



Final Regulation Agency Background Document

Agency name	State Water Control Board
Virginia Administrative Code (VAC) citation	9VAC25-260-450
Regulation title	Water Quality Standards
Action title	Amendment to designate a one mile segment of the Dan River as a public water supply (PWS)
Date this document prepared	August 23, 2011

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 14 (2010) 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of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed.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 Board amended the Water Quality Standards, Section 9 VAC 25-260-450, by designating as a Public Water Supply (9 VAC 25-260-380.D.1) an approximately one mile segment of the Dan River in Virginia and its tributaries in Virginia near the VA/NC state line. A raw water intake intended to serve Roxboro, North Carolina and the NC counties of Person and Caswell is proposed by the state of North Carolina for the Dan River near the town of Milton, NC approximately 10 miles downriver from Danville, Virginia. North Carolina water quality standards require public water supply protections to extend 10 miles upriver from the intake. The State Water Control Board (Board) acted in response to a petition to designate as public water supply (PWS) a sufficient portion of the Dan River and its tributaries to complete the 10-mile run of the river as required by North Carolina water quality standards.

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 or board taking the action, and (3) the title of the regulation.

The Board at its meeting on August 4, 2011:

1. adopted the following amendment to the Water Quality Standards regulation at section 3 of 9VAC25-260-450 to designate these waters as a Public Water Supply:

SECTION DESCRIPTION

- Dan River and its tributaries from the Virginia-North Carolina state line just south of Danville to points 1.34 miles upstream and the first unnamed tributary to Hogans Creek from the Virginia-North Carolina state line to a point 0.45 mile upstream.
2. directed staff to process this final action in accordance with the Administrative Process Act; however, staff is directed to delay (i) submittal of this amendment to U.S. EPA for approval and (ii) establishment of the effective date of the amendment until the Public Water Supply designation of the adjoining section of the Dan River in North Carolina is effective.
3. directed the DEQ Director to withdraw this action, at any time prior to the effective date, if North Carolina fails to designate its portion of the Dan River as a public water supply.

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.

Section 62.1-44.15(3a) of the Code of Virginia, as amended, mandates and authorizes the Board to establish water quality standards and policies for any State waters consistent with the purpose and general policy of the State Water Control Law, and to modify, amend or cancel any such standards or policies established. The federal Clean Water Act at 303(c) mandates the State Water Control Board to review and, as appropriate, modify and adopt water quality standards. The corresponding federal water quality standards regulation at 40 CFR 131.6 describes the minimum requirements for water quality standards. The minimum requirements are use designations, water quality criteria to protect the designated uses and an antidegradation policy.

Web Address sites where citations can be found:

Federal Regulation web site

http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfr131_99.html

Clean Water Act web site

<http://www4.law.cornell.edu/uscode/33/1313.html>

State Water Control Law (Code of Virginia) web site

<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+62.1-44.2>

<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+62.1-44.15>

The amendments do not exceed the minimum requirements of any legally binding state or federal mandates, nor are they more stringent than federal requirements which require, as a minimum, that states have a process whereby states may designate the uses for a water body.

The EPA Water Quality Standards regulation (40 CFR 131.10) is the regulatory basis for the EPA requiring the states to specify designated uses. EPA retains approval/disapproval oversight, but delegates to the states the election and designation of specific public water supplies.

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.

The amendments to the regulation are necessary to protect health, safety or welfare by providing appropriate water quality protection for a downstream public water supply. Although the majority of the water supply users would be citizens of North Carolina, the water supply (Dan River) is shared by Virginia and North Carolina. Federal regulation (40 CFR 131.10(b)) states "...the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters." North Carolina water quality standards require public water supply protection for a 10-mile distance upriver from a drinking water supply intake that includes tributaries as well as the river main stem. The Dan River and some of its tributaries exit North Carolina and enter Virginia before this 10-mile limit from the North Carolina-proposed intake is reached.

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 amendment adds a public water supply (PWS) notation in the special standards column of section 9VAC25-260-450 and associated narrative language describing that portion of the Dan River and tributaries to which the PWS special standard applies.

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.

The primary advantage to the public is providing appropriate water quality protection to a public drinking water supply source. The primary disadvantage is that PWS criteria listed in the parameter table of section 9VAC 25- 260-140.B apply to waters designated as PWS and may

lead to more stringent effluent limits for affected dischargers. There are 2 permitted facilities within the PWS segment. One is an individual permit with several stormwater discharges and the other is a Stormwater Industrial General Permit. Agency water permits staff is not aware of any impacts the designation would have on these facilities. The City of Danville North Side waste water treatment facility discharge point (with a diffuser) to the Dan is a little under one-half mile upstream of the terminus of the PWS segment. Low flow conditions are utilized at the point of discharge when permit limits are calculated. A downstream water withdrawal would not affect calculation of permit limits for Danville’s discharge.

This regulatory action poses no disadvantages to the public or the Commonwealth.

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.

N/A

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.

A Notice of Public Comment (NOPC) was published in the Virginia Register on February 14, 2011 and the comment period ended April 15, 2011. Comment was received from the City of Danville Utilities Department, Pittsylvania County, Roanoke River Basin Association, and from Mr. Wells Barker.

LOCALITY COMMENT

In general, opposing comment received from localities is directed towards the necessity of the proposed intake, potential additional restrictions for upstream wastewater treatment facility (WWTF) discharges, the proposed amount of water to be withdrawn, and the location of the water’s return.

Comment received from Danville’s Division of Water & Wastewater Treatment stated their continued opposition to the inter-basin transfer of water from the Dan River. The proposed intake is near Milton, NC. Danville comment states that the existing wastewater treatment facility discharge that would accommodate the removed water returns it to a tributary to the Dan River approximately 30 miles downriver. They maintain that inter-basin transfer of water will result in a significant loss of a natural resource to communities in the Dan River watershed. There are also concerns of future increases in the amount of withdrawal from 10 MGD to 30 MGD as it is their understanding the raw water line is designed to accommodate up to 30 MGD although the initial withdrawal amount requested in the permit application is less than 30 MGD. Another issue of concern is the possibility of degraded water quality during periods of extreme low flow in the river segment between the point of water removal and return. Should this

happen they believe the City of Danville could be targeted to treat wastewater to a higher degree.

Pittsylvania County provided comment stating concerns that parallel those of Danville. They refer to their close regional partnership with Danville in the form of economic development projects and their contract with Danville for that city to provide water and waste water treatment services in the amount of 3 MGD.

The Roanoke River Basin Association stated that, based upon USGS data, the lesser 10 MGD withdrawal request represents almost 9% of the entire median stream flow in the area. They stated that volume of water is significant and may result in water depletion and have other adverse environmental and socio-economic impacts on the Roanoke River basin below the intake. The potential for inter-basin transfers of water that originate in the Dan River are a real concern for residents and communities within the basin. If the North Carolina localities that are to be receiving water from the proposed intake decide to sell that water to other localities that do not discharge back to the Roanoke basin or if it is decided the expense is too great to pump treated wastewater back to the Dan, there is a net loss risk of a valuable resource. They also state their concerns of more stringent discharge limits and potential increased cost to localities to meet those limits should discharge limits be recalculated with reduced low flow conditions due to the intake. They state their opposition to any inter-basin transfer of water and do not support any decision to designate the proposed portion of the Dan River as a public water supply.

CITIZEN COMMENT

Comment was received from Mr. Wells Barker of Beaufort, NC. He urges the Board to rethink the approval of Roxboro's petition for PWS reclassification of the Dan River. He believes what was presented to the State of Virginia was not a complete picture of this water project, its need, or the intended use of the water involved and he feels it important that Virginia and citizens in the Roanoke basin be aware of inconsistencies regarding the stated need and probable use of water from the proposed intake at Milton, NC. He asserts that Roxboro and Person County initiated this water supply project approximately 10 years ago and have invested over \$750,000 in the process to date. The governing bodies of Roxboro, Person County, and Yanceyville (a town within Caswell County) met with the Caswell County Commissioners in an attempt to negotiate Caswell joining the other localities in the proposed water supply project. According to Mr. Barker, Caswell County agreed to sign on to the project after changes were incorporated into the project agreement that Caswell Co. believes would allow them a portion of the revenue generated by the sale of the Dan River water, should such sales occur.

Mr. Barker supplied a copy of Roxboro's 2008 Local Water Supply Plan on file with the N.C. Division of Water Management (NCDWM). He points out that by 2050 Roxboro projects to be using 52% of their supply from their two water source lakes. He continues that in 2050 Yanceyville's water plan projects that they will be using 20% of its supply and Milton's plan projects they will be using 27% of their supply. NCDWM recommends that localities with water supply systems should be investigating additional sources if they are projected to be using 80% of supply 20 years in the future. Mr. Barker is of the opinion the Milton water supply intake project is about the sale of water and not the need for it. He states that the most likely recipient of any water sales from the Dan River would be Durham County, NC which has experienced a 20% increase in population over the past 10 years. Durham Co. is in the Neuse River basin and the sale of water to Durham Co. would be an inter-basin transfer of water which will affect many

municipalities, businesses, and citizens throughout the Roanoke River basin all the way to Virginia Beach.

STAFF RESPONSE

Staff recognizes the comments received address issues directly related to designating a portion of the Dan River and its tributaries in Virginia as a public water supply as well as issues not directly related to the designation. These other issues deal with how and where the water removed from the Dan River would be returned to the river within North Carolina and the impact that would have on uses of the river within the Commonwealth.

The City of Danville North Side Wastewater Treatment Facility (WWTF) discharge point (with a diffuser) to the Dan is a little over one tenth of a mile upstream of the terminus of the petitioned PWS segment. Low flow conditions are utilized at the point of discharge when permit limits are calculated. A downstream water withdrawal would not affect calculation of permit limits for Danville's discharge.

Based on the use of a diffuser at the WWTF, the effluent should be well mixed and so there should not be a concern for any downstream withdrawal. General water quality problems due to low flow (drought) would affect the WWTF regardless of the downstream withdrawal. There is little chance that the withdrawal itself would result in stricter limits for the discharges upstream of the intake.

Other issues raised by the comments are in regard to how and where the water removed from the Dan River would be returned to the river within North Carolina. The withdrawal may be more likely to affect downstream dischargers because critical flows could be reduced for the Dan River below the intake which may be deducted from historical low flow conditions. This could reduce assimilative capacity at downstream discharge points. The closest significant discharger in VA downriver from the proposed intake is South Boston WWTF which is approximately 30 miles down river. DEQ permitting staff was consulted with regard to the potential impacts to permit limits for existing significant dischargers in the South Boston area should 10 MGD be removed from the Dan River at Milton, NC. They responded that reduction of the total residual chlorine limits may be the only consequence experienced. According to the engineering consultant for the City of Roxboro, a portion of the intake water would be returned to the Dan River via the Yanceyville, NC WWTF discharge (permit No. NC004011; design flow 0.6 MGD) to County Line Creek which joins the Dan River just downriver of the proposed Milton intake and is approximately 25 miles upriver from the Town of South Boston. Another portion of the intake water would be discharged to Marlowe Creek by the Roxboro, NC WWTF discharge (permit No. NC0021024; design flow 5.0 MGD). This water is ultimately returned to the Dan River via the Hyco River approximately 10 miles downriver of South Boston.

DEQ staff understands the concerns of the Virginia communities expressing concern regarding the Roxboro water withdrawal but it is not germane to the public water supply designation. In the interest of maintaining the on-going interstate cooperation, a Memorandum of Agreement was signed by DEQ Director David Paylor and NC Department of Environment & Natural Resources (NCDENR) on June 6, 2011. The MOA acknowledges a mutual agreement to reduce downstream impacts to water supplies and encourage reciprocation of designations in the future when feasible. The MOA identifies the segments of the Dan River and its tributaries that are proposed for PWS designation. The memo goes on to recognize that PWS protections according to the state of Virginia will be accorded to the designated segment though that does not guarantee the designation is protective of North Carolina water supply nor does it guarantee

delivery of any particular quality of water for North Carolina water supply. In the event of a known, reportable contaminant discharge event in the segment that may result in significant impairment to waters in North Carolina, Virginia DEQ will make reasonable and expeditious effort to notify Roxboro.

As an interstate source of water supply, there are inevitably inherent tensions among the states and water users from each state regarding water allocation. Withholding approval or denying the Roxboro public water supply designation will have no impact on whether the withdrawal is ultimately allowed. The issue of equitability between the two states on water withdrawals has been the subject of ongoing dialogue among the legislative and citizen representatives of the Roanoke River Bi- State Commission for the last year and will continue. A joint water quantity model has been developed to inform the discussion. Should the basis for an interstate agreement be reached in this forum, review by DEQ, the Board, and the Administration would follow.

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
9VAC25-260-450 Roanoke River Basin		Section 3 of the Roanoke River Basin table delineates as Class III waters with no special standards the Dan River and its tributaries from the Virginia-North Carolina state line just east of the Pittsylvania-Halifax County line upstream to the state line just east of Draper, N. C., unless otherwise designated in this chapter.	Adds the following language describing that portion of the Dan River and its tributaries to which the PWS designation would apply: "Dan River and its tributaries from the Virginia-North Carolina state line just south of Danville to points 1.34 miles upstream and the first unnamed tributary to Hogans Creek from the Virginia-North Carolina state line to a point 0.45 miles upstream." The notation "PWS" would be placed in the special standards column to the left. The consequence is that Public Water Supply numerical water quality criteria for specific parameters in the table of parameters in section 9VAC25-260-140 B apply to the above named waters.

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.

No small businesses are affected and PWS designations do not have a direct effect on compliance or reporting schedules and/or reporting requirements. There are no other regulatory methods that would accomplish the same objective as a PWS designation.

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.

No direct impact on the institution of the family and family stability is expected from this action.