monitoring costs that may be associated with production of Level 1 reclaimed water have the option to produce Level 2 reclaimed water with sampling and monitoring costs comparable to a sewage treatment works having the same design flow.</p> <p>Groundwater monitoring is not required for irrigation reuse because all irrigation reuse per the proposed regulation is to be supplemental. This will result in no or negligible loss of reclaimed water to groundwater. Groundwater monitoring, however, may be required as part of a corrective action plan where a permittee that generates and reuses the reclaimed water for irrigation is exceeding supplemental irrigation rates.</p>
<p>63.</p>	<p>Subject: Certification program for common ownership and management circumstances</p> <p>Commenter: Loudoun County Sanitation Authority</p> <p>Text: Throughout the regulation, there are additional requirements placed on water reclamation system owners who will have “common ownership” of the water reclamation facility and irrigated property. These additional requirements may impact LCSA and its new \$200 million Broad Run Water Reclamation Facility, which will be one of the most advanced reclamation facilities in Virginia. We recommend that DEQ re-evaluate the “common ownership” restrictions or develop a certification program to allow LCSA and other similar water reclamation system owners to demonstrate the high quality of their reclaimed water and their system operation and reduce the burden of the “common ownership” restrictions.</p> <p>Agency Response: The suggested certification program is an issue considered independent of the currently propose regulatory action. Such a certification program will require further evaluation to determine level of need and other options that may be available. If it is determined that there is a substantial need for such a program, options will be explored to establish the program through either future amendments to the currently proposed regulation or through agency guidance.</p>
<p>64.</p>	<p>Subject: Establishment of <i>de minimus</i> quantities for reporting discharges of reclaimed water</p> <p>Commenter: Hampton Roads Planning District Commission, Directors of Utilities Committee</p> <p>Text: It is our understanding that releases of reclaimed water may have to be reported as an illicit discharge and require remedial action since the reclaimed water is in fact treated wastewater. These releases can occur due to breaks in reclaimed water distribution system pipes, overspray (aerial or volume) during operation of irrigation systems, and associated runoff. This poses an added administrative and regulatory burden on local water supply, wastewater and stormwater providers. This is likely to negatively impact the market for reclaimed water. Recent regulatory and enforcement actions in the wastewater and stormwater arenas make this a matter of significant concern to local governments. Establishment of <i>de minimus</i> quantities for reporting in these cases would help to alleviate the concern.</p>

	<p>Agency Response: The agency will address unauthorized discharges of reclaimed water from permitted reclamation systems and reclaimed water distribution systems. Illicit discharges from end users are subject to the terms of the service agreement or contract between the end users and the permittee with whom end users have a service connection. Therefore, permittees that provide reclaimed water to end users must have in place a program to identify and address violations of service agreements or contracts by end users. This could be similar to local government programs to enforce drought restrictions currently in effect in many areas of Virginia. Based on this paradigm, a water reuse enforcement program could include door tag warning notices, warning letters, fines and possible termination of service. These are reasonable management tools that would be expected of reclaimed water distributors.</p>
<p>65.</p>	<p>Subject: Consecutive water systems</p> <p>Commenter: Hampton Roads Planning District Commission, Directors of Utilities Committee</p> <p>Text: It is not clear that the proposed Regulation addresses consecutive water systems as defined pursuant to the Safe Drinking Water Act and associated regulations. How will drinking water standards be applied to reclaimed water distribution in cases where there are consecutive systems? Additional provisions, clarifying the application of the regulations to the responsibilities of reclaimed water generators and distribution system operators, are needed.</p> <p>Agency Response: Standards for the Safe Drinking Water Act do not apply to reclaimed water generators or distributors described in the propose regulation. However, 9VAC25-740-110 B 9 requires that all reclaimed water distribution systems be maintained to minimize losses and to ensure safe and reliable conveyance of reclaimed water such that the reclaimed water will not be degraded below the standards required for the intended reuse or reuses. Standards for intended reuses are provided in or will be determined on a case-by-case basis per 9VAC25-740-90 of the proposed regulation.</p>
<p>66.</p>	<p>Subject: Liability of reclaimed water purveyors in cases of spill or inappropriate use of reclaimed water</p> <p>Commenter: Hampton Roads Planning District Commission, Directors of Utilities Committee</p> <p>Text: The proposed Regulation raises a number of questions about the liability of reclaimed water purveyors in cases of spills or inappropriate use of reclaimed water. It is recognized that the service contract approach is an attempt to address this issue, insofar as public water suppliers are concerned. An annual report to the consumers addressing system water quality, in a fashion similar to the Consumer Confidence (Water Quality) Reports required under the Safe Drinking Water Act, may be an appropriate means of addressing the annual educational requirement.</p> <p>Agency Response: The proposed regulation does not relieve any permittee from liability, but does specify standards and requirements for the reclamation and reuse of wastewater that when properly implemented by the permittee, protect the environment and public health in accordance with the laws and regulations of the Commonwealth of Virginia.</p> <p>An annual report to the consumers (or end users) addressing system water quality, in a fashion similar to the Consumer Confidence (Water Quality) Reports required under the Safe Drinking Water Act, may be an appropriate means of addressing the education requirements of 9VAC25-740-170 A 1, provided the annual report addresses all elements of 9VAC25-740-170 A 1.</p>
<p>67.</p>	<p>Subject: Funding for design and construction of water reuse systems</p> <p>Commenter: Loudon County Sanitation Authority</p> <p>Text: It would be helpful if DEQ would identify the grant and loan programs available from the State to fund the design and construction of water reuse systems. DEQ should also identify other grant and loan programs that may be available from federal governmental agencies or national</p>

	<p>organizations.</p> <p>Agency Response: Grants and loans for the construction and design of water reclamation and reuse projects are available through the Water Quality Improvement Fund and the State Revolving Loan Fund managed by the Department of Environmental Quality (DEQ). We will provide this information on the DEQ website.</p>
<p>68.</p>	<p>Subject: Links to sustainable energy and biofuels</p> <p>Commenter: Loudon County Sanitation Authority</p> <p>Text: Virginia is promoting sustainable energy options to ensure its energy, environmental and economic future. Governor Kaine is speaking at the COVES conference on October 17. Virginia should consider establishing seed funding for public-private partnerships to link water reuse investments with sustainable energy initiatives.</p> <p>In conjunction with [the above] comment, Virginia should consider promoting the use of reclaimed water to grow and irrigate switchgrass and other biofuels. These alternative energy sources may provide less nutrient loadings to state waters than other crops (i.e., corn) grown for ethanol production.</p> <p>Agency Response: This suggestion is beyond the scope of the regulatory action.</p>
<p>69.</p>	<p>Subject: Provisions to address and encourage reuse of reclaimed water for irrigation and other non-potable uses in residential areas.</p> <p>Commenter: Hampton Roads Planning District Commission, Directors of Utilities Committee</p> <p>Text: It is not clear that the proposed Regulation will encourage reuse of reclaimed water for irrigation and other non-potable uses in residential areas. A number of such applications are under active consideration in areas of new development. Additional provisions are needed to adequately address and encourage such use.</p> <p>Agency Response: The proposed regulation encourages reuse of reclaimed water by establishing a framework of standards and requirements that are protective of the environment and public health, thereby increasing consumer confidence in the product, reclaimed water.</p>
<p>70.</p>	<p>Subject: Incentives for development and implementation of water reclamation and reuse projects</p> <p>Commenter: Steve Edgemon on behalf of the members of Mission H₂O</p> <p>Text: The members of Mission H₂O hope to see the Department [DEQ] work to develop incentives for development and implementation of water reclamation and reuse projects, as well as other alternative sources and technologies.</p> <p>Agency Response: This suggestion is beyond the scope of this particular regulatory action.</p>
<p>71</p>	<p>Subject: Reconvene the Technical Advisory Committee to address outstanding issues</p> <p>Commenter: Hampton Roads Sanitation District (HRSD) and Virginia Association of Municipal Wastewater Agencies, Inc. (VAMWA)</p> <p>Text: If the issues identified [by HRSD and VAMWA] cannot be addressed by DEQ, HRSD and VAMWA strongly recommend that the original TAC [technical advisory committee] be reconvened to address the significant issues identified within [the comment letters of HRSD and VAMWA] and other public comments.</p> <p>Agency Response: DEQ staff believe that most issues raised by the commenters regarding the proposed regulation have been addressed with the exception of those pertaining to subdivisions C 2 b (3) and C 2 c (5) of 9VAC25-740-100, now consolidated under a new section, 9VAC25-740-105. On December 4, 2007, the State Water Control Board (Board) voted to adopt the regulation,</p>

	<p>but defer action on 9VAC25-740-105, direct DEQ staff to reconvene the TAC for further discussion of provisions contained in this section, and return to the Board at a future meeting with recommendations for Board action. The TAC is schedule to reconvene to discuss 9VAC25-740-105 in January 2008.</p>
<p>72.</p>	<p>Subject: Reconvene the Technical Advisory Committee to address outstanding issues</p> <p>Commenter: Hampton Roads Planning District Commission, Directors of Utilities Committee</p> <p>Text: ... the staff of the Hampton Roads Planning District Commission and the members of the HRPDC Directors of Utilities Committee recommend that the State Water Control Board move forward with the adoption of the regulations as a viable framework for regulating water reclamation and reuse. However, prior to adopting the final regulation, the Department of Environmental Quality should reconvene the Technical Advisory Committee to address the outstanding issues enumerated [in the our letter dated 10/9/07] and in the VAMWA [Virginia Association of Municipal Wastewater Agencies, Inc.] comments.</p> <p>Agency Response: DEQ staff believe that most issues raised by the commenters regarding the proposed regulation have been addressed with the exception of those pertaining to subdivisions C 2 b (3) and C 2 c (5) of 9VAC25-740-100, now consolidated under a new section, 9VAC25-740-105. On December 4, 2007, the State Water Control Board (Board) voted to adopt the regulation, but defer action on 9VAC25-740-105, direct DEQ staff to reconvene the TAC for further discussion of provisions contained in this section, and return to the Board at a future meeting with recommendations for Board action. The TAC is schedule to reconvene to discuss 9VAC25-740-105 in January 2008.</p>