



## Notice of Intended Regulatory Action (NOIRA) Agency Background Document

<b>Agency name</b>	State Water Control Board
<b>Virginia Administrative Code (VAC) citation</b>	9 VAC 25-720
<b>Regulation title</b>	Water Quality Management Planning Regulation
<b>Action title</b>	Amend Nutrient Waste Load Allocations in Section 720-50.C. (Potomac, Shenandoah River Basin) for two facilities: 1. Merck WWTP (VPDES #VA0002178) Frederick-Winchester S.A.-Opequon WRF (VPDES #VA0065552)
<b>Date this document prepared</b>	July 11, 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*.

### Purpose

*Please describe the subject matter and intent of the planned regulatory action. Also include a brief explanation of the need for and the goals of the new or amended regulation.*

The purpose of the regulatory action is to consider petitions from Merck and the Frederick-Winchester Service Authority to increase total nitrogen (TN) and total phosphorus (TP) waste load allocations (WLAs) in the Water Quality Management Planning Regulation, 9 VAC 25-720, for the following reasons:

- Merck asserts that the current allocations are not technically feasible. Their January 2007 petition reflects discharge levels that Merck claims are technically feasible using Biological Nutrient Removal treatment technology. Based on a design flow of 1.20 million gallons per day (MGD) for internal outfall 101 (process wastewater only), the facility's current nutrient allocations are 14,619 lbs/yr TN (based on an annual average concentration of 4.0 mg/L) and 1,096 lbs/yr TP (based on an annual average concentration of 0.30 mg/L). Merck has requested the WLAs be revised to 43,835 lb/yr (a 29,216 lb/yr increase; annual average concentration of 12.0 mg/L) and 4,384 lb/year (a 3,288 lb/yr increase; annual average concentration of 1.20 mg/L).
- The FWSA-Opequon Water Reclamation Facility's current nutrient allocations are based on a permitted design flow of 8.4 MGD. In their original October 2006 petition, FWSA claimed the existing infrastructure for biological treatment is more appropriately classified as 12.6 MGD, meriting higher allocations. The VPDES permit reissued on 7/7/06 stated the design flow of the existing facility is 8.4 MGD. At a 2/9/07 meeting between FWSA and DEQ, FWSA proposed a revision to their original

request. They believe that certainty, now -- not later, is so critical that FWSA is willing to compromise on an amendment using a lower TN concentration of 3.0 mg/l rather than the standard 4.0 mg/l for municipal treatment plants in the Shenandoah Basin to calculate the revised TN allocation as follows:

- Current TN WLA (8.4 MGD @ 4.0 mg/L) = 102,281 lbs/yr
- Petition Request (12.6 MGD @ 4.0 mg/L) = 153,422 lbs/yr (a 51,141 lb/yr increase)
- Compromise Proposal (12.6 MGD @ 3.0 mg/L) = 115,067 lbs/yr (a 12,786 lb/yr increase)

Since the current TP allocation is already based on state-of-the-art treatment (0.30 mg/L annual average), FWSA requests a revised TP allocation as follows:

- Current TP WLA (8.4 MGD @ 0.30 mg/L) = 7,675 lbs/yr
- Petition Request (12.6 MGD @ 0.30 mg/L) = 11,512 lbs/yr (a 3,837 lb/yr increase)

To implement this approach, FWSA also proposed including footnoted language in 9 VAC 25-720 that is similar to footnotes for other facilities to make the higher allocation contingent upon receiving a Certificate to Operate for the expanded facilities by 12/31/10.

## 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 number(s), 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.*

State mandate in § 62.1-44.15(10) of the Code of Virginia is the source of legal authority identified to promulgate these amendments. The promulgating entity is the State Water Control Board.

The scope and purpose of the State Water Control Law is to protect and to restore the quality of state waters, to safeguard the clean waters from pollution, to prevent and to reduce pollution and to promote water conservation. The State Water Control Law (Code of Virginia) at § 62.1-44.15(10) mandates the Board to adopt such regulations as it deems necessary to enforce the general water quality management program of the Board in all or part of the Commonwealth. In addition, § 62.1-44.15(14) requires the Board to establish requirements for the treatment of sewage, industrial wastes and other wastes that are consistent with the purposes of this chapter. Setting the specific effluent limits needed to meet the water quality goals is within the discretion of the Board.

The correlation between the proposed regulatory action and the legal authority identified above is that the amendments being considered are modifications of the current requirements for the treatment of wastewater that will contribute to the protection of Virginia's water quality. State Water Control Law (Code of Virginia) web site: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+62.1-44.15>.

## Need

*Please detail the specific reasons why the agency has determined that the proposed regulatory action is essential to protect the health, safety, or welfare of citizens. In addition, delineate any potential issues that may need to be addressed as the regulation is developed.*

While both petitions request an increase in nutrient allocations, the owners' need for the amendments are based on different factors. For the FWSA-Opequon facility, the petition requests that a larger design capacity for the plant should be used as the basis for calculating its allocations, while the Merck petition requests that higher nutrient concentrations for TN and TP, ones that can be attained by the treatment facility, be used to set its allocation.

Necessary and appropriate nutrient allocations are essential to protect the health, safety and welfare of citizens by ensuring protection of water quality in the Potomac River Basin as well as the Chesapeake Bay.

The following issues were raised during the public comment period on the petitions and will be addressed during the regulatory process: (i) requested changes to nutrient allocations need to be evaluated within the context of achieving the overall nutrient allocation for the entire Potomac-Shenandoah River Basin; (ii) consideration of local water quality impacts from excessive nutrient loads in the Shenandoah sub-basin; (iii) whether an ability to aggregate allocations between facilities under common ownership should affect the need for an increase in allocations for a single facility; and (iv) establishing attainable allocations.

## Substance

*Please detail any changes that will be proposed. For new regulations, include a summary of the proposed regulatory action. Where provisions of an existing regulation are being amended, explain how the existing regulation will be changed.*

As presented by the petitioners, amend Nutrient Waste Load Allocations in the Water Quality Management Planning Regulation, 9 VAC 25-720-50.C. (Potomac, Shenandoah River Basin), for two facilities:

1. Merck WWTP (VPDES #VA0002178): increase the **Total Nitrogen** waste load allocation from **14,619** to **43,835** pounds per year, and the **Total Phosphorus** waste load allocation from **1,096** to **4,384** pounds per year.
2. Frederick-Winchester S.A.-Opequon WRF (VPDES #VA0065552): increase the **Total Nitrogen** waste load allocation from **102,281** to **115,067** pounds per year, and the **Total Phosphorus** waste load allocation from **7,675** to **11,512** pounds per year.

In addition to these revisions, if both petitions were approved then increases would be made to the Potomac-Shenandoah total basin **TN** waste load allocation from **5,156,164** to **5,198,166** lbs/yr, and the total basin **TP** waste load allocation from **246,634** to **253,759** lbs/yr.

## Alternatives

*Please describe all viable alternatives to the proposed regulatory action that have been or will be considered to meet the essential purpose of the action. Also, please describe the process by which the agency has considered or will consider other alternatives for achieving the need in the most cost-effective manner.*

The following are alternatives for consideration but DEQ staff will work in conjunction with a Technical Advisory Group, the petitioners, and other state and federal agencies (as appropriate) to find other alternatives. Alternatives provided by the public will also be considered.

Some alternatives considered by the agency include, but are not limited to, the following:

- Deny the petitions and leave the nutrient waste load allocations as currently listed in 9 VAC 25-720. The plant owners would have to rely on other options to meet their allocations, such as use of the Nutrient Credit Exchange Program (authorized under VA Code § 62.1-44.19:12 through 19:19) or installation of more stringent nutrient removal technology.
- Approve revised allocations as requested in the petitions.

- Approve revised allocations using values different than the petitioner’s for the underlying calculation factors, especially the assumed annual average total nitrogen or total phosphorus discharge concentrations.

**Public participation**

*Please indicate the agency is seeking comments on the intended regulatory action, to include ideas to assist the agency in the development of the proposal and the costs and benefits of the alternatives stated in this notice or other alternatives. Also, indicate whether a public hearing is to be held to receive comments on this notice.*

The agency is seeking comments on the intended regulatory action, including but not limited to 1) ideas to assist in the development of a proposal, 2) the costs and benefits of the alternatives stated in this background document or other alternatives, 3) potential impacts of the regulation and 4) impacts of the regulation on farm and forest land preservation. The agency is also seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include 1) projected reporting, recordkeeping and other administrative costs, 2) probable effect of the regulation on affected small businesses, and 3) description of less intrusive or costly alternative methods of achieving the purpose of the regulation.

Anyone wishing to submit written comments may do so at the public meeting or by mail, email or fax to John Kennedy, DEQ Chesapeake Bay Program, P.O. Box 1105, Richmond VA 23218; phone - 804-698-4312; fax – 804-698-4116; [jmkennedy@deq.virginia.gov](mailto:jmkennedy@deq.virginia.gov). Comments may also be submitted through the Public Forum feature of the Virginia Regulatory Town Hall web site at: [www.townhall.virginia.gov](http://www.townhall.virginia.gov). Written comments must include the name and address of the commenter. In order to be considered comments must be received by 5:00 p.m. on the last day of the public comment period.

A public meeting will be held and notice of the meeting may be found on the Virginia Regulatory Town Hall website ([www.townhall.virginia.gov](http://www.townhall.virginia.gov)). Both oral and written comments may be submitted at that time.

**Participatory approach**

*Please indicate, to the extent known, if advisers (e.g., ad hoc advisory committees, technical advisory committees) will be involved in the development of the proposed regulation. Indicate that 1) the agency is not using the participatory approach in the development of the proposal because the agency has authorized proceeding without using the participatory approach; 2) the agency is using the participatory approach in the development of the proposal; or 3) the agency is inviting comment on whether to use the participatory approach to assist the agency in the development of a proposal.*

The Board is using the participatory approach to develop a proposal. Persons interested in assisting in the development of a proposal should notify the department contact person by the end of the comment period and provide their name, address, phone number, email address and the organization you represent (if any). Any persons who want to be on the advisory committee are encouraged to attend the public meeting mentioned above. The primary function of the advisory committee is to develop recommended regulation amendments for Department consideration through the collaborative approach of regulatory negotiation and consensus. Multi-applications from a single company, organization, group

or other entity count as one for purposes of making the decision specified in the preceding sentence. Notification of the composition of the advisory committee will be sent to all applicants.

### Family impact

*Assess the potential 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 direct impact resulting from the assignment of waste load allocations limiting the discharge of total nitrogen and total phosphorus from wastewater treatment plants is for the protection of public health and safety. The adoption or amendment of these limitations may increase the cost of wastewater treatment at publicly owned treatment works, thereby increasing the user charges paid by residential and commercial customers, potentially decreasing the disposable family income.