

TENTATIVE AGENDA
STATE WATER CONTROL BOARD MEETING
 THURSDAY, JANUARY 14, 2016

DEPARTMENT OF GAME AND INLAND FISHERIES
 BOARD ROOM, 7870 VILLA PARK DRIVE
 RICHMOND, VIRGINIA 23228

CONVENE - 9:30 A.M.

			TAB
I.	Minutes (October 1, 2015)		A
II.	Virginia Pollutant Discharge Elimination System Permit VEPCO Possum Point Power Station (Prince William County)	Davenport Thomas	B
III.	Regulations - Final Water Quality Standards Triennial Review (9VAC25-260)	Kennedy	C

NOT BEFORE 1:30 P.M.

IV.	Virginia Pollutant Discharge Elimination System Permit VEPCO Bremono Power Station (Fluvanna County)	Davenport Kiracofe	D
V.	Public Forum		

TO BE CONSIDERED AS TIME ALLOWS THROUGHOUT THE DAY

VI.	Regulations - Final General VPDES Permit Regulation for Domestic Sewage Discharges Less Than or Equal to 1,000 GPD (9VAC25-110)	Daub	E
VII.	Significant Noncompliers Report	O'Connell	F
VIII.	Consent Special Order Boyd Farm, LLC (Goochland County) Roanoke Electric Steel Corp. (Roanoke)	Crowell	G
IX.	Other Business FY2016 Clean Water Revolving Loan Funding List and Draft Living Shorelines Loan Program Guidelines for Public Comment Future Meetings	Gills	H

ADJOURN

NOTE: The Board reserves the right to revise this agenda without notice unless prohibited by law. Revisions to the agenda include, but are not limited to, scheduling changes, additions or deletions. Questions arising as to the latest status of the agenda should be directed to the staff contact listed below.

PUBLIC COMMENTS AT STATE WATER CONTROL BOARD MEETINGS: The Board encourages public participation in the performance of its duties and responsibilities. To this end, the Board has adopted public participation procedures for regulatory action and for case decisions. These procedures establish the times for the public to provide appropriate comment to the Board for its consideration.

For Regulatory Actions (adoption, amendment or repeal of regulations), public participation is governed by the Administrative Process Act and the Board's Public Participation Guidelines. Public comment is accepted during the Notice of Intended Regulatory Action phase (minimum 30-day comment period) and during the Notice of Public Comment Period on Proposed Regulatory Action (minimum 60-day comment period). Notice of these comment periods is

announced in the Virginia Register, by posting to the Department of Environmental Quality and Virginia Regulatory Town Hall web sites and by mail to those on the Regulatory Development Mailing List. The comments received during the announced public comment periods are summarized for the Board and considered by the Board when making a decision on the regulatory action.

For Case Decisions (issuance and amendment of permits), the Board adopts public participation procedures in the individual regulations which establish the permit programs. As a general rule, public comment is accepted on a draft permit for a period of 30 days. If a public hearing is held, there is an additional comment period, usually 45 days, during which the public hearing is held.

In light of these established procedures, the Board accepts public comment on regulatory actions and case decisions, as well as general comments, at Board meetings in accordance with the following:

Regulatory Actions: Comments on regulatory actions are allowed only when the staff initially presents a regulatory action to the Board for final adoption. At that time, those persons who commented during the public comment period on the proposal are allowed up to 3 minutes to respond to the summary of the comments presented to the Board. Adoption of an emergency regulation is a final adoption for the purposes of this policy. Persons are allowed up to 3 minutes to address the Board on the emergency regulation under consideration.

Case Decisions: Comments on pending case decisions at Board meetings are accepted only when the staff initially presents the pending case decision to the Board for final action. At that time the Board will allow up to 5 minutes for the applicant/owner to make his complete presentation on the pending decision, unless the applicant/owner objects to specific conditions of the decision. In that case, the applicant/owner will be allowed up to 15 minutes to make his complete presentation. The Board will then allow others who commented during the public comment period (i.e., those who commented at the public hearing or during the public comment period) up to 3 minutes to respond to the summary of the prior public comment period presented to the Board. No public comment is allowed on case decisions when a FORMAL HEARING is being held.

Pooling Minutes: Those persons who commented during the public hearing or public comment period and attend the Board meeting may pool their minutes to allow for a single presentation to the Board that does not exceed the time limitation of 3 minutes times the number of persons pooling minutes, or 15 minutes, whichever is less.

New information will not be accepted at the meeting. The Board expects comments and information on a regulatory action or pending case decision to be submitted during the established public comment periods. However, the Board recognizes that in rare instances, new information may become available after the close of the public comment period. To provide for consideration of and ensure the appropriate review of this new information, persons who commented during the prior public comment period shall submit the new information to the Department of Environmental Quality (Department) staff contact listed below at least 10 days prior to the Board meeting. The Board's decision will be based on the Department-developed official file and discussions at the Board meeting. In the case of a regulatory action, should the Board or Department decide that the new information was not reasonably available during the prior public comment period, is significant to the Board's decision and should be included in the official file, the Department may announce an additional public comment period in order for all interested persons to have an opportunity to participate.

PUBLIC FORUM: The Board schedules a public forum at each regular meeting to provide an opportunity for citizens to address the Board on matters other than those on the agenda, pending regulatory actions or pending case decisions. Those wishing to address the Board during this time should indicate their desire on the sign-in cards/sheet and limit their presentations to 3 minutes or less.

The Board reserves the right to alter the time limitations set forth in this policy without notice and to ensure comments presented at the meeting conform to this policy.

Department of Environmental Quality Staff Contact: Cindy M. Berndt, Director, Regulatory Affairs, Department of Environmental Quality, 629 East Main Street, P.O. Box 1105, Richmond, Virginia 23218, phone (804) 698-4378; e-mail: cindy.berndt@deq.virginia.gov.

Modification of a Virginia Pollutant Discharge Elimination System Individual Permit Dominion – Possum Point Power Station – VA0002071 Prince William County:

Background:

The Dominion – Possum Point Power Station is an existing 1845 Mega Watt (MW) natural gas and oil fired steam electric generating station. The facility began operation in 1948 and ceased the use of coal in March 2003. Five ash ponds (A, B, C, D, and E) remain on site. The applicant is proposing to close all ash ponds on site pursuant to a 2015 United States Environmental Protection Agency final Rule that regulates the disposal of coal combustion residuals. It should be noted that the requirements for closure will be addressed through the Virginia Solid Waste Management Regulations. The VPDES modification primarily addresses the industrial wastewater and stormwater discharges associated with the closure of the facility's ash ponds. The facility also requested additional changes to the permit that are not related to the closure of the ash ponds.

Pursuant to Section 62.1-44.15:01 of the State Water Control Law, the public notice is to be mailed to the chief elected official and chief administrative officer and planning district commission. By letter dated October 28, 2015, DEQ notified the Prince William Board of County Supervisors, the Prince William County Executive, the Mayor of the Town of Dumfries, the Town Manager of the Town of Dumfries, The Northern Virginia Regional Planning District Commission, and the Maryland Department of the Environment.

Public notice of the draft permit and public hearing was published in *The Washington Times* on October 29, 2015, and November 5, 2015. A 45-day public comment period ran from October 30, 2015, through December 14, 2015. During this period, there were 465 commenters.

In addition, DEQ also hosted in an informational meeting on November 18, 2015, concerning the closure of the coal ash ponds at the Dominion - Possum Point Power Station. The meeting was held at the request of several members of the General Assembly. Approximately thirty-five people attended.

Public Hearing:

DEQ held the public hearing at 7:00 p.m. on December 8, 2015, at the Northern Regional Office of the Department of Environmental Quality in Woodbridge, Virginia. Mr. Joseph Nash served as the hearing officer. DEQ also hosted an informational session prior to the hearing so that questions could be asked and answered prior to the hearing. Approximately 125 people attended the public hearing. Thirty-six citizens provided oral comments during the public hearing.

Summary of Comments and DEQ Response:

Summaries of the comments received during the public comment period and staff's responses to those comments can be found after the changes to the draft permit. Where possible, comments were grouped and summarized according to issue. All comments received in response to the permitting action are available upon request.

Changes to the Draft Permit:

Changes to the draft permit were made following the public comment period. The changes were made in response to public comment as well as additional examination from staff. The changes incorporated into the revised, proposed permit to the draft permit that was published for public comment are listed below:

- § A special condition has been added requiring a final Conceptual Engineering Report to be submitted for Outfall 503.
- § A Drawdown Rate Special Condition was added to the draft permit to ensure proper drawdown rates related to ash pond closure activities.
- § The special condition requiring notification to DEQ of commencement of dewatering activities has been expanded to require notification prior to commencing discharge as well after initiating a discharge.
- § The average flow identified for Outfall 004 was increased from 2.02 MGD to 2.59 MGD to recognize the flow contributed from Internal Outfall 502.

- § Outfall 005 under the “Current Configuration” was removed from the permit. Only the interim configuration is recognized. The historical configuration of the sources, treatment system and discharge authorized through Outfall 005 no longer exists. Likewise, all associated requirements for this outfall under the current configuration have been removed. These include:
- Whole Effluent Toxicity requirements for Outfall 005 (Current Configuration) were removed.
 - The water quality criteria monitoring requirement for Outfall 005 (Current Configuration) has been removed.
- § Internal Outfall 503 has been explicitly identified as an authorized source to discharge through Outfall 005.
- § The dilution ratio for the receiving stream of Outfall 005 (interim), an unnamed tributary (UT) to Quantico Creek, has been changed so that no dilution is applied in developing effluent limits for this outfall. Accordingly, pollutant effluent limits and whole effluent toxicity (WET) limits for this discharge are more stringent than what was contained in the draft permit.
- § The sample type for Total Hardness at Outfall 005 (Interim) changed from grab to 4H-C to be consistent with sampling requirements for other parameters.
- § The receiving stream for Outfall 010 has been changed from the tidal Quantico Creek embayment to an unnamed tributary to Quantico Creek on the permit cover page. No dilution is incorporated in developing effluent limits for this discharge.
- § Effluent limitations have been added for Outfall 010. The draft permit included monitoring requirements without effluent limitations. The list of parameters for which effluent limits and/or monitoring requirements have been established for Outfall 010 aligns with the parameters of concern for coal combustion residuals (CCR), and is consistent with the list of parameters governed at Internal Outfall 503. The following constituents have been added to the list of monitored and/or limited pollutants which were not identified in the draft permit: total suspended solids, oil and grease, aluminum, beryllium, boron, chromium III, chromium VI, cobalt, molybdenum, acute and chronic toxicity. Likewise, monitoring for the following pollutants has been removed from proposed permit consistent with the CCR constituents: total solids, fluoride, sodium, potassium, sulfate, total organic carbon, manganese (dissolved) and phenol.
- § The effluent limits for Outfall 010 become effective 30-days after the date of the major modification of the permit.
- § Outfall 010 has been authorized to discharge to Internal Outfall 503.
- § Outfall 010 may be re-designated to a stormwater discharge, identified as Outfall S107, if the permittee can demonstrate that all groundwater contributions to the discharge have been removed.
- § Laboratory analytical quantification levels (QLs) have been added to Outfall 010 in conjunction with the proposed effluent limits.
- § A second Part I.A effluent limits and monitoring requirements page for Internal Outfall 503 was added to the permit. The first page establishes the requirements when Internal Outfall 503 is routed to either Outfall 001/002 or 004 for discharge to surface waters. These outfalls discharge to tidal Quantico Creek and have a dilution ratio of 2:1 applied for both acute and chronic mixing. These limits were contained in the draft permit published for public notice. A second effluent limits and monitoring requirements page was established authorizing the discharge through Outfall 005. The receiving stream for this outfall is an unnamed tributary to Quantico Creek. No dilution is included in the development of effluent limits for this point of discharge.
- § Language has been added to clarify that when the Outfall 005 discharge is comprised of effluent directly from Internal Outfall 503, the monitoring results from Internal Outfall 503 may be used to satisfy effluent monitoring requirements for Outfall 005. Effluent and monitoring requirements at Outfall 005 are required if and when there are discharges from the holding basin.
- § A maximum discharge flow rate of 2.88 MGD has been established for Internal Outfall 503 and Outfall 005.

- § Monitoring at Outfall 005 and Internal Outfall 503 has been added for the suite of parameters associated with coal combustion residuals for which there are no water quality criteria, and accordingly, no effluent limits established in the permit. Monitoring for these parameters is included at a frequency of once per month to be collected in conjunction with WET testing.
- § The monitoring frequency for Internal Outfall 503 and Outfall 005 has been increased to three days/week for the pollutants with effluent limitations, with weekly reporting of results.
- § Laboratory analytical quantification levels (QLs) for Outfall 005 (Interim Configuration) and Internal Outfall 503 were lowered to reflect actual laboratory capabilities.
- § A limitation exceedance special condition was added to the proposed permit to address any limitation and/or WET limit exceedances at Internal Outfall 503 or Outfall 005. Should the permittee become aware of an effluent limit exceedance the discharge shall be ceased and corrective action implemented before the discharge may resume.
- § An Outfall 010 re-designation special condition has been added which specifies the requirements for demonstrating removal of all groundwater from this discharge. Upon written approval from DEQ, the re-designated stormwater Outfall S107 has specific monitoring and management requirements stipulated in the permit.

Response to Comments

VPDES Permit No. VA0002071 - Dominion – Possum Point Power Station

All comments received in response to this permitting action are available upon request.

1. Lack of Details and Information in Permitting Documentation

- **The draft permit fact sheet does not contain required information about the type and quantity of water to be discharged. The public cannot formulate adequate comments and propose appropriate revisions to the draft permit without an understanding of the volume of the stored wastewaters in pond D, the expected daily discharge and the duration of the discharge to drain pond D, and the rate of flow and concentrations of pollutants from the pond D to drain.**
- **The state does not know how the company will treat contaminated wastewater drained from the coal ash ponds.**
- **Verify the efficacy of a proposed treatment system prior to discharge of polluted waste from Pond D.**
- **There are no details to ensure that the harmful substances will be addressed prior to starting the dewatering process.**

Staff Response

Documentation supporting the proposed permit modification includes the draft permit, draft fact sheet and the application and supporting materials provided with the permit modification request received on August 20, 2015. The draft fact sheet and draft permit identified the average daily flow from the Pond D dewatering discharge as 2.53 millions of gallons per day (MGD). A maximum flow of 3.5 MGD was identified in the application. The permit application indicates a total volume of approximately 137 million gallons (MG) to be discharged over the initial draw-down of Pond D to last approximately 60 days. The application and supporting materials also indicate that the on-going dewatering is expected to last for approximately 547 days and include a total estimated volume of 107 MG. This information has been verified and updated by Dominion since the application submittal and is included in the revised fact sheet. While this information is contained in the permit application documentation, which is included by reference on the cover page of the draft permit, staff will include additional information in the fact sheet to more clearly describe the details of these discharges.

The draft permit establishes effluent limits on 17 parameters associated with the dewatering activities, 13 of which are for metals identified as constituents for concern for coal combustion residuals. In addition, the draft permit established effluent limits on Whole Effluent Toxicity (WET) on a monthly basis. Lastly, monitoring at a frequency of once per month has been added to the proposed permit for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium. This monitoring is to be performed concurrently with the Whole Effluent Toxicity monitoring so that data are available for analysis in the event that the Whole Effluent Toxicity tests indicate toxicity. Section 17.d.(5) of the draft fact

sheet described the basis for the parameters selected for establishing effluent limits, the rationale for WET limits and the parameters included for monitoring without associated effluent limits.

Treatment options were outlined by the permittee in their Conceptual Engineering Report (CER) provided with the August 20, 2015, modification request application, as well as the December 2, 2015, memorandum in response to the DEQ request for additional information. It should be noted that until final effluent limits are established, the permittee is not able to select a final treatment design. Ultimately, the treatment components will need to be configured to ensure compliance with effluent limitations. Treatment options identified in the CER include settling, filtration and chemical treatment, ion exchange/absorption and/or packed bed biofilters. DEQ effluent limits are established to protect water quality and maintain beneficial uses of the receiving waters. The limits establish the requirements for the permittee to meet; DEQ does not prescribe the methodology by which the permittee is to comply with effluent limits.

Lastly, the following requirements were added to the revised, proposed permit to address concerns with a potential exceedance of effluent limits. The permittee will be required to submit a final CER describing the final selection of treatment technology to be employed to meet effluent limits. Additionally, the permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Outfall 503 or Outfall 005. The permittee shall promptly notify DEQ, in no case later than 24 hours, after the discovery of the exceedance. Should an exceedance occur, the permittee shall initiate a review of the treatment operations and data to identify the cause(s) of the exceedance and initiate appropriate corrective action(s). Resumption of the discharge shall not occur until such time as an evaluation report is provided to DEQ and written authorization to resume the discharge is granted by DEQ.

2. Technology-based Limits and Alternatives

- **DEQ has ignored available technology that can significantly reduce pollutant concentrations in wastewater at Possum Point.**
- a. **The Clean Water Act requires technology-based effluent limitations developed on a case-by-case basis. DEQ relied on the Power Plant ELGs in error—EPA’s newly promulgated effluent limitations do not apply to arsenic and other toxic metals contained in the wastewater in coal ash pond D nor do they apply to activities, like draining and dewatering that are outside the normal operation of coal ash impoundments. These activities were not contemplated by the new ELGs. DEQ cannot rely on state WQS to the exclusion of available technology for reducing concentrations of pollutants.**
- b. **Economically achievable technology will significantly lower metals concentrations in water discharged from coal ash pond D. A treatment technology evaluation was provided as an attachment with estimated costs to build, operate and dismantle.**
 - **The draft permit, as written, does not comply with the Clean Water Act. The Clean Water Act requires the application of the best achievable technologies to treat wastewater before it may be discharged.**
 - **Technology exists to reduce the levels lower than proposed permit limits. A higher level of treatment should be required.**
 - **There are no details to ensure that the harmful substances will be addressed prior to starting the dewatering process.**
 - **Dominion has made plenty of profit to cover the expense of disposing of this waste in a proper manner.**
 - **The discharge should be treated to drinking water quality standards.**
 - **Request that VDEQ-NRO develop technology-based effluent limits like North Carolina.**

Staff Response

The facility is regulated by 40CFR Part 423, Federal Effluent Guidelines and Standards for the Steam Electric Power Generating Point Source Category. Updated Part 423 federal effluent guidelines (FEGs) were published by EPA as a final rule in the Federal Register on November 3, 2015.

The discharge of “legacy” wastewaters, as proposed by Dominion, are specifically addressed in the preamble to the FEGs, and are subsequently regulated as best available technology economically achievable (BAT) at 40CFR §423.13. The Preamble refers to legacy wastewaters as:

“...wastewater generated prior to the date determined by the permitting authority that is as soon as possible beginning November 1, 2018, but no later than December 31, 2023... Under this rule, legacy wastewater must comply with specific BAT limitations, which EPA is setting equal to the previously promulgated BPT [best practicable control technology currently available] limitations on TSS in the discharge of fly ash transport water, bottom ash transport water, and low volume waste sources.”

In establishing the BAT limitations for legacy wastewaters in its final rule, EPA explicitly rejected technologies other than surface impoundments due to the lack of adequate data to do so, and the way legacy wastewaters are handled at steam electric power generating plants. In considering BAT limitations for legacy wastewaters, DEQ does not possess data of sufficient or defensible robustness to supersede EPA’s rejection of technologies other than surface impoundments.

Technology- based treatment requirements (Best Professional Judgment) may be developed at the state level in the absence of applicable federal technology-based effluent limits (40CFR 125.3(c)). The Federal Regulations (40CFR 125.3(d)) further prescribe methodologies for setting technology-based limitations, which are the same factors EPA is required to be consider in the development of FEGs. Under these regulations the Department does not have the authority to arbitrarily prescribe treatment technology requirements without going through the appropriate evaluations, including cost benefit analyses and non-water quality environmental impact (i.e. energy requirements, etc.). Because the EPA has just undertaken this effort as described above, DEQ does not believe that the same exercise at the state level will yield different results. Consequently, while it may be possible to treat the effluent to drinking water quality, DEQ does not have the authority to impose this requirement on the permittee.

Applicable requirements from the updated guidelines are included in the proposed modified permit for those processes and/or process units within the scope of the permit modification. This includes the dewatering water discharge from Outfall 503, Outfall 005, and the Pond D toe drain and stormwater discharge from Outfall 010. The proposed modified permit includes effluent limitations for TSS (30 mg/L monthly average; 100 mg/L daily maximum), oil and grease (15 mg/L monthly average; 20 mg/L daily maximum), pH (minimum of 6 and maximum of 9 standard units) and utilization of a surface impoundment technology, which DEQ staff believes properly satisfies the 2015 FEG and BAT/BPT requirements.

As mentioned in comments received, FEGs for Arsenic, Mercury, Selenium, and Nitrate/nitrite as N were established by EPA to apply to discharges containing flue gas desulfurization (FGD) wastewaters. Comments were received recommending inclusion of effluent limitations for Arsenic, Mercury, and Selenium as strict as the FEGs for flue gas desulfurization wastewaters, and to also be consistent with an NPDES permit issued by the North Carolina Department of Environment and Natural Resources (DENR) permit issued to Duke Energy Progress LLC for its L. V. Sutton Energy Complex (permit #NC0001422).

Application of the federal effluent limitation guidelines for Arsenic, Mercury and Selenium are not germane to this case because flue gas desulfurization wastewaters have not been, and are not being, generated at the permitted facility. DEQ does not consider it appropriate to apply FEGs based on an industrial process that is not present at the permitted facility. In addition, the DENR Fact Sheet for Sutton cites a basis for the Mercury limitation being a Statewide surface water impairment and Total Maximum Daily Load (TMDL) for Mercury. The receiving stream at the Dominion-Possum Point Power Station is not subject to a comparable mercury TMDL or mercury impairment designation. Therefore, DEQ does not consider it appropriate to apply a limit for Mercury using an impairment basis that is not germane to the outfall receiving stream. Finally, following promulgation of EPA’s final rule, it is DEQ’s understanding the North Carolina DENR permit for the Sutton Energy Complex was issued based on a water quality-based, reasonable potential analysis approach. Consequently, interstate consistency would be achieved by not applying technology-based effluent limitations for parameters other than TSS, Oil and Grease and pH.

3. Maintaining Water Quality Standards and Protection of Beneficial Uses.

- The permit will not protect existing uses of Quantico Creek and the unnamed tributary. Polluted discharges into the unnamed tributary and into Quantico Creek will be highly hazardous for aquatic life. Application of mixing zone concepts, in light of the toxicity analyses and thresholds provided by Dr. Lemly, is inappropriate and not well documented.**

- The proposed permit authorizes the discharge of the toxic metals arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc above the hazard level for fish and wildlife.
- The draft permit does not contain limits for barium cobalt, manganese, and vanadium; DEQ should regulate these commonly occurring toxic constituents of coal ash in the Possum Point permit.
- Permissible contaminant limits allowed in the present permit are troublingly high, and in some cases exceed the toxicity levels set forth by the Commonwealth. Lower limits, such as those proposed for Duke Progress Energy in North Carolina should be applied at Possum Point.
- The state admits it does not have enough data to determine impacts to aquatic life.

Staff Response

Permit limits are designed to be protective of the Virginia Water Quality Standards (WQS), which establish the beneficial uses of all waters in the Commonwealth and the narrative and numeric criteria necessary to ensure water quality is maintained and protected. These WQS are adopted as regulation (9VAC25-260 et seq.), and represent the best available science to ensure protection of water quality. These WQS also allow for the use of mixing zones concepts in evaluating limitations for VPDES permits.

The WQS include criteria to protect aquatic life from acute (1-hour) and chronic (4 day) exposures. The WQS also include criteria for the protection of human health from the consumption of fish. Because of the 1-hour exposure period, protection of the acute criterion is most critical around slack tide conditions. With a 4-day exposure, the chronic criterion must be met over a period that includes approximately eight tidal exchanges. The human health criteria are established to prevent health impacts from consumption of fish over a period of years. In the absence of a site specific mixing model, DEQ guidance applies conservative mixing assumptions of 2:1 for protection of the acute criterion (1 part effluent and 1 part receiving stream) and 50:1 for protection of the chronic criterion. The human health criteria are also typically evaluated with a 50:1 mixing ratio in tidal waters. However, due to the shallow depth of the Quantico Creek embayment staff took a more conservative approach by utilizing a 2:1 dilution factor for the acute, chronic and human health analyses in the initial draft permit. If the permit limits for acute and chronic criteria are attained then aquatic life in the receiving waters will be fully protected consistent with the WQS. See issue #8 below for further discussion of mixing in unnamed tributaries to Quantico Creek.

DEQ has reviewed the report; “Technical and Toxicological Evaluation of Coal Ash Pond Dewatering Permit proposed for Possum Point Power Station, Virginia” that was prepared by Dr. Lemly and provided by the Southern Environmental Law Center along with their comments on the draft permit. This report focused on a review of fifteen metals. EPA and Virginia water quality criteria designed to protect aquatic life have been established for 11 of these metals; arsenic, cadmium, copper, chromium III, chromium VI, lead, mercury, nickel, selenium, silver and zinc. Virginia also has water quality criteria designed to protect human health for thallium that are applicable in all waters and a barium criterion applicable in designated public water supplies. A summary of the staff comments regarding the review of this report is presented below. Staff’s full review is contained in Appendix 1 to this Response to Comments document.

- *The report uses a minimum amount of available information to do a basic comparison of the proposed draft permit limits to concentrations identified in the report as water quality criteria. There are several limitations to this simplified approach that affect the accuracy of the conclusions reported.*
- *The “high hazard” threshold (intended to be EPA water quality criteria/Virginia water quality criteria) used in the report for several of the values are incorrect, or are saltwater criterion values.*
- *When compared to the correct Virginia water quality chronic criteria concentrations, the “high hazard” threshold used in the report is equal to the criterion for two metals, lower than the correct criterion for seven metals, and higher than the correct criterion for three metals.*
- *The report compares the criterion concentration for the most toxic form of chromium (chromium VI) to the higher permit limits that apply to the less toxic chromium III. This is incorrect and inflates the difference between the correct values.*
- *The sources of the “high hazard” threshold values used in the report for cobalt, manganese, thallium and vanadium are unknown and they cannot be evaluated.*
- *The report considers the criterion concentration as a threshold representing “high hazard” when in fact the chronic criterion should prevent any potential for any significant toxic effects. Chronic criteria are designed to*

protect spawning, reproduction, growth and development of early life stages as well as prevent any lethal effect to young or adult aquatic life.

- *Most of these inconsistencies tend to overestimate any differences between the criteria and the draft permit limits. The report does not account for any potential for dilution of the discharge when entering a receiving water.*

Water Quality Criteria Designed to Protect Aquatic Life. *Water quality criteria designed to protect aquatic life that are adopted as regulation, are based on a careful, systematic collection of all toxicity information available for the toxic substance. Following established guidelines, these data are carefully reviewed to determine which toxicity data are from acceptable scientific studies, conducted using established protocols and which have been determined to provide acceptable, unambiguous toxicity data suitable for calculating water quality criteria.*

Both acute and chronic criteria are based on all available toxicity data and are designed to protect almost all of the species for which good quality toxicity information is available. EPA develops draft water quality criteria, subjects them to internal and external peer reviews and then subjects them to public comment periods, adjusting the criteria as needed based on public comments and again subjecting them to public comments and possibly additional adjustments before issuing them as final, recommended national water quality criteria. States are expected to propose these criteria for adoption as state water quality criteria and the state again subjects these proposed criteria to public for review and comments. In this way, water quality criteria are developed by trained government scientists and technicians, using standardized protocols. The draft criteria are subjected to internal and external peer reviews, and then subjected to several, repeated rounds of public review and comments on both the national level and on the state level, oftentimes adjusting the criteria based on public comments. In this way, once a water quality criterion is officially adopted, the criterion represents the best scientific consensus of allowable concentrations of the potentially toxic substance that will prevent lethal effects as well as less serious effects such as reduced growth or reproduction. Water quality criteria are designed to be protective and waters with concentrations at or lower than the chronic criterion concentration should protect and allow for a healthy diverse community of aquatic life.

Acute Criterion provides protection against lethal effects: An acute criterion is designed to protect aquatic life from severe toxic effects that can cause death, generally under exposure lengths of two to four days. At a minimum, acute criteria are designed to protect all but the 5% most sensitive species from any lethal toxic effects. Even the very most sensitive species could be expected to suffer some impairment but not death if exposed to the acute criterion. In some cases, the criterion is lowered to protect even the most sensitive species if it is an important species. The acute criterion should protect both adult and early life stages from lethal toxicity.

Chronic criterion provides protection against long-term exposures that could cause adverse effects on reproduction and/or growth of early life stages of aquatic life. *Chronic criteria are designed to protect against less severe, non lethal toxic effects such as reduced growth or reduced reproductive success which might occur over prolonged periods of exposure. The chronic criterion is based on long term toxicity tests starting with very early life stages of aquatic life; eggs, embryos, larval stages and other early life forms. Often, these early life stages are more sensitive than the adults or juveniles and toxic effects are observed at lower concentrations. By using the toxicity sensitivity of these early life forms as the basis for the chronic criterion, the criterion is designed to take into consideration spawning and reproduction, development of eggs and growth of larval and juvenile fish and other aquatic life. If the chronic criterion is not exceeded for extended periods of time, then spawning and reproduction should be protected.*

With regard to the statement that DEQ does not have enough data to determine impacts to aquatic life, the discussion above provides extensive information on the water quality standards and the protections of aquatic life from the established acute and chronic water quality criteria. Please see the staff responses to Comment #5, #8 and #10 for discussion of the aquatic life use in Quantico Creek and for applied dilution in the revised, proposed permit with specific attention directed towards Outfalls 005 and 010.

4. **DEQ should evaluate the possibility of cumulative and/or synergistic impacts as a function of combination of metals, salts, and high temperature discharges. At elevated temperatures, the metals contained in the discharges of coal ash water may be even more toxic than at normal stream temperatures.**

Staff Response

The possibility of cumulative and/or synergistic impacts is addressed by the Whole Effluent Toxicity limitations applied to the coal ash dewatering discharge. The proposed permit includes four monthly bioassays to limit acute and chronic toxicity for two species. The toxicity of most metals generally correlates to water hardness rather than temperature. The effluent limitations in this permit were developed using very conservative hardness values and are expected to be fully protective of the receiving stream. It should be recognized that the frequency of toxicity monitoring for these discharges is much greater than in other VPDES permits.

5. **Concerns with uncertainty about impacts to aquatic life from the discharges, and that they will contribute to impairments in Quantico Creek and its tributaries.**

- **The proposed “dewatering” discharge will contribute to an existing impairment of Quantico Creek and further degrade water quality.**
- **Discharge will contribute to the impairment of Quantico Creek sediments.**
- **The discharge will increase pollution. There should be no degradation of Quantico Creek authorized.**
- **Polluted water from pond D will sacrifice water quality in the unnamed tributary and to Quantico Creek.**

Staff Response

There are several existing water quality impairments noted for tidal Quantico Creek. All of tidal Quantico Creek is listed as impaired for not supporting the fish consumption designated use due to elevated levels of polychlorinated biphenyls (PCBs) in fish tissue. This fish consumption impairment applies to the tidal portion of the Virginia tributaries and embayments in the Potomac River Basin from the I-395 Bridge (above the Woodrow Wilson Bridge) to the Potomac River Bridge at Rt. 301. See

<http://www.vdh.virginia.gov/Epidemiology/dee/PublicHealthToxicology/Advisories/PotomacRiver.htm> for additional information. The completed Total Maximum Daily Loads (TMDLs) of PCBs for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia addresses this impairment and is available at <http://www.deq.virginia.gov/portals/0/DEQ/Water/TMDL/apptmdls/potrivr/potopcb.pdf>.

All of tidal Quantico Creek is identified in the 2014 draft water quality assessment with an impairment to the open water aquatic life use for not meeting the 30-day mean dissolved oxygen values during the summer season. This impairment applies to all Virginia tidal tributaries to the Potomac River located in the tidal freshwater portion of the basin. The completed Chesapeake Bay TMDL establishing the loading capacities for nitrogen, phosphorus and sediment in the Chesapeake Bay watershed is designed to address this impairment.

A portion of tidal Quantico Creek is listed as not supporting the aquatic life use due to estuarine bioassessments (low benthic diversity) and sediment bioassays (slight yet significant toxicity, possibly due to organic enrichment and chemical contamination) observed from estuarine probabilistic station 1aQUA001.09, sampled in 2001. There was an observed effect noted due to elevated nickel values in the sediment at this station.

It is staff’s opinion that that proposed permit limits will not exacerbate or contribute to the existing impairments in Quantico Creek. The pollutants of concern are not associated with the dissolved oxygen or PCB impairments noted above. With regard to the aquatic life use impairment based on the 2001 estuarine probabilistic sampling, staff has initiated a special study monitoring project in Quantico Creek. It is comprised of both sediment and water column sampling designed to confirm and update the initial impairment listing, and to better understand all of the potential sources in the entire Quantico Creek watershed that may contribute to the levels of metals observed in sediment. Based on the results to date, the special study monitoring has confirmed elevated levels of select metals in sediment and no exceedances of water quality criteria for metals in the tidal waters of Quantico Creek. It should be noted that there are no criteria for sediment. Rather, DEQ applies screening thresholds to the assessment of sediment data.

As discussed specifically in staff responses to comments #3, #4, #9 and #15, permit limits for all discharges are established to maintain the Virginia Water Quality Standards (WQS) and protect the beneficial uses of the receiving waters. This includes consideration and evaluation of the potential impact of the discharges on existing water quality conditions and impairments. With the combination of effluent limits on the discharge of total suspended solids (TSS) and the very low effluent limits on the metals associated with coal combustion residuals, there will be very little potential discharge of metals in a particulate form that will settle and contribute to elevated metals in sediment. Additionally, staff does not expect the chemistry of the receiving waters to significantly alter the form or partitioning of the metals and contribute to sediment values. Lastly, there have not been observed water column exceedances of metals in the data collected in the tidal embayment. Therefore, the metals in sediment are not disassociating under ambient conditions and contributing to elevated water column values.

6. Antidegradation of State Waters

- **Concerns that the discharge will increase pollution. There should be no degradation of Quantico Creek authorized.**

Staff Response

Due to the very conservative mixing ratios (2:1 for Outfalls 001/002 and 004, and no mixing for Outfalls 010 and 005) established in the proposed VPDES permit, staff is confident that there will be no measurable degradation of water quality in Quantico Creek. Please see staff response to Comment #5 for additional discussion.

- 7. Concerns that the permit does not adequately protect fish species such as striped bass and catfish populations, spawning areas, special status species, nor does it adequately protect nesting or migrating birds, notably eagles.**
- **Polluted discharges from coal ash pond D may adversely affect special status species.**
 - **The area of discharge sought by Dominion Virginia Power is located in the midst of the largest concentration of Blue Catfish in the river. Contaminants bioaccumulated by Blue Catfish could pose a risk to human health, and in turn to this newly emerging commercial fishery. It should be pointed out that this is a commercial fishery that is not covered by VA DEQ fish consumption advisories which pertain to recreationally caught fish. Finally, the PRFC would have concerns regarding the bioassimilation of contaminants throughout the food web, ranging from zooplankton, to benthic organisms and forage fish species.**
 - **Quantico Creek and the Potomac River are critical habitats that support commercial and recreational fishing. Virginia and Maryland's boaters and fishermen benefit from clean, safe water.**
 - **What will happen to the thriving aquaculture industry once consumers learn that the rockfish, oysters and crabs they're enjoying were caught downstream from a toxic waste faucet?**
 - **There should be comprehensive testing of fish species and benthic flora. People eat the fish.**
 - **The long term environmental and potential public health impacts as well as impacts to striped bass and catfish populations have not been assessed. The permit application ignores the impact this massive discharge may have on Quantico Creek. More testing is needed before the permit can be considered.**
 - **Both our local Bald Eagle population and the visiting Bald Eagles need clean water, populated with fish and welcoming to the waterfowl to survive.**
 - **There should be grave concern for the impact on some 15 species of wintering water birds that rely on the creek, wetlands, shoreline, and the middle of the river for habitat to feed, nest, and raise their young.**

Staff Response

As discussed above in staff response to Comment #3, water quality criteria are based on all available, good quality toxicity information for a wide variety of diverse species of aquatic life, and because the most sensitive species drives the calculation of the criteria, all organisms typically thrive when WQS are maintained. It is assumed that species that have never been used in toxicity tests with the substance have sensitivities within the range of sensitivities in the dataset of the tested species. All of the tested species act as surrogates for any untested species. It is assumed that any species of special importance such as those listed as threatened and endangered species, but which are not in the toxicity dataset will share a level of sensitivity close to one of the tested species. Because of this, it is either assumed or demonstrated, based on the species considered during criteria development that threatened and endangered species will also be protected by a nationally recommended water quality criterion. In order for this to not be true, the species in question would have to be significantly more sensitive than the most sensitive species known. This is unlikely. Water quality

criteria developed in this way are protective and will ensure a healthy, diverse aquatic community in waterbodies meeting these criteria. Waters with concentration of the toxic metal at the concentration of the chronic criterion should represent a screening value concentration that indicates a protected waterbody, with no reason to suspect any adverse effects.

Additionally, it should be noted that most of the toxic pollutants associated with coal ash are metals and generally speaking, in the aquatic environment, aquatic life are much more sensitive to the toxic effects of metals than humans. If we protect the aquatic life, humans will also be protected. Potential exposure to humans of metals found in a water body could come from eating fish that might have become contaminated. Most metals do not bioconcentrate in fish tissue to any significant levels that could pose a health risk to human consumers. Fish bioconcentration factors for most metals are usually very low, so fish contamination rarely poses any potential risk to human consumers. When a metal is in a discharge that could potentially pose a potential risk to humans due to a potential fish-contamination, a permit limit is included. For example, thallium is one metal that could have a potential for some risk to human consumers under certain conditions. Thallium can concentrate in fish at a little higher rate than most other metals. The bioconcentration factor recommended for thallium is 116 while for most other metals bioconcentration factors are generally under 50. Thallium can be more toxic than most other metals. The water quality criterion for thallium that is being applied to this permit is designed to limit thallium in a waterbody to very low levels that will not contaminate fish to a level of potential risk to human consumers. Implementing the thallium criterion will provide the needed protection for human health by preventing fish from concentrating thallium to elevated levels. Implementing this criterion in this permit will provide protection.

It is very rare that actual adverse effects on wildlife and highly mobile birds in particular can be attributed to water pollution, except when geographic conditions force the bird population to become highly concentrated around a highly contaminated localized source of water, for example, where the only water source for miles is a wastewater lagoon for a mining or industrial facility. In Virginia, along the Potomac River, this scenario is highly unlikely. DEQ has no evidence that this could be a potential problem at this site.

Regarding the comment that there should be comprehensive testing of fish species and benthic flora, there are several monitoring components to note. First, DEQ is conducting a special study monitoring program in Quantico Creek. This sampling was initiated in 2014 and will continue into 2016. This sampling program is considering the potential sources in the watershed that may be contributing metals to the system. Second, DEQ conducts fish tissue monitoring of waters in the Commonwealth. DEQ last sampled fish tissue from the Quantico Creek embayment in 2008. There were no elevated levels of metals observed in any of the fish species collected at that time. Given that the nature of pollutants in the dewater discharge considered in the proposed permitting action is not significantly different from what was discharged historically at the power station when it was actively burning coal, and considering that metals, in general, do not significantly bioconcentrate, staff does not believe that fish tissue will be impacted by the proposed discharge.

8. Concerns raised about the ecosystem broadly, public health and drinking water supplies

- **This waste contains carcinogens and heavy metals, which the utility wants to treat and release into major tributaries of the Chesapeake Bay at a rate of 172 million gallons per day. While this may be the quickest and cheapest option to get rid of coal ash problems this plan could inflict decades of hardship on a major ecosystem and our state's largest source of drinking water.**
- **The effluent concentration limits for metals are too high compared to human toxicity levels.**
- **The toxic levels that are allowed in this permit are orders of magnitude higher per liter than allowed by the CDC in human blood. The outfall is diluted once it enters the river, but do we really want that kind of pollution added to a public water supply?**
- **What will be the long term impacts to Public Health?**

Staff Response

As described in prior responses, the draft permit has been prepared in accordance with the Virginia Water Quality Standards and thereby protective of human health. Any recommended concentration of any metal in human blood has no correlation or relevance to safe levels of that metal in river water. The potential for a contaminant in a river to pose a possible risk to humans is assessed by entirely different methods and consideration of realistic exposure conditions.

Proper and appropriate environmental contamination risk assessment methods are used to develop water quality criteria designed to protect human health. These criteria are based on appropriate consideration of potential environmental exposure pathways to humans. These environmental contamination-specific methods form the basis for the water quality criteria that are designed to protect human health.

There is no reason to believe that if these criteria-based permit limits are met, there would be a potential for significant contamination of fish or other aquatic life and this should prevent any potential short term or long term impacts on public health.

9. Dilution Allowance for the Unnamed Tributary to Quantico Creek and Quantico Creek, and Lack of Flow Limits

- **Polluted water from pond D will sacrifice water quality in the unnamed tributary and to Quantico Creek.**
- **The flow in this small stream is wholly insufficient to dilute the highly concentrated waste stream from pond D. Nonetheless, the draft permit does not include limits on the allowable flow from pond D, and it is possible that the volume of the discharge on any given day may greatly exceed the average flow of 2.53 MGD identified in the permit.**
- **The Department does not provide an estimate of the flow in this tributary, the volume of water in the pond at its mouth, nor the extent to which the tributary is tidally mixed with water from Quantico Creek. Nonetheless, it assumes that the tributary can sufficiently dilute an average discharge of 2.53 million gallons per day from the coal ash ponds to protect water quality standards. This is improbable and extremely unlikely.**
- **Depending on hydrological conditions, storm events, and the volume of flow of effluent, the zone of undiluted contaminants in Quantico Creek could be significantly greater than anticipated. Quantico Creek is very shallow, and with tidal pulsing of approximately 1.5 feet per cycle, a plume of undiluted contaminants will likely persist in the waterway for hours or longer at low tide. DEQ has not provided an analysis of the tidal conditions in Quantico Creek to justify its conclusion that dilution will be sufficient to protect water quality under all hydrological conditions.**

Staff Response

In response to public comments, a maximum daily flow limit of 2.88 MGD has been included in the proposed permit. This maximum daily limit is applied to both Internal Outfall 503 and the Outfall 005 discharge to the unnamed tributary (UT) to Quantico Creek. The average daily flow of 2.53 MGD as identified in the draft permit remains in the revised, proposed permit.

With regard to the dilution ratio applied to the Outfall 005 discharge into the UT to Quantico Creek, the draft permit applied a 2:1 dilution ratio for both the acute and chronic mixing conditions. This mixing ratio has been applied to all acute and chronic discharges from the power station to Quantico Creek and the Unnamed Tributary (UT) to Quantico Creek. Staff conducted a site visit on December 16, 2015, to observe the conditions of the UT to Quantico Creek which receives the discharge from Outfall 005. Staff has concluded that sedimentation of Quantico Creek and its tributaries has impacted the influence of tidal action on the UT to Quantico Creek. The culverts that connect the UT to the Quantico Creek embayment were partially clogged thereby reducing the volume and flow available for flushing and dilution in the UT. Based on staff observations, no dilution will be applied to the discharge from Outfall 005 in the revised, proposed permit.

With regard to other discharges into the tidal Quantico Creek embayment, as noted, the 2:1 dilution ratio has historically been applied to all acute and chronic discharges from the power station to Quantico Creek. The discharge flows within the scope of this permit modification are due to the dewatering operations associated with closure of the ash ponds and the flow from the Pond D toe drain, groundwater and stormwater through Outfall 010. The flow rate through Outfall 010 will vary greatly due to stormwater contributions. The dewatering discharges are authorized through either Outfall 005, Outfall 001/002 or Outfall 004. Outfalls 001/002 and 004 discharge directly into the tidal Quantico Creek embayment. Outfall 010 flows through a small UT prior to reaching Quantico Creek. There shall be no dilution applied to the Outfall 010 discharge as this discharge is unlikely to receive any dilution from the tidal embayment under critical flow conditions.

With regard to authorizing the additional dewatering flows to be discharged through either Outfall 001/002 or Outfall 004 directly into Quantico Creek, DEQ Guidance Memo 2011 recommends the use of a default acute dilution factor of 2:1 and a chronic dilution factor of 50:1. Due to the shallow depth of the Quantico Creek embayment, staff took a more conservative approach by utilizing the 2:1 acute dilution factor for the chronic waste load allocation. These mixing ratios have proven to be protective as all water column sampling data performed by DEQ in the Quantico Creek embayment have been well below water quality criteria. There is no reason to believe that the 2.88 MGD maximum discharge from the dewatering operation will have a discernible impact on the available dilution in the embayment. Additionally, it should be noted that staff have utilized conservative values for effluent hardness for those metals which have hardness-based water quality criteria.

10. Quantification Levels

- **The minimum quantification levels (QL) specified in the draft permit do not provide the analytical sensitivity necessary to properly evaluate waterborne concentrations of coal ash pollutants and their toxic hazard to aquatic life.**
- **Values less than the QL are recorded as zero.**

Staff Response

Permit effluent limitations based on the protection of aquatic life include both a monthly average and a daily maximum. It is important to note that both of these limitations are equivalent in that they both characterize the data distribution necessary to maintain water quality. The daily maximum value is the 97th percentile of the individual samples and the monthly average is the 97% percentile of the number of samples in the monthly average determination from the same data set. The limits are redundant in that they are both equally protective of water quality. In the case of averaging values less than the quantification level DEQ treats these values as if they were zero. Treating these values otherwise would put the agency in the position of enforcing a result which was not truly quantified. With the inclusion of the daily maximum limitations characterizing the same data set, water quality should be protected regardless of whether or not the monthly average includes <QL results. However, in response to the public comment, the QLs established in the permit have been lowered to reflect actual laboratory capabilities

11. Public Notice, Notification and Review

- **Most people are not aware of the situation and there are no requirements to inform the public or downstream communities when Dominion will dewater the coal ash ponds.**
- **Concerns over the notification procedures used by VADEQ. Nearby residents and the Town of Quantico were not notified.**
- **DEQ needs a more robust notification process.**
- **The Washington Times has zero circulation in PW County.**
- **When does the EPA weigh in on this issue?**

Staff Response

The public notice and notification requirements were conducted in accordance with applicable laws, regulations, policies and practices. Specifically, Section 62.1-44.15:4 D of the State Water Control Law establishes requirements for the notification of local governments and riparian landowners upon receipt of an application for the reissuance of a new or modified permit. This section is interpreted to mean that the above notifications are required for new applications, for modification applications which include a flow expansion, and for reissuance applications that include a flow expansion. Staff reviewed Discharge Monitoring Report (DMR) form data and noted historical flows from Outfall 005 greater than the average daily discharge rate of 2.53 Million Gallons per Day (MGD) associated with the initial draw-down of impounded waters in Ash Pond D. For this reason, the modification application was deemed not to include a flow expansion and notification of local governments and riparian landowners was not required.

In accordance with 9VAC25-31-290 C.2., public notice shall be given by publication once a week for two successive weeks in a newspaper of general circulation in the area affected by the discharge. Additionally, Section 8.01-324 of the Code of Virginia establishes criteria for which newspapers may be used for legal notices and publication. Staff utilized the established criteria outlined in Section 8.01-324 of the Code of Virginia when selecting The Washington Times for publication of the legal notice. The Washington Times has a total print distribution of 41,500 home deliveries and is

available in 82 retail locations within Prince William County. Public notice was published on October 29, 2015 and November 5, 2015 in the Washington Times.

Pursuant to Section 62.1-44.15:01 of the State Water Control Law, the public notice is to be mailed to the chief elected official and chief administrative officer and planning district commission. By letter dated October 28, 2015, DEQ notified the Prince William Board of County Supervisors, the Prince William County Executive, the Mayor of the Town of Dumfries, the Town Manager of the Town of Dumfries, The Northern Virginia Regional Planning District Commission, and the Maryland Department of the Environment.

Notice of the pending permitting action was transmitted to the United States Environmental Protection Agency on November 3, 2015, in accordance with established procedures.

Staff provided a copy of the public notice, draft permit, and draft fact sheet to Southern Environmental Law Center (SELC) and the Potomac Riverkeeper before the public notice was advertised.

12. Opposition to the Permit and Requests for Extension of Comment Period

- **The permitting action and process appears to be rushed. Why is there such a rush?**
- **Opposition to Dominion's application to drain over 100 million gallons of contaminated water from coal ash ponds directly into Quantico Creek and the Potomac River.**
- **Request from Senator David Marsden, Senator-Elect Scott Surovell and Delegate David Bulova, to extend the comment period 60 days.**
- **Because of the complexity of the issue and the volume of technical information, comment period should be extended. The draft permit and fact sheet are over 300 pages and the proposed dewatering action has never been undertaken in Virginia.**
- **Deny the permit and extend the comment period 60 days to review information, attend the hearing and obtain additional information from DEQ to inform public comments.**
- **Urge to deny the permit and extend the comment period 60 days to allow science to inform the potential impacts to the river and public health.**
- **Resolution of the Prince William County Board of Supervisors requesting a 60-day extension or they oppose the permit action.**
- **The Town of Quantico requested 90-day extension to the comment period.**

Staff Response

As noted in correspondence from Director David K. Paylor dated December 3, 2015, the agency has followed the requirements and procedures for public participation established in law and regulation, including requirements to process permitting actions in a timely manner. Consistent with this standard operating practice, it is the agency's decision that the 45-day public comment period was adequate and an extension was not necessary.

13. Ineffective Limits and Associated Monitoring

- **The draft permit does not contain an effective monitoring regime. The permit must require more frequent monitoring and reporting. Monthly average limits should be made weekly average limits, with daily monitoring and weekly reporting.**
- **Dominion must identify and commit to a strong, long-term testing regime to assure that any pollution that is released into the river is identified and Dominion corrects the problem and compensates victims.**
- **Concern with reliance on self-monitoring.**
- **Require comprehensive sampling study of sediment, water, aquatic communities, and fish tissue in Quantico Creek and the unnamed tributary in order to fully characterize environmental conditions prior to the discharge of treated effluent into the creek. Require ambient monitoring during any authorized discharge.**

Staff Response

The initial draft permit proposed monitoring frequencies greater than what are typically required in permits, including those with larger discharge volumes. The revised proposed permit includes enhanced monitoring and reporting above

that contained in the initial draft permit. Specifically, the proposed permit establishes monitoring for effluent limited parameters associated with dewatering at a frequency of three days per week (3/W), with a minimum of 48 hours between sampling events. Additionally, the permittee is required to receive test results within four business days of sampling and reported to DEQ no later than the close of business Friday of the week following sample collection. This increase in sampling frequency also had the effect of lowering the monthly average effluent limits. This is due to the nature of the statistical computations used in establishing effluent limits whereby the increased sampling frequency changes the distribution of data and improves the confidence interval. Lastly, DEQ has included monitoring for parameters identified as constituents of concern for coal ash residuals for which there are no water quality monitoring criteria. While the Whole Effluent Toxicity sampling ensures that these parameters, as well as others that may cause toxicity, are accounted for in the sampling regime, sample results for these additional constituents will be helpful should toxicity be observed and for better understanding the full characteristics of the discharge.

The VPDES program is a self-monitoring program under the Clean Water Act. The DEQ performs inspections of facilities and collects samples from the facility as necessary. VPDES permittees are also required to submit monthly Discharge Monitoring Reports to DEQ. These monitoring reports contain summaries of the facility's self-monitoring results, and are reviewed by the DEQ's compliance staff. In addition, DEQ is committed to following up on any inquiries or complaints we receive regarding the facility's operation.

Staff does not believe ambient monitoring, during the discharge, of sediment, water, fish tissue and aquatic communities is necessary. As discussed in staff response to comments #3, #5, #7 and #9, the permit limits have been established using very conservative assumptions to protect and maintain the Virginia Water Quality Standards. Accordingly, effluent monitoring to demonstrate compliance with the established effluent limits will serve to gage the potential impact of the discharge on the aquatic environment. Additionally, this permitting action addresses dewatering activities required for closure. Closure of these impoundments is governed by and addressed by the 2015 EPA Final Rule on the Disposal of Coal Combustion Residuals and applicable provisions of the Virginia Solid Waste Management Regulations. Closure and post-closure care under those requirements will include groundwater monitoring, associated surface water monitoring, and other measures. The requirements of a solid waste permit will continue to ensure that the facility is not causing any impacts to surface water. Furthermore, as noted in response to comment #5, DEQ has initiated a special study monitoring project in Quantico Creek. It is comprised of both sediment and water column sampling designed to better understand all of the potential sources of metals in the Quantico Creek watershed that may contribute to the levels of metals observed in sediment in the tidal portion of the waterbody.

14. Ash Pond Discharge Volume Limits to Protect Against Toxic Discharges & Dam Integrity

Staff Response

The proposed effluent limits for the discharge of process wastewater from dewatering activities are based on an average daily flow rate of 2.53 MGD and a maximum daily flow of 2.88 MGD. In response to public comment, the maximum effluent flow limit of 2.88 MGD has been included in the draft permit for the discharge of process wastewater from dewatering activities. In addition, after consultation with the Department of Conservation and Recreation, a special condition has been added to the draft permit that requires the drawdown rate of any pond or basin to not exceed 6 inches/day to maintain the integrity of the dams, unless approved by the Department of Conservation and Recreation Dam Safety Program.

15. Ash Pond D Toe Drain and Contaminated Groundwater

- **There are no limits or requirement to treat the Toe Drain discharge. The state does not know the volume of contaminated water draining from this discharge.**
- **The Potomac Riverkeepers' samples showed that Dominion's five coal ash ponds, four of which are unlined, are leaking contaminants into groundwater and Quantico Creek. Rather than seek an enforcement action against Dominion, the Virginia DEQ has issued a new draft permit that would allow Dominion's "toe drain" discharge to continue, with no limits or requirements to treat contaminated wastewater.**
- **The discharge from the Possum Point toe drain as made known by the work presented by Potomac Riverkeepers must be evaluated and included as part of this permit process before continuing forward.**

- DEQ has not attempted to characterize the effluent and imposed no limits at all for the toe drain wastestream.
- If it is determined that a permit is to be granted to Dominion Virginia Power, PRFC recommends the toe drains, which are currently discharging untreated water into Quantico Creek, be completely sealed and all water from the coal ash ponds be treated before discharge.

Staff Response

Outfall 010 is a new discharge point identified and authorized in the draft permit. It contains the groundwater infiltration from Ash Pond D's berm for stabilization, which is commonly referred to as the toe drain. It also includes groundwater diverted around the impoundment structure as well as stormwater which enters at drop inlets located at the base of the backwall of the impoundment. As described in the draft fact sheet, the discharge from this outfall was added to the permit based on staff's observations of the site.

The draft permit published for public notice contained monitoring requirements for Outfall 010 for selected constituents consistent with the groundwater monitoring regime included in the existing VPDES permit. There were no effluent limits established in the initial draft permit for this discharge in keeping with standard practices and policies of DEQ, as there remains uncertainty to the nature and characterization of the discharge. Consistent with normal procedures, the draft permit contained monitoring requirements to better understand the pollutants which may be present and the concentration, or levels, of these parameters. It is not standard practice to establish effluent limits without a clear basis to support such decisions.

It should be noted that staff was provided with surface water sampling data from the Potomac Riverkeeper organization in the summer of 2015. These data were considered in the decisions made regarding the draft permit. There was, and still remains, uncertainty with the data provided by this organization. This includes the location of the sample collection as compared to the location of the discharge as well as the sample collection and analytical procedures. Decision-making based solely on this sample was and is not appropriate. It provides information regarding ambient pollutant concentrations but is not sufficient evidence to support establishment of effluent limits.

Based on comments received and questions raised at the public information meeting held at the DEQ-NRO office in Woodbridge, Virginia, on November 18, 2015, staff visited the site on November 24, 2015, to observe the outfall. The memorandum to file dated December 2, 2015, documents the observations from this site visit. Based on the staff observations and discovery, staff is incorporating additional requirements in the revised, proposed permit. These requirements are generally consistent with the approach applied in this proposed permitting action for establishing effluent limits. Additionally, staff acknowledges it is prudent to place limits on the discharge because Ash Pond D is scheduled for closure sooner than staff could assess monitoring data and subsequently require limits should they be needed. The requirements are described below:

- Effluent limits, including a Whole Effluent Toxicity limit, are included in the revised, proposed permit for all constituents associated with coal combustion residuals for which water quality criteria exist. No dilution is applied to Outfall 010 in establishing effluent limits. Outfall 010 does not discharge directly into the Quantico Creek tidal embayment. Rather, the discharge is into a marsh area. After the point of discharge, the effluent creates a small channel, now designated as an unnamed tributary to Quantico Creek, which flows approximately 500 feet prior to reaching Quantico Creek. While the receiving stream may be tidally influenced under certain conditions, and is likely inundated during storm events, there shall be no dilution applied to the Outfall 010 in consideration of critical flow conditions.*
- A 30-day compliance schedule is included in the revised, proposed permit to comply with effluent limits.*
- Should the permittee separate and remove all groundwater contributions to the discharge, then the discharge would be comprised of only stormwater. In this event, the permit allows the permittee to demonstrate to DEQ that the nonstormwater component of the discharge has been eliminated, and the outfall would be re-designated as Outfall S107. In this event, the permit requires continued sampling of the stormwater discharges in order to characterize the discharge and confirm that there is no reasonable potential contribution of pollutants that would not be expected to be present in storm water in appreciable amounts.*

16. Lack of Sufficient Information to Support Permit Modification

- **The DEQ special study monitoring for assessing contamination in the Creek will not be completed prior to making a decision on whether to allow the dewatering discharge.**

Staff Response

The special study involving water quality monitoring of Quantico Creek is not designed to specifically characterize the nature of the proposed discharges. Rather, it is designed to better understand all of the potential sources in the entire Quantico Creek watershed that may contribute to the levels of metals in sediment observed in the tidal portion of the waterbody. The draft permit as well as the revised, proposed permit was prepared in accordance with all applicable laws, regulations and policies to maintain the water quality standards applicable to the discharge receiving waters and all applicable beneficial uses.

17. Coordination with Natural Resource Agencies

- **There has been no coordination with state wildlife officials for the assessment of the impacts to striped bass or eagles (fish/wildlife)**

Staff Response

Pursuant to the 2007 Memorandum of Understanding (MOU) among DEQ, the Department of Game and Inland Fisheries (DGIF), the Department of Conservation and Recreation (DCR) and the United States Fish and Wildlife Service (USFWS) regarding threatened and endangered species coordination during the VPDES permitting process, DGIF and DCR are notified of the receipt of an application if notification is requested by those agencies. The agencies are informed of the annual list of permits that are scheduled for reissuance during the upcoming calendar year, and they identify the specific permits they would like to review. The notification is executed through either a coordination form and/or DCR's Natural Heritage Database.

The Possum Point permit modification was not a permit reissuance or expansion, therefore, it was not subject to the MOU. Rather, the noted agencies were notified as part of the agency mailing list discussed below.

9VAC25-31-290 requires public notice goes to federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected states and any state agency responsible for plan development under § 208(b)(2), § 208(b)(4) or § 303(e) of the CWA and the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The natural resource agencies are on a required mailing list that is distributed per 9VAC25-31-290 C 1. F. and is submitted at the same time public notice is submitted to newspaper. This mailing list distributed every 2 weeks. The mailing list is the mechanism by which the EPA (for minor permits), DGIF, VIMS, USFWS, NMFS, Corps of Engineer, and adjacent states are notified of upcoming VPDES permit actions. DEQ is to provide additional information if those entities request them and address their comments.

DGIF requested information on the draft permit modification on November 20, 2015. DEQ provided electronic access to the draft permit, the draft fact sheet and the permit modification application on November 23, 2015. Comments were received from DGIF on December 14, 2015. DCR and DEQ communicated electronically and verbally between December 3 through 7, 2015. Comments were received from DCR on December 14, 2015.

Additionally, both DGIF and DCR were notified via the DEQ Public Notice Mailing List on November 2, 2015. A copy of the notice is found on DEQ's website at:

<http://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination/PublicNotices.aspx>

18. DGIF requests clarification of proposed effluent volumes, chemistry and constituents and of their ecotoxicology.

Staff Response

As noted in the staff response to Comment #17, DGIF requested information on the draft permit modification on November 20, 2015. The draft fact sheet and draft permit identified the average daily flow from the Pond D dewatering discharge as 2.53 millions of gallons per day (MGD). A maximum flow of 3.5 MGD was identified in the application. The permit application also indicates a total volume of approximately 137 million gallons (MG) to be discharged over the initial draw-down of Pond D to last approximately 60 days. The application and supporting materials also indicate that the on-going dewatering is expected to last for approximately 547 days and include a total estimated volume of 107 MG. This information has been verified and updated by Dominion since the application submittal and is included in the revised fact sheet. While this information is contained in the permit application documentation, which is included by reference on the cover page of the draft permit, staff will include additional information in the fact sheet to more clearly describe the details of these discharges.

The constituents of concern for coal combustion residuals are addressed in the proposed permit through a combination of elements, including established pollutant effluent limits, monitoring requirements and Whole Effluent Toxicity (WET) limits to address potential toxicity. Please see staff response to Comments #3, #4, #7 and #15 for information regarding the Virginia Water Quality Standards (WQS) and the toxicological information used in establishing the water quality criteria for protecting against acute and chronic toxicity to aquatic life as well as protection of human health.

19. DGIF requests explanation of how proposed monitoring protocols would document existing baseline concentrations of discharge at end of pipe and in receiving waters.

Staff Response

VPDES permits are designed to be protective of the Virginia Water Quality Standards (WQS), which establish the beneficial uses of all waters in the Commonwealth and the narrative and numeric criteria necessary to ensure water quality is maintained and protected. The proposed permit has been prepared in accordance with all appropriate statutes, regulations, guidelines and policies to protect the receiving waters. Monitoring to demonstrate compliance with the established effluent limits will serve to gage the potential impact of the discharge on the aquatic environment. Staff does not believe additional monitoring of the discharge or ambient environment is necessary. As discussed in staff response to comments #3, #5, #7 and #9, the permit limits have been established using conservative assumptions to protect and maintain the Virginia Water Quality Standards. Additionally, DEQ has initiated a special study monitoring project in Quantico Creek. It is comprised of both sediment and water column sampling designed to better understand all of the potential sources of metals in the Quantico Creek watershed that may contribute to the levels of metals observed in sediment in the tidal portion of the waterbody. This special monitoring study has provided information used to establish background, or baseline, conditions that are reflected in the proposed effluent limits.

20. Requests for explanation of how proposed monitoring protocols adequately evaluate impacts to the environment resulting from the discharge.

Staff Response

As discussed in staff response to Comment #19, monitoring to demonstrate compliance with the established effluent limits will serve to gage the potential impact of the discharge on the aquatic environment. Staff does not believe additional monitoring of the discharge or ambient environment is necessary.

21. Coal Ash Pond Closure

- **Do not support the plan to cap-in-place in a pond that will continue to discharge contaminants into Quantico Creek.**
 - **Toxic ash should be removed from the site and taken to a lined solid waste landfill away from the Potomac River and drinking water supplies like Duke Energy and other utilities have agreed to in North and South Carolina.**
 - **It makes no sense to allow Dominion to consolidate this waste into a pond that is known to be leaking. Dominion should be required to come up with a solution that ensures toxic substances do not continue leaking into the earth and the groundwater in the area.**
 - **DEQ has known ash ponds leak and have been contaminating groundwater for decades.**
 - **The ash ponds have contributed to ground water contamination.**

- There should be an environmental impact study to check drinking water wells for heavy metals.
- The proposed permit does nothing to stop or eliminate pollution from coal ash from discharging into Quantico Creek and the Potomac River. They [DEQ] don't even know how much is seeping out of coal ash ponds. Yet, they want to issue a permit for this pollution source to continue (with no treatment or limits), while giving Dominion a pass to drain millions of gallons of coal ash waste water into the river.
- A former worker at the Possum Point site, when it was changed over to new gas turbines, saw Pond D at low water levels and is unaware of a liner in place.
- There needs to be a permitted process to reuse coal ash in concrete production.
- 3.7 million cubic feet of coal ash should be removed from Possum Point and stored in dry landfill IWA [sic] modern Environmental regulations. A natural disaster of leaking coal ash will be much more expensive to remediate later.
- If Dominion gets permission to complete this dumping now, it will happen again and again.

Staff Response

This permitting action addresses dewatering activities required for closure. Closure of these impoundments is governed by and addressed by the 2015 EPA Final Rule on the Disposal of Coal Combustion Residuals and applicable provisions of the Virginia Solid Waste Management Regulations. Closure and post-closure care under those requirements will include groundwater monitoring, associated surface water monitoring, and other measures. The requirements of a solid waste permit will ensure that the facility is not causing an impact to surface water.

22. Release of Coal Ash into Waters, Dumping of Toxic Waste

- The Potomac River has seen improvement in recent years. This will set back the improvements seen in the river.
- The creek deserves an opportunity to recover after years of neglect. Stop giving Dominion a free pass to put its coal ash waste into our treasured waterways.
- Reject plans to dump coal ash waste from Possum and Bremo. Clean it up responsibly.
- The high metal concentrations in ash pond sediment will be allowed to be discharged.

Staff Response

Discharges from the coal ash ponds have been occurring since the power plant began operation. The laws, regulations and policies governing the existing and proposed discharges from the subject facility are the same that have, in many ways, been responsible for the improvements in water quality noted in the Potomac River Basin. The draft permit as well as the revised, proposed permit was prepared in accordance with all applicable laws, regulations and policies to maintain the water quality standards applicable to the discharge receiving waters and all applicable beneficial uses.

23. Consideration of Water and Ash Disposal Alternatives

- Other alternatives for the disposal of water and ash should be considered/analyzed.
- Better information is needed about the risk of a release and alternatives that eliminate these risks.
- With all of the resources we have available to us, we need to think of healthier alternatives that will not put human and wildlife health at risk. Be the leaders you are - you have the responsibility to protect our land, animals, economy, and people - instead of doing what's easiest, do what you were appointed, elected, and chosen to do - lead to create a great place to live.
- PRFC recommends an alternative methodology be determined that does not allow contaminants to enter the Potomac River, a system that is experiencing too many stressors already.

Staff Response

There is no prohibition in state law or regulation against anyone applying for an individual wastewater discharge permit. If an application for a permit is submitted then DEQ has a legal responsibility to prepare a draft permit that would be protective of water quality. As stated above, the discharge of water that has come into contact with ash has been occurring at this site since the power plant began operations. Staff is confident the draft permit will protect the beneficial uses of Quantico Creek.

24. Lack of Enforcement for Unauthorized Discharge

- There has been and continues to be an unauthorized, illegal discharge from the Pond D toe drain and there has been no enforcement action taken by DEQ.

Staff Response

Dominion has listed the toe drain discharge in its permit applications and identified the discharge as uncontaminated stormwater not associated with industrial activity. Staff have accepted this characterization because there was limited data to conclude otherwise. With this permit modification, staff proposed monitoring of the discharge to determine if water from within the pond was reaching the toe drain. As discussed in Comment #14 above, staff has given further review to the discharge and permit condition and now believes it is prudent to place limits on the discharge because Ash Pond D is scheduled for closure sooner than staff could assess monitoring data and subsequently require limits should they be needed.

25. Sedimentation and Hydrilla Issues in Quantico Creek

- Sedimentation in Quantico Creek is a big issue.
- There is a Hydrilla problem in Quantico Creek.

Staff Response

It was pointed out by several commenters that sedimentation in Quantico Creek is a significant issue. Additionally, there was a note that aquatic vegetation, namely Hydrilla, is a problem. Staff have observed the sedimentation issues most notably apparent by the shallow depth of the embayment. Additionally, staff have observed significant submerged aquatic vegetation in the Quantico Creek embayment. Both of these issues are beyond the scope or consideration of the permitting action under consideration.

26. Publication of Sampling Results

- Requested that all monitoring data from the effluent discharge be made available in a timely manner to concerned individuals and the Potomac River community via Dominion Virginia Power's website.

Staff Response

DEQ does not have the regulatory authority to require the permittee to provide records of monitoring, operation, and maintenance to the public. However, all records submitted to DEQ by the permittee are available to the public. This comment is entered into the administrative record for the permittee to consider.

27. Improvements to Aquatic Habitats

- PRFC would encourage Dominion Virginia Power to work to improve aquatic habitats in the Potomac River for all living resources either through a formal agreement as part of this permit process, or voluntarily through its philanthropic foundation.

Staff Response

The request to improve aquatic habitats in the Potomac River is beyond the scope of this VPDES permit.

28. How does draft permit comply with Presidential Executive Order 13508?

Staff Response

Virginia has worked closely with the USEPA and Bay States in the coordinated effort to restore and protect the Chesapeake Bay by making necessary adjustments to regulations, particularly the water quality standards ((VAC 25-260), permit practices, and TMDL initiatives. The permit has been drafted in accordance with the latest regulations, permit practices, and TMDL requirements and is designed to be to protect the aquatic life and beneficial uses of Quantico Creek and waters downstream of Quantico Creek; accordingly the permit is in concert with Executive Order 13508 – Chesapeake Bay Protection and Restoration. Further, the primary pollutants of concern for the Chesapeake Bay are nitrogen, phosphorus, and sediment; the draft permit requires TSS limits and monitoring of nitrogen and phosphorus on several outfalls.

29. Clarification of Operations to Draw Down

- Part I.F.16 of the permit states that “The permittee shall notify the DEQ Northern Regional Office upon commencing operations to draw down the water elevation in Ash Pond D in preparation of pond closure.” The meaning of “operations to draw down the water elevation” does not appear to be specified in the permit and the time frame “upon commencing” could be clarified. If the intent of this condition is for the permittee to notify DEQ when dewatering begins, perhaps the condition could be revised such that: *The permittee shall notify the DEQ Northern Regional Office within 24 hours of initiating discharge to draw down the water elevation in Ash Pond D in preparation of pond closure.*

Staff Response

Staff agrees that the language in the draft permit can be improved upon. The following language is included in the revised, proposed permit: “The permittee shall notify the DEQ Northern Regional Office at least 72 hours prior to the planned commencement of the discharge to draw down the water elevation in Ash Pond D in preparation of pond closure. A second notification to the DEQ Northern Regional Office shall be provided within 24 hours of initiating the discharge to draw down the water elevation in Ash Pond D.”

30. Clarifications on Inspections

- **Part I.F.17 and 18: Both of these conditions call for inspections to be conducted either weekly (17) or every 5 business days (18). The permit could be simplified if these inspections were to be conducted at the same frequency.**

Staff Response

Staff appreciates the comment and recommendation. However, the two referenced permit conditions and their associated inspection schedules are for related, but different items. Part I.F.17 calls for inspections of Best Management Practices (BMPs) on a weekly basis. Part I.F.18 requires inspections of Outfalls 010 and S108 at least once every five days. These permit requirements shall remain as proposed.

31. Clarification on Ash Handling Inspections

- **Part I.F.18. Ash handling Area Outfall Inspections: It is not clear what conditions or issues should be evaluated during these outfall inspections.**

Staff Response

Outfalls 010 and S108 contain stormwater discharges. These stormwater discharges have the potential to be influenced by coal ash as they are located along current and/or planned haul roads used for transporting coal ash. As such, these outfalls may receive ash from truck traffic or other fugitive sources. It is the responsibility of the permittee to develop a Stormwater Pollution Prevention Plan (SWPPP) to identify and describe the control measures and preventive maintenance necessary to reduce potential water quality impacts due to storm events. Because of the complexity of the ash pond closure process, staff is providing the applicant with flexibility to address inspections as needed based on operational conditions. These inspections are intended to supplement those found within the Storm Water Pollution Prevention Plan (SWPPP) requirements in Part I.E.2.b.7.a.9-12 of the proposed, revised permit. This permit requirement shall remain as proposed.

32. Comments were received supporting the modification of the permit.

Staff Response

There are no issues for staff to address in these comments.

33. Comment from Permittee – Permit Clarification

- **Part 1.A.5 - The sources of wastestreams that may contribute to Outfall 005 should include internal Outfall 503.**

Staff Response

Part 1.A.5 of the proposed permit has been changed to reflect this clarification.

34. Comment from Permittee – Permit Quantification Levels

- **Part I.A.9 - Footnote (4) contains quantification levels (QLs) for iron and manganese of 1.0 µg/L and 0.2 µg/L, respectively. These are extremely low QLs especially given there are no water quality criteria for either of these parameters that are applicable to the receiving stream. Our Dominion Laboratory is a VELAP certified laboratory that uses 40 CFR Part 136 methods and can attain QLs for iron and manganese of 50 µg/L and 5.0 µg/L, respectively. These QLs are sufficiently sensitive for the evaluation of iron and manganese in Outfall 010 and we request that they be used instead of the QLs currently proposed in footnote (4).**

Staff Response

The draft permit published for public notice contained monitoring requirements for selected constituents consistent with the groundwater monitoring regime included in the existing VPDES permit. Based on comments received during the public comment period and further evaluation, staff is incorporating requirements in the proposed permit for all constituents associated with coal combustion residuals, rather than those requirements from with the facility's groundwater monitoring. The revised, proposed permit includes iron monitoring but no longer includes monitoring for manganese at Outfall 010. The QL for iron has been removed from the draft permit for Outfall 010.

35. Comment from Permittee – Request for Permit Stormwater Rewording

- **Part 1.F.18 - This condition requires inspections of Outfall 010 and stormwater outfall S108 at a frequency of “once every five business days and no later than forty-eight (48) hours following a measurable storm event”. We request that this condition be reworded as follow to make it more consistent with the requirements of the General Permit for Discharges of Stormwater from Construction Activities 9VAC25-8880[SIC]-70 Part 1.B.4.d.(1):**

“Inspections shall be conducted at a frequency of {i} at least once every four business days or {ii} at least once every five business days and no later than 48 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 48 hours between business days, the inspection shall be conducted on the next business day”.

Staff Response

Staff believes that the current language in Part 1.F.18 is clear and provides appropriate level of protection. Accordingly, the proposed permit maintains the same language.

36. Comment from Permittee – Fact Sheet Clarification

- **Table 2 – The average flow for Outfall 004 should be increased from 2.0 mgd to 2.59 mgd to recognize the included flow of 0.567 mgd from the Oily Waste Treatment Basin.**

Staff Response

Part I.A.3 of the proposed permit and Table 2 of the revised proposed fact sheet have been changed to reflect this clarification.

37. Comment from Permittee – Fact Sheet Clarification

- **Table 2 – Outfall 010 (Ash Pond D Toe Drain) Latitude and Longitude should be approximately 38°32'48.8718"N, -77°17'10.7838"W.**

Staff Response

Table 2 of the revised proposed fact sheet has been changed to reflect this clarification.

38. Comment from Permittee – Fact Sheet Clarification

- **Table 2 – Under sources to 503 (internal) please recognize that the underdrains are from Pond D.**

Staff Response

Table 2 of the revised proposed fact sheet has been changed to reflect this clarification.

39. Comment from Permittee – Fact Sheet Clarification

- **Section 17.d.5 – Regarding fourth sentence of first paragraph, ash has not been hydraulically dredged. The last part of the sentence could be rewritten to say “...and water transferred during the dredging of ash from one pond to another”.**

Staff Response

Staff believes that the current language in Section 17.d.5 is clear and sufficient.

40. Comment from Permittee – Fact Sheet Clarification

- **Section 18 – Need to recognize that discharge to Prince William County Service Authority is an option that is being considered as part of the interim configuration.**

Staff Response

Section 18 of the revised proposed fact sheet has been changed to reflect this clarification.

41. Comment from Permittee – Fact Sheet Clarification

- **Section 21.a – The average flow presented for Outfall 001/002 does not include the flows from internal Outfall 503. We suggest adding this fact as a parenthetical statement (i.e., average flow does not include flows that may be contributed by internal Outfall 503).**

Staff Response

Part I.A.1 of the proposed permit and Section 21.a of the revised proposed fact sheet have been changed to reflect this clarification.

42. Comment from Permittee – Fact Sheet Clarification

- **Section 21.c – The listing of internal wastestreams that contribute to Outfall 004 should include internal Outfall 502 and the average flow should be increased to 2.59 MGD to recognize the contribution of this outfall.**

Staff Response

Part I.A.3 of the proposed permit and Section 21.c of the revised proposed fact sheet have been changed to reflect this clarification.

43. Comment from Permittee – Fact Sheet Clarification

- **Section 21.c – The sources of wastestreams that contribute to Outfall 005 should include internal Outfall 503.**

Staff Response

Staff believes the appropriate section for this proposed change is Section 21.e rather than Section 21.c. As such, Section 21.e of the revised, proposed fact sheet has been changed to reflect this clarification.

44. Comment from Permittee – General

- **We understand that DEQ intends for the VPDES permit to cover designated point source discharges during both the interim and final configuration of the ash pond (i.e., pre-and post-closure). We also understand that any other surface impacts incidental to the design and function of the earthen berms around the ponds will be addressed through the closure and post-closure care requirements of the pending solid waste permit under the Virginia Solid Waste Management Act and associated regulations. We support this approach.**

Staff Response

This permitting action addresses dewatering activities required for closure. Closure of these impoundments is governed by and addressed by the 2015 EPA Final Rule on the Disposal of Coal Combustion Residuals and applicable provisions of the Virginia Solid Waste Management Regulations. Closure and post-closure care under those requirements will include

groundwater monitoring, associated surface water monitoring, and other measures. The requirements of a solid waste permit will ensure that the facility is not causing an impact to surface water.

45. Comment from Permittee – General

- We are aware that some commenters have asked DEQ to impose additional water quality-based effluent limitations (for example, on Outfall 010). If DEQ pursues such limits, then it needs to consider whether they can be achieved immediately or instead necessitate schedules of compliance within with Dominion can install the necessary treatment. Such schedules are duly authorized under the VPDES regulation, 9VAC25-31-250, and are routinely granted by DEQ whenever newly-imposed WQBELs trigger the need for additional treatment or other actions that cannot be implemented immediately. While schedules of compliance are discretionary, DEQ must at least *consider* the need for them, especially where, as here, EPA’s own permitting guidance calls for that consideration. *See EPA Permit Writers’ Manual, EPA 833-K-10-001 (September 2010), at p.9-8, Section 9.1.3 (noting that one justification for a special condition in a permit is “[t]o allow permit writers to establish schedules of compliance to give permittees additional time to achieve compliance with the CWA and applicable regulations...”)*. In some cases, additional water quality data may be needed to determine treatment need and options. In any event, Dominion is prepared to respond quickly to any request for additional information from DEQ to determine whether- and to which-schedules of compliance are needed.

Staff Response

Staff has considered the request for a schedule of compliance to meet newly proposed effluent limitations as Outfall 010. Staff believes options are available to Dominion to effectively treat the discharge from this outfall and that a protracted schedule of compliance is not needed. As such, a thirty day compliance schedule is included in the revised, proposed permit.

Staff Response to *Technical and Toxicological Evaluation of Coal Ash Pond Dewatering Permit proposed for Possum Point Power Station, Virginia* Submitted as Attachment E of comments provided by Southern Environmental Law Center

The DEQ has reviewed the report; “Technical and Toxicological Evaluation of Coal Ash Pond Dewatering Permit proposed for Possum Point Power Station, Virginia” that was prepared by Dr. Dennis Lemly and provided by the Southern Environmental Law Center along with their comments on the draft permit for the Dominion – Possum Point Power Station. This report focused on a review of fifteen metals. EPA and Virginia water quality criteria designed to protect aquatic life have been established for 11 of these metals; arsenic, cadmium, copper, chromium III , chromium VI, lead, mercury, nickel, selenium, silver and zinc. Virginia also has water quality criteria designed to protect human health for thallium that are applicable in all waters and a barium criterion applicable in designated public water supplies.

The first goal of the review was to determine the source of the “high hazard” threshold concentration that was identified in the report as the starting point in the reports assessment. The report identified these as being EPA nationally recommended water quality criteria and/or water quality criteria adopted by Virginia, however not all of them are. Of the fifteen “high hazard” threshold concentrations used in Table 1 of the report, only those for chromium VI , mercury are accurate and represent Virginia’s water quality chronic criteria for freshwater. The report used recommended EPA water quality chronic criteria concentrations for cadmium, chromium VI (the Cr VI criterion is lower than the Cr III criterion, so this is a conservative value for total chromium), lead, and mercury as a “high hazard” threshold. However, Virginia has updated the older EPA criteria and has adopted revised water quality criteria for cadmium, nickel, and lead. Virginia’s criteria for these three metals should be used, and all metals criteria that should be adjusted for hardness should be adjusted to the hardness of the Quantico Creek at Possum Point, which is reported to average 46 mg/L of CaCO3. Virginia’s regulatory water quality criteria concentrations are shown below for the metals for which Virginia has adopted criteria. The criteria are shown for a hardness of 46 mg/L of CaCO₃ (indicates Virginia’s criteria was updated from older EPA criteria), and represent the ambient criteria at this hardness.

Metal	Virginia’s Acute Criterion (µg/L)	Virginia’s Chronic Criterion (µg/L)	Report’s “High Hazard” threshold value (µg/L)
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Arsenic	340	150	36
Cadmium*	1.6	0.62	0.25
Chromium VI	16	11	11
Chromium III	300	39	
Copper	6.5	4.6	1.45
Lead*	44	5.0	2.5
Mercury	1.4	0.77	0.77
Nickel*	95	11	8.2
Selenium	20	5	2
Silver	0.91		1.9
Zinc	61	61	81
	Virginia's Human Health criterion		
Barium	2,000 (drinking water only)		1,000
Thallium	0.24 (drinking water only) 0.47 (all other waters)		20

It should also be noted that the report seems to have only identified and assessed chronic criterion concentrations and compared them to the draft permit limits for a daily maximum and ignored the acute criteria and the monthly average limits in the draft permit. It would have been more accurate to compare the short term (acute) criteria to the corresponding short term draft permit limits (daily maximum limits) and compared the long term (chronic) criteria concentrations to the long term draft permit limits (monthly averages). If this had been done the differences between the criteria and the permit limits would have been less than the report indicates. Also, because the draft permit limits include limits for both chromium III and VI, the report should have compared the correct criterion to the correct draft permit limit. Instead, the report compared the higher permit proposed for chromium III to the lower criterion of chromium VI.

Because of the significant differences between many of the report's "high hazard" threshold values and the criteria, an effort was made to accurately identify the actual source of the "high hazard" concentrations used in Dr. Lemly's report. The findings are summarized below.

Copper: The report identifies the high hazard threshold used for copper to be the EPA 2007 biotic ligand model which requires site-specific values for; temperature, pH, dissolved organic carbon, calcium, magnesium, sodium, potassium, sulfate, chloride, and alkalinity, but it does not specify what values were used for these parameters to calculate the BLM copper criterion. It is impossible to know if the value of 1.45 µg/L for copper is accurate or appropriate for this waterbody. Virginia uses a hardness-based calculation for the freshwater copper chronic criterion, which is 4.6 µg/L copper for a hardness of 46 mg/L for the Quantico Creek.

Arsenic, Nickel, Silver, and Zinc: The report used EPA's saltwater acute/chronic criterion concentrations instead of the correct freshwater acute/chronic criteria concentrations for the "high hazard" thresholds for arsenic, nickel, silver, zinc. The Virginia WQS identify Quantico Creek as being located in the tidal freshwater Potomac River. The proper freshwater criteria concentrations are shown below.

Metal	Freshwater Chronic Criterion	Saltwater Chronic Criterion (used in the report incorrectly)
Arsenic	150 µg/L	36 µg/L
Nickel	11 µg/L	8.2 µg/L
Zinc	61 µg/L	81 µg/L

Metal	Freshwater Acute Criterion	Saltwater Acute Criterion (used in the report incorrectly)
Silver	0.91 µg/L	1.9 µg/L

Barium: The "high hazard" threshold identified in the report for barium (1000 µg/L) is an old recommendation for treated drinking water. The current recommendation is 2000 µg/L and Virginia has adopted a criterion of 2000 µg/L that

is applicable to designated public water supplies. However, the receiving water is not a designated water supply so this is not applicable.

Selenium: The high hazard threshold concentration used in the report of 2 µg/L. for selenium is an older, EPA draft recommendation. The most recent draft recommendation for selenium in rivers is 3.1 µg/L. Virginia and EPA's current chronic criterion for selenium is 5 µg/L.

Cobalt, Manganese, Thallium, and Vanadium: The report identifies the source of the "high hazard" screening concentrations for cobalt, manganese, thallium, and vanadium for these four metals as EPA water quality criteria, but EPA has not established recommended water quality criteria for the protection of aquatic life for these four metals. The actual source of the "high hazard" threshold concentrations cannot be determined for cobalt, manganese, thallium, and vanadium. Without knowing where these concentrations came from, DEQ cannot assess the significance of these values.

The hazard assessment approach used in the report

In Dr. Lemly's report, Table 1 shows a list of metals with concentrations Dr. Lemly identified as a "high hazard", which he identifies as concentrations that "exceed acute or chronic toxic levels". These "high hazard" concentrations are divided by two to produce a "moderate hazard" and divided again by two to produce a "low hazard" concentration. This is Dr. Lemly's own method of trying to assess various concentrations of potentially toxic substances. Although this method of ranking may appear logical, the simple division by two to differentiate between "high", "moderate" or "low" hazard levels is arbitrary and has no relationship to demonstrated toxicity, nor can it be related to any quantifiable level of potential risk. The chronic criterion concentration is already protective and represents a "no risk" assessment value of significant toxic effects to the aquatic community. Using half of an already established "no risk" concentration, or one quarter of the "no risk" level, does not provide any significant toxicological extra value or protection. Although the report identifies the concentrations used to set the "high hazard" threshold concentration as being EPA water quality criteria, some are but some are not. When the "high hazard" concentrations in Table 1 are not the same as a chronic criterion, many of the values used in the report are lower than the actual applicable criterion.

When the "high hazard" concentration used in the report's assessment is based on an established chronic criterion concentration, the hazard assessment procedure used in the report treats these as a threshold between moderate and high hazards. This is a misrepresentation of the basis of these well established chronic water quality criteria. At the concentration of the chronic criterion, there should be very little or no potential for toxic effects. The chronic criterion is a concentration that is considered to be protective of aquatic life and concentrations at these chronic criteria values do not represent any significant risk to aquatic life. No lethal effects and no adverse effects on spawning or reproduction, or growth have been observed. However, the report treats these chronic criteria as "high hazard" values. It would be more accurate to recognize the chronic criterion concentration as the protective concentration, which it represents, and treat that criterion as a threshold between "no hazard" with concentrations higher than the chronic criterion but lower than the acute criterion as having "low hazard". This is because at concentrations below the chronic criterion, no adverse effects on the aquatic community is expected. No deaths, no adverse effects on reproduction, growth or development of early life stages of fish or invertebrates were observed at levels below the chronic criteria in establishing these thresholds. Chronic criteria are designed to provide this high level of protection based on a careful assessment of everything known about the toxicity of the metal at the time the criterion was adopted.

The report treats any value above a chronic criterion concentration as a sign that adverse toxic effects are expected to be imminent and widespread. More realistically, at concentrations above the chronic criteria, but below the acute criterion, some reductions in reproductive success or growth could occur if any of the local species are actually among the most sensitive species known in the entire national database. But, no deaths would be expected as long as the acute criterion is not exceeded.

The main difficulty with the approach taken in the report is that the assessment treats the permit limits as though these concentrations will be the concentrations that aquatic life in the Quantico Creek will be exposed to for enough time for the exposure to cause toxic effects. This could be several days if the high threshold value is the same as a true chronic

criterion. The report ignores the fact that the discharge will be diluted by the much higher volume of flow in the waterbody and by the tidal action of the embayment.

A more detailed review of the individual metals' "high hazard" threshold concentration used in Dr. Lemly's assessment is shown below.

Arsenic. Table 1 shows a "high" value of 36 µg/L.

EPA's and Virginia's water quality criteria for arsenic in freshwater is 340 µg/L acute criterion (as a one hour average) and 150 µg/L chronic criterion (as a four day average).

EPA last updated their arsenic criteria in 1995, and the most sensitive species in the toxicity database was affected at 874 µg/L in an acute test, and at 891 µg/L in a chronic test. The "high hazard" concentration of 36 µg/L is only 4.1 % of the lowest toxic value in the data base for arsenic. EPA's criteria for arsenic do not identify 36 µg/L as a criterion or as a toxic threshold.

Barium. Table 1 shows a "high" value of 1000 µg/L.

Virginia has not adopted an aquatic life based water criterion for barium and EPA does not have any recommended water quality criteria for barium for the protection of aquatic life.

In 1976, EPA published a recommendation of 1000 µg/L in domestic water supplies. This appears to be the source of the high hazard concentration. EPA's Drinking Water Program now recommends 2,000 µg/L as an allowable maximum contaminant level for barium in finished drinking water and Virginia has adopted this as a criterion for the protection of human health and this applies only to its designated public water supplies.

Cadmium. Table 1 shows a "high" value of 0.25 µg/L.

EPA's Current water quality criteria for cadmium would be 2.0 acute and 0.25 at a hardness of 100 as shown in an example in EPA's "National Recommended Water Quality Criteria-Aquatic Life Criteria Table", available on EPA's website that can be found here <http://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>.

This is identified as the source of the 0.25 µg/L identified in the report as a high hazard concentration. The situation with cadmium is complicated in that Virginia's water quality criteria for cadmium are different from EPA's current criteria recommendations. At a hardness of 46 for the Quantico Creek at Possum Point, the current Virginia water quality criteria for cadmium are 1.6 µg/L acute and 0.62 µg/L chronic. Virginia's criteria, which are established as regulation, must be used in setting permits. On December 1, 2015, EPA began the public process of revising their national recommended criteria for cadmium, also updating the criteria with more recent toxicity information. EPA's new draft cadmium chronic criteria in freshwater would be 0.51 µg/L at a hardness of 46 for the Quantico Creek. So, for cadmium there are a number of concentrations that could be used to assess this situation, but only the current Virginia criteria can be used to set permit limits.

Chromium. Table 1 shows a "high" value of 11 µg/L.

Virginia's water quality criterion for chromium VI is 11 µg/L (the same as EPA's criterion) and this is identified as the source of the "high" concentration in Table 1. The Cr VI criteria are not adjusted for hardness. Virginia's water quality criterion for chromium III is 39 µg/L at a hardness of 46 mg/L (the same as EPA's criterion). As noted elsewhere, the report incorrectly compares the lower, chronic criterion for chromium VI to the draft permit limits for the less toxic chromium III.

Cobalt. Table 1 shows a "high" value of 16 µg/L.

Virginia has not adopted a surface water criterion for cobalt and EPA does not have any recommended water quality criteria for cobalt for the protection of aquatic life. The source of the value of the "high" value of 16 µg/L is unidentified.

Copper. Table 1 shows a "high" value of 1.45 µg/L.

The source of this is identified as the 2007 EPA biotic ligand model for copper. The various concentrations of the various parameter inputs are not shown, so it is not possible to independently ascertain if the value of 1.45 µg/L is appropriate for the Quantico Creek conditions at Possum Point. Virginia's existing criteria for copper is 4.6 µg/L at a hardness of 46 mg/L. Virginia is proposing to adopt the biotic ligand model for copper as an alternate criteria for copper in freshwater, but until the State Water Control Board officially adopts this amendment and EPA approves it, the biotic ligand model cannot be used to establish legal permit limits in Virginia.

Lead. Table 1 shows a "high" value of 2.5 µg/L.

EPA's Current water quality criteria for lead would be 65 µg/L acute and 2.5 µg/L at a hardness of 100 as shown in an example in EPA's "National Recommended Water Quality Criteria-Aquatic Life Criteria Table", available on EPA's website that can be found here <http://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>. This seems to be the source of the 2.5 µg/L identified as a high hazard concentration. Virginia's water quality criteria for lead are different from EPA's criteria. EPA's criteria were developed in 1980, but Virginia updated these criteria in the mid 1990s by adding additional, more recent toxicity to the database for lead and recalculated the freshwater lead criteria. Virginia's chronic criterion for lead in freshwater is 5.0 µg/L at a hardness of 46.

Manganese. Table 1 shows a "high" value of 790 µg/L.

Virginia has not adopted a surface water criterion for manganese and EPA does not have any recommended water quality criteria for manganese for the protection of aquatic life. The source of the value of the "high" value of 790 µg/L is unidentified.

Mercury. Table 1 shows a "high" value of 0.77 µg/L.

This value equals Virginia's and EPA's chronic criterion for the protection of aquatic life in freshwater. This concentration is considered protective of aquatic life.

Nickel. Table 1 shows a "high" value of 8.2 µg/L.

EPA's, and Virginia's water quality chronic criterion for saltwater is 8.2 µg/L. If this is the source of this value, then it is inappropriate to use a saltwater criterion to assess potential effects on freshwater aquatic life. Virginia's freshwater water quality criterion for nickel at a hardness of 46 for the Quantico Creek is 11 µg/L and this is considered to be protective of aquatic life.

Selenium. Table 1 shows a "high" value of 2 µg/L.

EPA's 2014 draft criteria for selenium is identified as the source of this value, but the 2014 draft recommended 4.8 µg/L for flowing waters and 1.3 µg/L in lakes and reservoirs. The most recent draft criteria for selenium were published in 2015 and this recommended 3.1 µg/L for flowing waters and 1.2 µg/L in lakes and reservoirs. EPA has not finalized their recommended criteria for selenium at this time. Virginia's chronic criterion for selenium is 5 µg/L.

Silver. Table 1 shows a "high" value of 1.9 µg/L.

EPA's, and Virginia's water quality acute criterion for saltwater is 1.9 µg/L. If this is the source of the value used in the report, then it is inappropriate to use a saltwater criterion to assess potential effects on freshwater aquatic life. Virginia's (same as EPA's) criterion for silver at a hardness of 46 is 0.91 µg/L.

Thallium. Table 1 shows a "high" value of 20 µg/L.

Virginia has not adopted a surface water criterion for thallium and EPA does not have any recommended water quality criteria for thallium for the protection of aquatic life. The source of the value of the "high" value of 20 µg/L is unidentified

Vanadium. Table 1 shows a "high" value of 80 µg/L.

Virginia has not adopted a surface water criterion for vanadium and EPA does not have any recommended water quality criteria for vanadium for the protection of aquatic life. The source of the value of the "high" value of 80 µg/L is unidentified.

Zinc. Table 1 shows a “high” value of 81 µg/L.

Virginia’s chronic criterion for zinc is the same EPA’s and at a hardness of 46 the criterion is 61 µg/L. The source of the value of the “high” value of 81 µg/L used in the report is a misidentified EPA chronic criterion for zinc for saltwater.

Adoption of Amendments to the Water Quality Standards Regulation (9 VAC 25-260) – Triennial

Review: Staff intends to ask the Board to adopt proposed Triennial Review amendments to the Virginia Water Quality Standards Regulation. Based upon public comment, staff has concluded the following key actions are appropriate:

- retain the existing freshwater aquatic life ammonia criteria; propose a separate rulemaking to allow time for additional evaluation of implementation issues and impacts to regulated dischargers, so that guidance can be issued at the same time any revised criteria are approved.
- retain the existing human health criteria for eight compounds proposed for updating; address the new EPA recommendations for 94 human health criteria (including these original 8) and consider appropriate amendments in a future rulemaking.
- retain the existing freshwater aquatic life cadmium criteria; consider appropriate amendments in a future rulemaking to account for a pending EPA update of its national ambient water quality criteria for cadmium.
- retain four waters proposed for Class VII (swamp waters) designation as Class III (Coastal and Piedmont non-tidal waters), pending additional evaluation of their natural conditions.
- adopt all other amendments as proposed, and;
- reconvene the Triennial Review regulatory advisory panel (RAP) to consider updates to freshwater aquatic life criteria for ammonia, along with consideration, as appropriate, for amendments to the 94 human health criteria noted above, and new EPA recommendations for recreation waters criteria (bacteria) and aquatic life (potentially for cadmium and selenium).

The water quality standards are the cornerstone for water quality programs at the Virginia Department of Environmental Quality. For example, these standards are used to set pollution limits in discharge permits and evaluate the health of waters statewide. Water quality standards define the goals for healthy waters by designating their uses, setting water quality conditions that will protect those uses and establishing anti-degradation provisions to safeguard high quality waters. They protect water quality so rivers, lakes and other waterbodies can be sources of water supplies; support recreational, agricultural, and industrial activities among others; promote the growth of fish and shellfish that are suitable for eating; and protect aquatic life. The Clean Water Act and State Water Control Law require that the Board conduct a review every three years of the state surface water quality standards regulation for the purposes of revising and updating the standards to reflect changes in law, technology and scientific information. The goal is to provide the citizens of the Commonwealth with a technical regulation that is protective of water quality in surface waters, reflects recent scientific information, reflects agency procedures and is reasonable and practical.

At their March 28, 2014 quarterly meeting, the State Water Control Board authorized staff to proceed to public hearing with proposed Triennial Review amendments to the Water Quality Standards, including the following substantive issues:

- Criteria updates to the Table of Parameters (Toxics) for both human health and aquatic life protection.
- A recommendation to delete the current Manganese criterion.
- Revised ammonia surface water criteria.
- Consideration of revised bacteria criteria for recreational waters, with a recommendation to not make any amendments at this time.
- Revisions to Special Standards ‘m’ (Chickahominy watershed above Walkers Dam); ‘ee’ and ‘ff’ (maximum temperature for winter-only stocked trout waters).
- Other trout water updates (clarification of segment delineations).
- Reclassifying several waterbodies from Class III (non-tidal waters) to Class VII (swampwaters).
- A recommendation to delete the Public Water Supply designation for a portion of the lower James River basin.

Other minor changes included adding a definition of 'wetlands', application of pH criteria in stratified reservoirs, clarify application of Chesapeake Bay dissolved oxygen criteria, adding 2 impoundments to the Lake Nutrient

criteria section, and typographical corrections. Finally, minor corrections were suggested in section 140, Table of Parameters, regarding the units and Chemical Abstract Service number for some parameters.

During the public comment period (June 29 – August 28, 2015), two public hearings were held in Richmond and Roanoke. Board members presided over the hearings: Mr. Joseph Nash in Richmond and Ms. Lou Ann Wallace in Roanoke. In addition to the proposed amendments, the public was also provided with a copy of the Department of Planning and Budget's Economic Impact Statement for the proposal.

Written comments on the Triennial Review changes were received from 26 organizations, localities and agencies. The issue that received the most comment was the proposed update to the freshwater ammonia criteria for the protection of aquatic life. The U.S. Environmental Protection Agency (EPA) released updated freshwater ammonia criteria August 2013 that incorporates toxicity data for freshwater mussels and snails which commonly occur in virtually all fresh waters of Virginia. The updated criteria tend to be considerably more stringent than the current criteria. Of the 26 organizations, localities and agencies commenting on the ammonia criteria, 20 opposed the criteria change.

The notable changes made in response to public comment and other key issues are summarized below in the order of the sections in the regulation:

§ 9VAC25-260-50, Numerical Criteria for Dissolved Oxygen pH and Maximum Temperature

EPA commented on the application of pH criteria only to the epilimnion when a lake is stratified. VA must document how the aquatic life use below the epilimnion is protected by the WQS, as revised, particularly as the lake turns over.

Agency Response: VA DEQ intends to include documentation and rationale with the approval submission package.

§ 9VAC25-260-140, Criteria for Surface Waters

CADMIUM:

1. HRSD and VAMWA support adoption of the proposed cadmium criteria.

Agency Response: The support is noted. However, subsequent to the public comment period, in a November 2015 notification from EPA, DEQ staff became aware of a pending update to their national recommended ambient water quality criteria for cadmium in order to reflect the latest scientific information. To avoid confusion and the potential for adoption of freshwater aquatic life criteria that are more restrictive than the pending federal recommendations without justification, staff intends to recommend that the State Water Control Board not adopt the proposed cadmium criteria amendments. Updates to the cadmium criteria will be addressed through a future rulemaking.

2. Richmond and VMA suggest that DEQ include provisions explaining that dischargers can manage the effluent hardness level in order to regulate the bioavailability of cadmium and lead.

Agency Response: No additional provisions recommended, as this is an operational issue for permitted dischargers and not directly related to the water quality criteria or the Water Quality Standards Regulation.

COPPER BIOTIC LIGAND MODEL (BLM):

1. EPA is pleased to see the proposal for adding the copper Biotic Ligand Model (BLM) as optional, alternate copper criteria for freshwater; however, it should be clarified what the State considers sufficient data for application of the model. They also recommend that Virginia consider applying the BLM for derivation of site specific criteria and not just on a permit specific basis.

Agency Response: The Department does not routinely analyze samples for all parameters necessary to run the BLM though this situation does not negate the possibility of a special study if deemed necessary.

2. HRSD, Richmond, VAMWA, and VMA support adoption of the copper BLM.

Agency Response: The support is noted.

MANGANESE:

1. Dominion Power supports the proposed deletion of the manganese criterion as it is inappropriate to apply a guideline for finished drinking water to untreated, natural surface waters.

Agency Response: The support is noted.

2. EPA commented that approval submission to EPA must include a rationale that explains how designated uses will be protected without this criterion. They recommend that Virginia consider EPA's lifetime drinking water health advisory (EPA-822-R-04-003) of 0.3 mg/L when setting criteria for manganese to protect the relevant designated uses.

Agency Response: VA DEQ intends to include rationale with the approval submission package. It should be noted that the referenced document states: "A Drinking Water Health Advisory is not an enforceable standard for action. This Health Advisory describes non-regulatory concentrations of the contaminant in water that are expected to be without adverse effects on both health and aesthetics. Health Advisories serve as technical guidance to assist Federal, State, and local officials responsible for protecting public health when emergency spills or contamination situations occur. They are not to be construed as legally enforceable Federal standards. They are subject to change as new information becomes available. This draft supersedes any previous draft advisories for this chemical."

The regulatory determination in the EPA document (EPA-822-R-03-003) which forms a portion of the basis for the Drinking Water Health Advisory for Manganese states, "Do not regulate."

HUMAN HEALTH CRITERIA:

EPA requests that Virginia consider revising the eight proposed criteria in particular, as well as other human health water quality criteria currently applicable during this Triennial Review to make them consistent with EPA's 2015 updated human health water quality criteria.

Agency Response: The EPA human health criteria updates for 94 pollutants were published in the Federal Register the same day that Virginia Register published public notice for this Triennial Review's proposed amendments. Due to the lack of opportunity for sufficient public comment, the Department intends to recommend that the State Water Control Board not adopt the 8 proposed human health parameters. Criteria updates to the 94 updated pollutants (which includes the original 8) will be addressed through a future rulemaking.

SELENIUM:

Virginia Coal and Energy Alliance (VCEA) recommended that DEQ carefully review EPA's calculations and assumptions, and then work with interested stakeholders — like VCEA — to gather Virginia-specific data and information that will be useful in translating EPA's eventual national selenium criteria recommendations for actual conditions in the Commonwealth.

Agency Response: The agency will give consideration to the soon-to-be-released nationally recommended selenium criteria as well as the commenter's suggestions in a future rulemaking.

§ 9VAC25-260-155, Ammonia surface water quality criteria

Most opposing commenters stated that the proposed criteria change appears to have a major statewide impact. Though they understand that the purpose of the criteria change is to increase protection for snails and mussels, they have significant questions about the impact to treatment facilities, capital and operating costs for compliance, relationship to other current or future nutrient criteria, state grant availability, sewer rate increases, and uncertainties over implementation methods.

All opposing commenters requested the proposed ammonia criteria update be removed from the Triennial Review rulemaking and addressed in a separate rulemaking once permitting and compliance implementation concerns have been fully evaluated.

Agency Response: The agency realizes there is potential for widespread impact to treatment facilities. Although the updated ammonia criteria for freshwater appear technically and scientifically sound, DEQ staff agrees additional time is needed to identify and fully understand the implications of implementing the revised criteria.

It is the agency's opinion that the updated criteria and related implementation issues will be better addressed in a separate rulemaking that is not expected to require a protracted time frame and should commence in early 2016.

The Chesapeake Bay Foundation (CBF) is supportive of the proposed update to the freshwater ammonia criteria.

Agency Response: *The support is noted.*

EPA is pleased Virginia is updating its ammonia surface water quality criteria and recommend including an explanation of how DEQ plans to conduct freshwater mussel surveys. They also state detailed protocols should be developed on assessment methods.

Agency Response: *Determination of the absence of freshwater mussels requires special field survey methods. This determination must be made after an adequate survey of the waterbody is conducted by an individual certified by the Virginia Department of Game and Inland Fisheries (DGIF) for freshwater mussel identification and surveys. Determination of absence of freshwater mussels will be done in consultation with the DGIF. Also, please note the response provided above.*

9VAC25-260-185, Criteria to protect designated uses from the impacts of nutrients and suspended sediment in the Chesapeake Bay and its tidal tributaries

CBF supports the clarification regarding application of Bay dissolved oxygen criteria.

Agency Response: *The support is noted.*

9VAC25-260-187, Nutrient Criteria for Lakes & Reservoirs

CBF supports the addition of 2 impoundments for the application of nutrient criteria.

Agency Response: *The support is noted.*

EPA states submission of the adopted amendments for approval must include documentation showing that these lakes have been appropriately designated for the purpose of the application of the nutrient criteria.

Agency Response: *Rationale and documentation will be provided.*

§ 9VAC25-260-310.m, ee, and ff. Special standards

EPA understands that the intent of special standard 'm' is to protect the Chickahominy River from excessive nutrient inputs and to protect Chickahominy Lake from eutrophication. As this provision does not specify the use or the condition of the water, it does not appear to be a WQS.

Agency Response: *The agency agrees with the comment.*

CBF stated their support of the proposed amendment to special standard 'm'.

Agency Response: *The support is noted.*

EPA stated that Virginia's submission for site specific maximum temperature criteria (special standard 'ee' and 'ff') must include documentation of that rationale.

Agency Response: *Rationale and documentation will be provided.*

9VAC25-260-390 through 540. River basin tables

New swamp (Class VII) additions

EPA stated that reports supporting the reclassification must have information necessary to justify Class VII classification.

Agency Response: *VA DEQ intends to include documentation and rationale with the approval submission package.*

9VAC25-260-410. 1o

James River Basin (Lower)

Sustainability Park, LLC stated that they have invested several million dollars during development of the site and want to maintain assets associated with the property. They state that if the Potable Water Supply (PWS) designation is deleted from the section of the James River upon which the facility is located, it will impair or limit their long term strategy for development of this industrial site.

Agency Response: DEQ staff recommends removal of the PWS designation. The PWS designation in this portion of the James River has no relevance to any water withdrawal permit that might be applied for; water withdrawal applications are judged on their own merit and applicable regulations. A PWS designation is not a pre-requisite for a withdrawal permit; should the facility establish an active permitted drinking water intake, the agency may be petitioned to reestablish the PWS designation.

Reissuance of VPDES Permit No. VA0004138, Dominion Breomo Power Station **Fluvanna County:** On January 15, 2015, DEQ received an application from Virginia Electric and Power Company for the reissuance of Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0004138 for discharges from the Dominion – Breomo Power Station to the James River in Fluvanna County. Addendums to the application were received on February 2, 2015, July 6, 2015, August 12, 2015, October 8, 2015, and December 9, 2015. The applicant proposes to discharge once-through condenser cooling water, stormwater, and industrial wastewater which includes wastewater from dewatering activities to facilitate the closure of three coal ash ponds and the metal cleaning waste treatment basin at the facility.

The closure of the West Ash Pond, East Ash Ponds, and North Ash Pond is being performed pursuant to a 2015 United States Environmental Protection Agency final Rule that regulates the disposal of coal combustion residuals. The long-term management of these impoundments including the closure, post-closure, and groundwater monitoring will be addressed by the solid waste program in accordance with the Virginia Solid Waste Management Regulations and the EPA rule through issuance of a solid waste permit. Existing groundwater monitoring, corrective action and/or risk assessment plans currently in effect under the VPDES permit will remain in effect until such time that they are superseded by a groundwater monitoring program pursuant to a solid waste permit for closure and/or post-closure.

The permit limits for the discharge of once-through condenser cooling water are based on a flow of 157.6 MGD. The permit limits for the discharge of wastewaters from dewatering activities are based on a flow of 10.2912 MGD.

The application was provided to the US Fish and Wildlife Service, National Marine Fisheries Services, EPA, Department of Game and Inland Fisheries, and Department of Conservation and Recreation on January 27, 2015.

Notice of the proposed permit action and public hearing was published in the *Daily Progress* on October 30, 2015 and November 6, 2015. Notice of the proposed permit action and public hearing was also published in the *Fluvanna Review* on November 5, 2015 and November 12, 2015. DEQ sent the public notice to the Fluvanna County Administrator, Chairman of the Board of Supervisors, Thomas Jefferson Planning District Commission, and Rivanna River Basin Commission on October 30, 2015. DEQ also sent the draft permit, draft fact sheet, and public notice to the US Fish and Wildlife Service, National Marine Fisheries Service, and EPA on October 30, 2015.

Public Hearing

DEQ held the public hearing at 7:00 p.m. on December 1, 2015, at Central Elementary School in Palmyra, Virginia. Mr. Robert Dunn served as the hearing officer. DEQ also provided an informational session prior to the hearing so that questions could be asked and answered prior to the hearing. Approximately 60 people attended the public hearing. Fifteen citizens provided oral comments during the public hearing.

Summary of Comments and DEQ Response

During the 45-day public comment period of the draft permit which ended on December 14, 2015, there were 631 commenters. Summaries of the comments received during the comment period and DEQ responses to those comments follow the draft permit changes. Where possible, comments were grouped and summarized according to issue.

Draft Permit Changes

For the sake of clarity, the version of the proposed permit which was public noticed for review and comment on October 30, 2015, is hereafter referred to as the Initial Draft Permit (“Initial Draft”). The version of the proposed permit being presented to the State Water Control Board for consideration is hereafter referred to as the Revised Draft Permit (“Revised Draft”). Changes to the Initial Draft were made following the public comment period and are:

Changes to Draft Permit

VPDES Permit No. VA0004138 – Dominion – Breomo Power Station

Cover Page	Holman Creek was added as the receiving stream for Outfall 009
Part I.A.6	Footnote “a” was changed by stating that Outfall 003 shall contain only “stormwater not exposed to industrial activity” instead of “stormwater not associated with a regulated industrial activity where monitoring would be required.”
Part I.A.8	Footnote “a” was changed by stating that Outfall 006 shall contain only “stormwater not exposed to industrial activity” instead of “stormwater not associated with a regulated industrial activity where monitoring would be required.”
Part I.A.9	<ul style="list-style-type: none"> • The West Ash Pond and Metal Cleaning Waste Treatment Basin were added in the description of Outfall 504. • More stringent limits for Antimony, Arsenic, Cadmium, Chromium III, Chromium VI, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, and Chloride were included as shown in Table 1. • The monitoring frequency for pH, TSS, Oil and Grease, Antimony, Arsenic, Cadmium, Chromium III, Chromium VI, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, Chloride, and Hardness was changed from 1/Week to 3/Week with weekly reporting of results. • Monthly monitoring was added for Free Cyanide, Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum, and Vanadium. • Footnote “h” was added to describe “3/Week” monitoring. • Footnote “i” was added to specify the composite period for the parameters identified with a monitoring frequency of “1/Month”. • Footnote “j” was added to reference the requirements in Part I.G.22.
Part I.A.10	A maximum flow rate of 10.2912 MGD has been established for the total flows from internal outfalls 501, 502, 503, 504 and 505 for the process wastewater from dewatering activities.
Part I.A.11	<ul style="list-style-type: none"> • Outfall 009 was added as a stormwater not exposed to industrial activity outfall. • The formatting of the item was changed. • Footnote “a” was changed by stating that Outfall 007, 008 and 009 shall contain only “stormwater not exposed to industrial activity” instead of “stormwater not associated with a regulated industrial activity where monitoring would be required.”
Part I.C	<ul style="list-style-type: none"> • The QLs for Antimony, Arsenic, Cadmium, Chromium III, Chromium VI, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, and Chloride were changed as shown in Table 2.
Part I.E	<ul style="list-style-type: none"> • Part I.E.1.a has been changed to require the WET monitoring be performed as near to full plant operating conditions as reasonably possible, which matches the language that is included for the instream monitoring in Part I.G.13. • The testing schedule in Part I.E.1.f has been changed to require the 1st quarterly monitoring be performed in the first full calendar quarter following permit reissuance, the subsequent quarterly monitoring be performed every calendar quarter following the previous quarter until there are a minimum of 4 quarters tested, the 1st annual monitoring be performed the first full calendar year following the 4 completed quarterly tests, and the subsequent annual monitoring be performed every calendar year following the 1st annual testing period.

Part I.G.3	<ul style="list-style-type: none"> • The words “taken for compliance with this permit” have been added to the end of the sentence in Part I.G.3.a. • The last sentence in Part I.G.3.d has been reworded as follows: “List the type and quantity of wastes, fluids, and pollutants characterized in Part I.G.2 that are stored at this facility.”
Part I.G.5	Outfalls 501, 502, 503, 504, and 505 have been added to this condition to clarify that the Concept Engineering Report Requirement applies to the treatment units that will be used to treat the process wastewater from dewatering activities.
Part I.G.7	A six-month compliance schedule has been included in the permit to meet the Reliability Class II requirements.

Part I.G.10	In order to be consistent with draft VPDES permit No. VA0002071 for Dominion – Possum Point Power Station, this special condition has been changed to: <i>Additional Chlorine Limitations and Monitoring Requirements</i> a. <i>Neither free available nor total residual chlorine may be discharged via Outfall 001 from any single generating unit for more than two hours in any one day, unless the permittee demonstrates to DEQ that discharge for more than two hours is required for macroinvertebrate control. If the permittee is dechlorinating, the two hour requirement is nullified.</i> b. <i>Simultaneous multi-unit chlorination is permitted.</i> c. <i>Monitoring for free available and/or total residual chlorine shall only be required when the permittee is chlorinating.</i>
Part I.G.13	This special condition has been changed to require instream monitoring twice per year. The winter season is from January 1 – March 31 and the Summer Season is from June 1 – August 31. The report submittal dates have been changed as well.
Part I.G.14	This special condition has been changed to require that water quality criteria monitoring for Outfall 002 be initiated during the first full calendar quarter following notification of the West Treatment Pond operating in its final configuration and notification that no further discharge of process wastewater from dewatering activities is occurring from Outfall 002.
Part I.G.15	The following statement has been removed from this special condition, “The permittee shall sample once for each foot of drawdown, and, when the discharge no longer meets permit limits, the discharge shall cease and the rest of the lagoon contents shall be pumped and hauled to another, permitted facility for treatment and disposal.” This condition has also been changed to clarify that this condition applies to the Metal Cleaning Waste Treatment Basin, Sewage Treatment Plant, and West Treatment Pond.
Part I.G.20	This special condition has been changed to require notification within 7 days of Outfall 009 being put into service.
Part I.G.21	This special condition has been changed to reference Part I.G.21 b-g.
Part I.G.22	A Limitation Exceedance Special Condition was added to the draft permit to address any effluent limit and/or Whole Effluent Toxicity limit exceedances at Internal Outfalls 501, 502, 503, 504 and 505. Should the permittee become aware of an effluent limit exceedance the discharge shall be ceased and corrective action implemented.
Part I.G.23	A special condition limiting the draw down rate of the coal ash ponds has been added.
Part I.G.24	A special condition requiring notification of the North Ash Pond draw down has been added.
Part I.G.25	A special condition requiring PCBs monitoring of the West Treatment Pond discharge has been added.
Part I.H.1	Part I.H.1.f.(1) has been changed to add “raw river water” as an allowable non-stormwater discharge.
Attachment B	The sample type for Ammonia-N, Chloride, and Hardness in Attachment B has been changed to “grab or composite”.

Table 1: Changes in Permit Limits in Part I.A.9 for Process Wastewater from Dewatering Activities

Parameter	Draft Permit Presented During Public Notice		Revised Draft Permit	
	FROM		TO	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Total Recoverable Antimony (ug/L)	3,400	3,400	2,100	2,100
Total Recoverable Arsenic (ug/L)	500	740	290	530
Total Recoverable Cadmium (ug/L)	4.5	6.6	1.8	3.2

Total Recoverable Chromium III (ug/L)	500	730	120	220
Total Recoverable Chromium VI (ug/L)	24	35	18	34
Total Recoverable Copper (ug/L)	16	24	12	23
Total Recoverable Lead (ug/L)	73	110	19	35
Total Recoverable Mercury (ug/L)	2.0	3.0	1.5	2.8
Total Recoverable Nickel (ug/L)	130	190	31	57
Total Recoverable Selenium (ug/L)	29	43	9.6	18
Total Recoverable Silver (ug/L)	3.5	5.1	2.7	5.0
Total Recoverable Thallium (ug/L)	2.5	2.5	1.4	1.4
Total Recoverable Zinc (ug/L)	140	210	110	210
Chloride (mg/L)	1,300	1,900	450	820

Table 2: Changes in Quantification Levels (QLs) in Part I.C

Parameter	Draft Permit Public Noticed	Revised Draft Permit
	FROM	TO
Total Recoverable Antimony (ug/L)	3,400 ug/L	5.0 ug/L
Total Recoverable Arsenic (ug/L)	300 ug/L	5.0 ug/L
Total Recoverable Cadmium (ug/L)	2.6 ug/L	1.0 ug/L
Total Recoverable Chromium III (ug/L)	300 ug/L	5.0 ug/L
Total Recoverable Chromium VI (ug/L)	14 ug/L	5.0 ug/L
Total Recoverable Copper (ug/L)	9.4 ug/L	5.0 ug/L
Total Recoverable Lead (ug/L)	44 ug/L	5.0 ug/L
Total Recoverable Mercury (ug/L)	1.2 ug/L	0.1 ug/L
Total Recoverable Nickel (ug/L)	80 ug/L	5.0 ug/L
Total Recoverable Selenium (ug/L)	17 ug/L	5.0 ug/L
Total Recoverable Silver (ug/L)	2.0 ug/L	0.4 ug/L
Total Recoverable Thallium (ug/L)	2.5 ug/L	1.0 ug/L
Total Recoverable Zinc (ug/L)	84 ug/L	25 ug/L
Total Copper	1.0 mg/L	5.0 ug/L
Total Iron	1.0 mg/L	0.25 mg/L

Summary of Comments and DEQ Responses
VPDES Permit No. VA0004138 – Dominion – Bremono Power Station

Comments are group/organized according to issue where possible. For the sake of clarity, the version of the proposed permit which was public noticed for review and comment on October 30, 2015, is hereafter referred to as the Initial Draft Permit (“Initial Draft”). The version of the proposed permit being presented to the State Water Control Board for consideration is hereafter referred to as the Revised Draft Permit (“Revised Draft”).

1. Lack of Details and Information in Permitting Documentation

- **The draft permit fact sheet is incomplete in violation of 9VAC25-31-280. The draft permit fact sheet does not contain information on the quantity of wastes that are stored at the site, the actual rate at which the pollutants will be discharged to the James River, or the time period over which such discharges are expected to occur. It is unclear how long Dominion will be discharging dewatering wastewater.**
- **The proposed permits are inadequate in that the treatment systems for treating coal ash pond metals are only mentioned in general terms (mainly in the flow diagrams). It is not possible for the DEQ to adequately assess the effectiveness of treatment of wastewaters from a facility without being provided a detailed design and engineering analysis regarding the operation of the system and treatment efficiencies. Dominion is essentially asking the DEQ to permit a treatment system with no information regarding the system.**
- **There are no details to ensure that the harmful substances will be addressed prior to starting the dewatering process.**

Staff Response

The effluent limits in the Initial Draft for the discharge of process wastewater from dewatering activities were based on a maximum effluent flow of 10.2912 million gallons per day (MGD). The effluent limits were developed such that they are protective of water quality if the permittee were to discharge 10.2912 MGD every day over the 5-year term of the permit. While it is likely that the actual discharge of process wastewater from dewatering activities may not occur every day over the 5-year term of the permit and may be less than 10.2912 MGD, the use of this maximum flow value in the development of effluent limits results in more restrictive concentration limits than would otherwise be determined to be necessary.

In response to comments, the Revised Draft includes a maximum effluent flow limit of 10.2912 MGD for the discharge of process wastewater from dewatering activities.

Dominion has provided the estimates below for discharges of process wastewater during dewatering activities which has been included in the revised fact sheet. These estimates do not affect the calculation of effluent limits. The actual discharges may be less or greater than these values.

- 8.9 million gallons (MG) from the initial drawdown of the North Ash Pond over a period of 30 working days in 2016
- 8.1 MG from the initial drawdown of the East Ash Ponds over a period of 30 working days in 2016
- 129.5 MG from on-going dewatering activities in the North Ash Pond over a period of 270 working days in 2016
- 68.4 MG from on-going dewatering activities in the East Ash Ponds over a period of 270 working days in 2016
- 40.9 MG from on-going dewatering activities in the West Ash Pond over a period of 270 working days in 2016
- 102 MG from on-going dewatering activities in the North Ash Pond over a period of 270 working days in 2017

The Initial Draft established effluent limits for 17 parameters associated with the dewatering activities, 13 of which are for metals identified as constituents of concern for coal combustion

residuals. In addition, the Initial Draft established effluent limits for Whole Effluent Toxicity on a monthly basis. The fact sheet describes the basis for the parameters selected for establishing effluent limits as well as rationale for the Whole Effluent Toxicity limits.

In response to comments, the Revised Draft includes monitoring at a frequency of 1/Month for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium which are parameters identified as constituents of concern for coal ash residuals for which there are no water quality criteria. While the Whole Effluent Toxicity sampling ensures that these parameters, as well as others that may cause toxicity, are accounted for in the sampling regime, sample results for these additional constituents will be helpful should toxicity be observed and for better understanding the full characteristics of the discharge.

Treatment options were outlined by the permittee in their Interim Period Concept Engineering Report (CER) provided with the October 6, 2015 Application Addendum. Until final effluent limits are established via this permitting process, the permittee is not able to select a final treatment design. Ultimately, a wastewater treatment system will need to be designed, installed, and operated to ensure compliance with final, approved effluent limits. Treatment options identified in the CER include settling, filtration, and chemical treatment. The CER indicates that in order to verify the operational efficiency of the treatment systems, the systems will be monitored for turbidity (as a surrogate for TSS) and pH, with additional sampling performed as required for VPDES permit compliance. Additional or alternative treatment may be employed if determined necessary. The effluent limits are established to protect water quality and maintain beneficial uses of the receiving waters. The effluent limits establish the requirements for the permittee to meet; DEQ does not prescribe the methodology by which the permittee is to comply with effluent limits. The permittee is required to submit a final CER for DEQ approval describing the final selection of treatment technology to be employed to meet effluent limits.

In response to comments, the Revised Draft includes the following special condition to address concerns regarding any potential exceedance of effluent limits:

The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or Whole Effluent Toxicity limit at Outfall 501, 502, 503, 504, or 505. The permittee shall promptly notify DEQ, in no case later than 24 hours, after the discovery of the exceedance. Should an exceedance occur, the permittee shall initiate a review of the treatment operations and data to identify the cause(s) of the exceedance and initiate appropriate corrective action(s). Resumption of the discharge shall not occur until such time as an evaluation report is provided to DEQ and written authorization to resume the discharge is granted by DEQ.

2. Technology-Based Limits and Alternatives

- **DEQ has ignored available technology that can significantly reduce pollutant concentrations in wastewater at Brema Power Station.**
 - **The Clean Water Act requires technology-based effluent limits to be developed on a case-by-case basis. DEQ relied on the Power Plant Effluent Limit Guidelines in error – EPA’s newly promulgated effluent limits do not address arsenic and other toxic metals contained in the coal ash wastewater nor do they apply to activities, like draining and dewatering, that are outside the normal operation of coal ash impoundments. These activities were not contemplated by the new ELGs. DEQ cannot rely on state Water Quality Standards to the exclusion of available technology for reducing concentrations of pollutants. EPA’s promulgated effluent limits for flue gas desulfurization wastewater are illustrative of the availability of treatment technologies as applied to coal ash dewatering water.**
 - **Economically achievable technology will significantly lower metals concentrations in water discharged from the coal ash ponds. A treatment technology evaluation was provided as an attachment with estimated costs to build, operate and dismantle.**

- **The draft permit, as written, does not comply with the Clean Water Act. The Clean Water Act requires the application of the best achievable technologies to treat wastewater before it may be discharged.**
- **Technology exists to reduce the levels lower than proposed permit limits. A higher level of treatment should be required.**
- **Dominion has made plenty of profit to cover the expense of disposing of this waste in a proper manner.**
- **The discharge should be treated to drinking water quality standards.**
- **DEQ should develop technology-based effluent limits like North Carolina.**

Staff Response

The facility is regulated by 40CFR Part 423, Federal Effluent Guidelines and Standards for the Steam Electric Power Generating Point Source Category. Updated Part 423 federal effluent guidelines (FEGs) were published by EPA as a final rule in the Federal Register on November 3, 2015.

The discharge of “legacy” wastewaters, as proposed by Dominion, are specifically addressed in the preamble to the FEGs, and are regulated as best available technology economically achievable (BAT) at 40CFR §423.13. The Preamble refers to legacy wastewaters as:

“...wastewater generated prior to the date determined by the permitting authority that is as soon as possible beginning November 1, 2018, but no later than December 31, 2023... Under this rule, legacy wastewater must comply with specific BAT limits, which EPA is setting equal to the previously promulgated BPT [best practicable control technology currently available] limits on TSS in the discharge of fly ash transport water, bottom ash transport water, and low volume waste sources.”

In establishing the BAT limits for legacy wastewaters in its final rule, EPA explicitly rejected technologies other than surface impoundments due to the lack of adequate data, and the way legacy wastewaters are handled at steam electric power generating plants. In considering BAT limits for legacy wastewaters, DEQ is not aware of data of sufficient or defensible robustness to supersede EPA’s rejection of technologies other than surface impoundments.

Technology-based treatment requirements (Best Professional Judgment) may be developed at the state level in the absence of applicable federal technology-based effluent limits (40CFR 125.3(c)). The Federal Regulations (40CFR 125.3(d)) further prescribe methodologies for setting technology-based limitations, which are the same factors EPA is required to consider in the development of FEGs. Under these regulations DEQ does not have the authority to arbitrarily prescribe treatment technology requirements without going through the appropriate evaluations, including factors such as cost benefit analyses and non-water quality environmental impact (i.e. energy requirements, etc.). Because the EPA has just undertaken this effort as described above, DEQ does not believe that the same exercise at the state level will yield different results. Consequently, while it may be possible to treat the effluent to drinking water quality, DEQ does not have the authority to impose this requirement on the permittee.

The Initial Draft included effluent limits for TSS (30 mg/L monthly average; 100 mg/L daily maximum), Oil & Grease (15 mg/L monthly average; 20 mg/L daily maximum), pH (minimum of 6 and maximum of 9 standard units) and utilization of a surface impoundment technology, which DEQ staff believes properly satisfies the 2015 FEG and BAT/BPT requirements.

As mentioned in comments received, FEGs for Arsenic, Mercury, Selenium, and Nitrate/nitrite were established by EPA to apply to discharges containing flue gas desulfurization (FGD) wastewaters. Comments were received recommending inclusion of effluent limits for Arsenic, Mercury, and Selenium as strict as the FEGs for FGD wastewaters, and to also be consistent with an NPDES permit issued by the North Carolina Department of Environment and Natural Resources (DENR) permit issued to Duke Energy Progress LLC for its L. V. Sutton Energy Complex (permit #NC0001422).

Application of the FEGs for Arsenic, Mercury, and Selenium are not germane to this case because FGD wastewaters have not been, and are not being, generated at the permitted facility. In addition, the DENR Fact Sheet for the Sutton Energy Complex cites a basis for the Mercury limit being a Statewide surface water impairment and Total Maximum Daily Load (TMDL) for Mercury. The receiving stream at the Bremono Power Station is not subject to a comparable mercury TMDL impairment designation. Therefore, DEQ does not consider it appropriate to apply a limit for Mercury using an impairment basis that is not germane to the outfall receiving stream. Finally, following promulgation of EPA's final rule, it is DEQ's understanding the DENR permit for the Sutton Energy Complex was issued based on a water quality-based, reasonable potential analysis approach. Consequently, interstate consistency would be achieved by not applying technology-based effluent limits for parameters other than TSS, Oil & Grease, and pH.

3. Maintaining Water Quality Standards and Protection of Beneficial Uses

- **The permit will not protect existing uses of the James River. Polluted discharges will be highly hazardous for aquatic life. Application of mixing zone concepts, in light of the toxicity analyses and the thresholds provided by Dr. Lemly, is inappropriate and not well documented.**
- **The draft permit allows discharge of arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc at hazardous levels for fish and aquatic life.**
- **The draft permit does not contain limits for barium, cobalt, manganese, and vanadium; DEQ should regulate these commonly occurring toxic constituents of coal ash.**
- **With the exception of thallium, all proposed discharge limits for coal ash pollutants are well above levels that are highly toxic to fish and wildlife.**
- **Dominion should be required to pre-treat the water at levels sufficient to protect fish and aquatic life.**
- **The long-term release of toxics as proposed will expose organisms to conditions where the accumulation of toxins is likely.**
- **The draft permit will negatively affect tourism, recreation, and business on the James River. The James River is a high-quality water resource with excellent smallmouth bass sport fishing, catfish for the table, rare and sensitive mussels, and abundant opportunities for recreation in and on the water.**
- **The James River is an enormously popular recreational venue for fisherfolk, kayakers, canoers, rafters, and swimmers. The annual Batteau Festival attracts thousands of followers every year to the stretch of the river that will be directly impacted by the polluted waters.**
- **The chronic water quality standards should be used as the effluent limits to assure the absolute protection of the James River ecosystems and fisheries.**
- **The limits in the draft permit are too high. They should not be higher than the water quality criteria or higher than similar wastewaters in other states. The effluent limits for arsenic are 30 times higher than what was considered to be "acceptable" in North Carolina.**
- **The state admits it does not have enough data to determine impacts to aquatic life.**
- **Persistent bioaccumulative toxics (PBTs) are not adequately modeled and restricted in the draft permit and/or detailed analysis of PBTs is not given in the fact sheet. The draft permit does not appear to account for the overall impact of the variety of recognized PBTs listed in the permit. Were models run for each individual PBT in order to understand the impacts to the James River? Several of the PBTs listed in the draft permit behave differently than the others.**
- **DEQ should disallow or further restrict the discharge of coal ash wastewater during low flow conditions when the impacts to the James River will be greatest.**

Staff Response

Discharges from Bremono Power Station have been ongoing for over 50 years. With the implementation of the effluent limits, the nature of the pollutants in Bremono's dewatering discharge and the quality of the wastewaters to be discharged during this upcoming permit term are not

expected to be significantly different from what was discharged historically at Bremono Power Station when it was actively burning coal.

Permit limits are designed to be protective of the Virginia Water Quality Standards (WQS) which establish the beneficial uses of all waters in the Commonwealth and the narrative and numeric criteria necessary to ensure water quality is maintained and protected. Those beneficial uses include recreation, e.g., swimming and boating; the propagation and growth of a balanced, indigenous population of aquatic life; wildlife; and the production of edible and marketable natural resources (e.g., fish and shellfish). These WQS are adopted as regulation (9VAC25-260 et. seq.), and represent the best available science to ensure protection of water quality. These WQS also allow for the use of mixing zones in evaluating limits for VPDES permits. The allowance for any mixing will result in "end of pipe" effluent limits above the water quality criteria applicable to the receiving stream.

The WQS include criteria to protect aquatic life from acute (1-hour) and chronic (4 day) exposures. The WQS also include criteria to prevent human health impacts from consumption of fish over a period of years. If the effluent limits that are based on acute and chronic criteria are attained then aquatic life in the receiving waters will be fully protected consistent with the WQS. Please see the staff response to comments #6 and #8 for further discussion of mixing in the James River.

DEQ has reviewed the report; "Technical and Toxicological Evaluation of Coal Ash Pond Dewatering Permit proposed for Bremono Bluff Power Station, Virginia" that was prepared by Dr. Lemly and provided by the Southern Environmental Law Center along with their comments on the draft permit. This report focused on a review of fifteen metals. EPA and Virginia water quality criteria designed to protect aquatic life have been established for 10 of these metals; arsenic, cadmium, copper, chromium (chromium III and chromium VI), lead, mercury, nickel, selenium, silver and zinc. Virginia also has water quality criteria designed to protect human health for thallium that are applicable in all waters and a barium criterion applicable in designated public water supplies. A summary of the staff comments regarding the review of this report is presented below. Staff's full review is provided at the end of the summary of comments.

- The report uses a minimum amount of available information to do a basic comparison of the effluent limits to concentrations identified in the report as water quality criteria. There are several limits to this simplified approach that affect the accuracy of the conclusions reported.
- The "high hazard" threshold (intended to be EPA water quality criteria/Virginia water quality criteria) used in the report for several of the values are incorrect, or are saltwater criterion values.
- When compared to the correct Virginia water quality chronic criteria concentrations, the "high hazard" threshold used in the report is equal to the criterion for two metals, lower than the correct criterion for seven metals, and higher than the correct criterion for three metals.
- The report compares the criterion concentration for the most toxic form of chromium (chromium VI) to the higher draft permit limits that apply to the less toxic chromium III. This is incorrect and inflates the difference between the correct values.
- The sources of the "high hazard" threshold values used in the report for cobalt, manganese, thallium and vanadium are unknown and they cannot be evaluated.
- The report considers the criterion concentration as a threshold representing "high hazard" when in fact the chronic criterion should prevent any potential for any significant toxic effects. Chronic criteria are designed to protect spawning, reproduction, growth and development of early life stages as well as prevent any lethal effect to young or adult aquatic life.
- Most of these inconsistencies tend to overestimate any differences between the criteria and the draft permit limits. The report does not account for any potential for dilution of the discharge when entering a receiving water.

Water quality criteria are designed to protect aquatic life are based on a careful, systematic collection of all toxicity information available for the toxic substance. Following established guidelines, these data are carefully reviewed to determine which toxicity data are from acceptable scientific studies,

conducted using established protocols and which have been determined to provide acceptable, unambiguous toxicity data suitable for calculating water quality criteria.

Both acute and chronic criteria are based on all available toxicity data and are designed to protect almost all of the species for which good quality toxicity information is available. EPA develops draft water quality criteria, subjects them to internal and external peer reviews and then subjects them to public comment periods, adjusting the criteria as needed based on public comments and again subjecting them to public comments and possibly additional adjustments before issuing them as final, recommended national water quality criteria. States are expected to propose these criteria for adoption as state water quality criteria and the state again subjects these proposed criteria public for review and comment. In this way, water quality criteria are developed by trained environmental scientists and technicians, using standardized protocols. The draft criteria are subjected to internal and external peer reviews, and then subjected to several, repeated rounds of public review and comments on both the national level and on the state level, oftentimes adjusting the criteria based on public comments. In this way, once a water quality criterion is officially adopted, the criterion represents the best scientific consensus of allowable concentrations of the potentially toxic substance that will prevent lethal effects as well as less serious effects such as reduced growth or reproduction. Water quality criteria are designed to be protective and waters with concentrations at or lower than the chronic criterion concentration should ensure a healthy diverse community of aquatic life.

Acute criteria provide protection to aquatic life from severe toxic effects that can cause death, generally when exposed for two to four days. At a minimum, acute criteria are designed to protect all but the 5% most sensitive species from any lethal toxic effects. Even the most sensitive species may suffer some impairment but not death if exposed to the acute criterion. In some cases, a criterion is lowered to protect even the most sensitive species if it is determined to be an important species. The acute criterion is designed to protect both adult and early life stages from lethal toxicity.

Chronic criteria provide protection against long-term exposures that could cause adverse effects on reproduction and/or growth of early life stages of aquatic life: Chronic criteria are designed to protect against less severe, non lethal toxic effects such as reduced growth or reduced reproductive success which might occur over prolonged periods of exposure. The chronic criterion is based on long term toxicity tests starting with very early life stages of aquatic life; eggs, embryos, larval stages and other early life forms. Often, these early life stages are more sensitive than the adults or juveniles and toxic effects are observed at lower concentrations. By using the toxicity sensitivity of these early life forms as the basis for the chronic criterion, the criterion is designed to take into consideration spawning and reproduction, development of eggs and growth of larval and juvenile fish and other aquatic life. If the chronic criterion is not exceeded for extended periods of time, then spawning and reproduction should be protected.

In response to comments, the Revised Draft includes monitoring at a frequency of 1/Month for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium. This monitoring is to be performed concurrently with the Whole Effluent Toxicity monitoring so that data are available for analysis in the event that the Whole Effluent Toxicity tests indicate toxicity.

There are 16 persistent bioaccumulative toxic (PBT) chemicals and 4 PBT chemical compound categories which are covered by EPA's Toxics Release Inventory Program. Of those chemicals and chemical compound categories, mercury and lead are the only ones known to be present at detectable levels in the process wastewater from dewatering activities. Effluent limits for mercury and lead were developed to ensure that water quality criteria are maintained and were included in the Initial Draft for the discharge of process wastewater from dewatering activities.

DEQ establishes effluent limits to protect instream water quality criteria which can be exceeded, on average, once every three years. The effluent limits were calculated using once in ten year drought river flows, maximum effluent flows, 97% percentile effluent concentrations and conservative hardness assumptions ensuring that aquatic life water quality criteria should be maintained even during extreme low flow conditions in the James River. The return interval for all of these

conservative assumptions occurring simultaneously is far longer than the once per three years exceedance rate allowed by the WQS regulation.

With regard to the statement that DEQ does not have enough data to determine impacts to aquatic life, the discussion above provides extensive information on the WQS and the protections of aquatic life from the established acute and chronic water quality criteria. In addition, DEQ took an unprecedented conservative approach in assigning effluent limits as discussed in the staff response to comment #17. Please see the staff response to comments #4, #6, #7, and #8, for further discussion of aquatic life use in the James River and mixing of the effluent with the James River.

- 4. Concerns that the permit does not adequately protect fish and shellfish, nor does it adequately protect nesting or migrating birds, notably eagles.**
- **What will happen to the thriving aquaculture industry once consumers learn that the rockfish, oysters, and crabs they are enjoying were caught downstream from a toxic waste faucet?**
 - **The James River is a high-quality water resource providing excellent smallmouth bass sport fishing and catfish for the table.**
 - **There should be comprehensive testing of fish species and benthic flora. People eat the fish.**
 - **Both our local Bald Eagle population and the visiting Bald Eagles need clean water, populated with fish and welcoming to the waterfowl to survive.**
 - **Accumulation of toxins in aquatic organisms is likely, and is not addressed.**

Staff Response

As discussed in the staff response to comment #3, water quality criteria are based on all available, reliable toxicity information for a wide variety of diverse species of aquatic life, and because the most sensitive species drive the calculation of the criteria, all organisms typically thrive when WQS are maintained. It is assumed that species that have never been used in toxicity tests with the substance have sensitivities within the range of the tested species. All of the tested species act as surrogates for untested species. It is assumed that any species of special importance such as those listed as threatened and endangered species, but which are not in the toxicity dataset will share a level of sensitivity close to one of the tested species. Because of this, it is either assumed or demonstrated, based on the species considered during criteria development, that threatened and endangered species will also be protected by a nationally recommended water quality criterion. In order for this to not be true, the species in question would have to be significantly more sensitive than the most sensitive species tested, and this would be very unlikely. Water quality criteria developed in this way are protective and will ensure a healthy, diverse aquatic community in waterbodies meeting these criteria. Waters with a concentration of a toxic metal at the chronic criterion level indicate a protected waterbody, with no reason to suspect any adverse effects.

Most of the toxic pollutants associated with coal ash are metals and generally speaking, in the aquatic environment, aquatic organisms are much more sensitive to the toxic effects of metals than humans are. If aquatic life is protected, humans will also be protected. Potential exposure to humans from metals found in a water body could come from eating fish that might have become contaminated. Most metals do not bioconcentrate in fish tissue to any significant levels that could pose a health risk to human consumers. Fish bioconcentration factors for most metals are very low so fish contamination rarely poses any potential risk to human consumers. When a metal is in a discharge at a level that could pose a potential fish consumption risk a permit limit is included. For example, thallium is one metal that could have a potential for some risk to humans under certain conditions. Thallium can concentrate in fish at a higher rate than most other metals. The bioconcentration factor recommended for thallium is 116 while for most other metals bioconcentration factors are generally under 50. Thallium can be more toxic than most other metals. The water quality criterion for thallium being applied to this draft permit is designed to ensure that the very low concentration of thallium in the receiving stream will prevent the contamination of fish to a level of potential risk to human consumers.

It is very rare that actual adverse effects on wildlife and birds can be attributed to water pollution, except when geographic conditions force animal populations to become highly concentrated around a contaminated localized source of water, e.g., in arid regions. In Virginia, this type of situation would be highly unlikely as there are plentiful sources of clean fresh water. DEQ has no evidence that this could be a potential problem at this site.

Given that the nature of pollutants in Bremono's dewatering discharge are not expected to be significantly different from what has been discharged historically at the power station through the decades when it was actively burning coal, and considering that metals, in general, do not significantly bioconcentrate, the effluent limits ensure that fish tissue and water quality will not be impacted by the proposed discharge.

- 5. Concerns raised about the ecosystem broadly, public health, and drinking water supplies**
- **This waste contains carcinogens and heavy metals, which the utility wants to treat and release into major tributaries of the Chesapeake Bay at a rate of 172 million gallons per day. While this may be the quickest and cheapest option to get rid of coal ash problems this plan could inflict decades of hardship on a major ecosystem and our state's largest source of drinking water.**
 - **The James River serves as a drinking water source for millions via water intakes for public water systems.**
 - **Impacts to the proposed James River Water Authority raw water intake and existing PWS intakes further downstream should be considered.**
 - **Coal ash wastewater in Stokes County, NC has been revealed to contain significant levels of Bromine, which produced trihalomethanes in drinking water downstream. This must be evaluated for this discharge.**
 - **The effluent concentration limits for metals are too high compared to human toxicity levels.**
 - **What will be the long term impacts to public health?**

Staff Response

The WQS regulation identifies and designates certain stream segments as Public Water Supply (PWS) waters where additional criteria apply which have been calculated to protect human health from toxic effects through drinking water consumption. PWS waters are also subject to additional criteria to maintain acceptable taste, odor, and aesthetic quality of drinking water, and these criteria apply at the drinking water intake. However, since the James River in the vicinity of Bremono Power Station is not designated by the WQS as a PWS water, application of the PWS criteria is not germane nor warranted in this case.

The James River Water Authority has been issued a Virginia Water Protection permit from DEQ that authorizes the construction and operation of a new surface water withdrawal intake on the north bank of the James River, just upstream of the confluence with the Rivanna River, approximately 8.7 miles downstream of the Bremono Power Station. This is the nearest raw water intake downstream of Bremono Power Station. It is expected that the discharge of process wastewater associated with dewatering activities will be completed prior to the intake being constructed and put into operation.

The WQS regulation also establishes human health criteria for "All Other Surface Waters." DEQ fully applied these "all other" human health criteria in its evaluation. Waste load allocations based on aquatic life were compared to those based on human health, with the more stringent of the allocations utilized. This resulted in proposed human health-based effluent limits for Antimony and Thallium. For all other pollutant parameters, DEQ's analyses found the aquatic life waste load allocations to be more stringent than those for human health. DEQ staff believes the proposed effluent limits have been properly evaluated and applied to be protective of human health and aquatic life, and will maintain all existing beneficial uses of the receiving stream.

- 6. The modeling for the discharge is not well understood. None of the supporting materials with the permit provide details regarding the model used to understand the impact to the James River. Was the model static or dynamic? Does it include continuous flows from the**

discharge or pulses with intermittent discharge flows? How does the proposed discharge address critical conditions in the James River during low flow periods? The modeling for the proposed discharges should be made available for public review and dissemination. Enough detail about the model software and the assumptions made should be provided so either DEQ and/or a 3rd party can replicate the modeling to determine if it was properly done. There is currently no indication that this has been done.

Staff Response

DEQ's mixing zone modeling uses well-established mixing zone concepts that are consistent with EPA's Technical Support Document for Water Quality-based Toxics Control (<http://www3.epa.gov/npdes/pubs/owm0264.pdf>). A copy of DEQ's Guidance Memo No. 00-2011, Guidance on Preparing VPDES Permit Limits, is available online at <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Guidance/002011.pdf> and the modeling software associated with the guidance is available by contacting DEQ staff. A discussion of the process used to calculate effluent limits is included in the fact sheet along with the results of the modeling. DEQ uses a steady state model with conservative inputs for receiving stream flow (10 year drought conditions), discharge flow (maximum flows), effluent hardness, etc. This combination of conservative assumptions results in effluent limits which are protective of water quality under any conditions reasonably expected to occur. DEQ provided a briefing on the modeling procedures and other draft permit conditions to the Southern Environmental Law Center and the James River Association on November 19, 2015 and offered additional assistance in reviewing the modeling results.

7. Antidegradation of State Waters

- **The draft permit fails to comply with Virginia's Tier 2 Antidegradation Policy at 9VAC25-260-30.A.2.**
- **DEQ must justify any lowering of water quality in the James River as necessary for important economic or social development under Virginia's Antidegradation Policy.**

Staff Response

The Initial Draft included effluent limits that are consistent with DEQ's application of the Antidegradation Policy contained in 9VAC25-260-30.A.2. Effluent limits are established that allocate no more than 25% of the unused assimilative capacity for toxic criteria and no more than 10% of the unused assimilative capacity for human health criteria under a combination of extreme conditions (i.e. 10-year drought flow, maximum effluent flow, 97th% effluent concentration, etc.), that are expected to occur much less frequently than the once in 3-year exceedance interval allowed by the WQS. By limiting the waste load allocations to a small percentage of the remaining assimilative capacity under such a conservative combination of conditions, DEQ assures that there is no significant lowering of water quality under any conditions reasonably expected to occur.

8. The Mixing Zone is Too Long

- **The draft permit does not comply with the Clean Water Act and implementing regulations because VDEQ improperly relies on a "Complete Mix Assumption" even though DEQ's own analyses show that complete mixing of the coal ash pollution with the James River will not occur for 9 to 11 miles downstream during low flow conditions.**
- **DEQ must demonstrate that any mixing area downstream of the discharges from the Brevoort Power Station will comply with Virginia's regulations governing mixing zones.**

Staff Response

The Initial Draft included no established regulatory mixing zone. The proposed discharge was evaluated consistent with the mixing zone concepts established in EPA's Technical Support Document for Water Quality-based Toxics Control (<http://www3.epa.gov/npdes/pubs/owm0264.pdf>) and DEQ's Guidance Memo No. 00-2011; Guidance on Preparing VPDES Permit Limits (<http://www.deq.virginia.gov/Portals/0/DEQ/Water/Guidance/002011.pdf>) and it was determined that

a complete mix assumption would not prevent movement of or cause lethality to passing and drifting aquatic organisms. The application of the Antidegradation Policy as discussed in comment #7 further restricted waste load allocations and ensured compliance with all WQS.

Although the limits included in the Initial Draft were protective of water quality, DEQ has reevaluated the mixing assumptions in response to public concerns about the distance to a completely mixed condition.

In response to comments, the Revised Draft includes effluent limits that are based upon a regulatory mixing zone allowed in 9VAC25-260-20 that is 2,000 feet in length (5 times the river width). At this distance the effluent has mixed with less than 4% of the river at flows associated with the protection of aquatic life (1Q10 and 7Q10) and less than 8% of the river at flows associated with the protection of human health (30Q5 and harmonic mean). All water quality criteria will be met at the edge of the regulatory mixing zone under the conservative combination of conditions discussed in comment #7.

- 9. DEQ should evaluate the possibility of cumulative and/or synergistic impacts as a function of combination of metals, salts, and high temperature discharges. The combined thermal and toxic effluents will be 167 MGD, which will be 43% of low flow at 7Q10 (389 MGD). At elevated temperatures, the metals contained in the discharges of coal ash water may be even more toxic than at normal stream temperatures.**

Staff Response

The possibility of cumulative and/or synergistic impacts is addressed by the Whole Effluent Toxicity limits applied to the coal ash dewatering discharge. The Initial Draft included four monthly bioassays to limit acute and chronic toxicity for two species. The toxicity of most metals generally correlates to water hardness rather than temperature. The effluent limits were developed using very conservative hardness values and are expected to be fully protective of the receiving stream.

10. Ineffective Limits and Associated Monitoring

- **The draft permit does not contain an effective monitoring regime. The permit must require more frequent and more representative monitoring and reporting. Monthly average limits should be made weekly average limits, with continuous or daily monitoring and weekly reporting. 24-hour composite sampling should be required for the discharge of wastewater from the coal ash impoundments.**
- **Self-monitoring and self-reporting of the discharges is not adequate.**
- **There is no instream verification biological or chemical monitoring.**
- **DEQ must apply sufficient monitoring terms, including baseline monitoring and ambient monitoring of water quality, sediments, aquatic communities, and fish tissue to ensure that the James River and human health are protected.**
- **The draft permit should require flow to be measured and not estimated.**
- **Limits need to be established on the actual outfalls to the James River and not just on the internal outfalls. The proposed permit for the Bremono Station contains internal outfalls (500 series) with effluent limits for coal ash pond metals; however, the permitting of these outfalls for these constituents is insufficient for the regulation of coal ash pond metals. Only the adequate permitting of external outfalls can achieve this goal. Approval of the proposed permit modifications would allow Dominion to discharge coal ash pond closure wastewaters in certain outfalls where no verification would be required for coal ash pond metals. Specifically, the external outfalls include Outfalls 002, 003, 004, and 006 at Bremono Power Station.**

Staff Response

The Revised Draft includes enhanced monitoring and reporting above that contained in the Initial Draft. Specifically, the Revised Draft establishes monitoring for effluent limited parameters associated with dewatering at a frequency of three days per week (3 Days/Week), with a minimum of 48 hours between sampling events. Additionally, the permittee is required to contract to receive test results within four business days of sampling and to report the results to DEQ no later than the close

of business Friday of the week following sample collection. This increase in sampling frequency also had the effect of lowering the monthly average effluent limits. This is due to the nature of the statistical computations used in establishing effluent limits whereby the increased sampling frequency improves the confidence interval. Lastly, the Revised Draft includes monitoring at a frequency of 1/Month for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium which are parameters identified as constituents of concern for coal ash residuals for which there are no water quality criteria. While the Whole Effluent Toxicity sampling ensures that these parameters, as well as others that may cause toxicity, are accounted for in the sampling regime, sample results for these additional constituents will be helpful should toxicity be observed and for better understanding the full characteristics of the discharge.

The VPDES program is a self-monitoring program under the Clean Water Act. The DEQ performs inspections of facilities and collects samples from the facility as necessary. VPDES permittees are also required to submit monthly Discharge Monitoring Reports to DEQ. These monitoring reports contain summaries of the facility's self-monitoring results, and are reviewed by the DEQ's compliance staff. In addition, DEQ is committed to following up on any inquiries or complaints we receive regarding the facility's operation.

Background in-stream water quality conditions were established for antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc using DEQ's probabilistic monitoring data collected at nearly 100 sites in the same James River Hydrologic Unit Code (HUC) where the subject facility is located. Probabilistic monitoring is the sampling of randomly selected sites on Virginia's rivers and streams, and is used to provide accurate statewide and regional assessments of the chemical, physical, and biological conditions of Virginia's freshwater resources. These background in-stream conditions were utilized in the calculation of effluent limits in the Revised Draft and resulted in more stringent limits than would have otherwise been calculated.

Staff does not believe ambient monitoring of sediment, water, fish tissue and aquatic communities is necessary. As discussed in the staff response to comments #3, #4, #6, #7, and #8, the effluent limits have been established using very conservative assumptions to protect and maintain the WQS. Accordingly, effluent monitoring to demonstrate compliance with the established effluent limits will serve to gage the potential impact of the discharge on the aquatic environment. Additionally, this permitting action addresses dewatering activities required for closure. Closure of these impoundments is governed by and addressed by the 2015 EPA Final Rule on the Disposal of Coal Combustion Residuals and applicable provisions of the Virginia Solid Waste Management Regulations. Closure and post-closure care under those requirements will include groundwater monitoring, associated surface water monitoring, and other measures. The requirements of a solid waste permit will continue to ensure that the facility is not causing any impacts to surface water.

Based on the nature of the discharges authorized at the facility, staff considers an effluent flow sample type of "estimate" to be appropriate.

DEQ has applied the effluent limits for the dewatering wastewater discharges at internal Outfalls 501, 502, 503, 504, and 505 rather than at the external Outfalls 002, 003, 004, and 006. Meeting effluent limits at the internal outfalls will protect and maintain water quality at any of the external outfalls identified as discharge options, while providing Dominion with the flexibility needed to achieve closure by the required deadline.

11. Ash Pond Discharge Volume Limits to Protect Against Toxic Discharges & Dam Integrity

- **The draft permit does not place limits on the volume of wastewater and the amount of toxic chemicals within it that are discharged to the James River. Limits on the volume of discharge from the coal ash ponds are needed to protect the water quality of the James River and the integrity of the dams that are holding back high volumes of coal ash and polluted water. DEQ must limit the volume of water that may be discharged at any time and the total loading of pollution to the James River.**

- **The volume of discharge will likely be overwhelming as the permitted allowable discharge is essentially unlimited.**

Staff Response

The effluent limits in the Initial Draft for the discharge of process wastewater from dewatering activities were developed to be protective of water quality if the permittee were to discharge 10.2912 MGD every day over the 5-year term of the permit, which is very unlikely.

In response to comments, the Revised Draft includes a maximum effluent flow limit of 10.2912 MGD for the discharge of process wastewater from dewatering activities.

In addition, after consultation with the Department of Conservation and Recreation, the Revised Draft includes a special condition that requires the drawdown rate of any coal ash pond to not exceed 6 inches/day to maintain the integrity of the dams, unless approved in writing by the Department of Conservation and Recreation Dam Safety Program.

12. Quantification Levels

- **The minimum quantification levels (QL) specified in the draft permit do not provide the analytical sensitivity necessary to properly evaluate waterborne concentrations of coal ash pollutants and their toxic hazard to aquatic life.**
- **Values less than the QL are recorded as zero.**

Staff Response

Limits based on the protection of aquatic life include both a monthly average and a daily maximum. It is important to note that both of these limits are equivalent in that they both characterize the data distribution necessary to maintain water quality. The daily maximum value is the 97th percentile of the individual samples and the monthly average is the 97% percentile of the number of samples in the monthly average determination from the same data set. The limits are redundant in that they are both equally protective of water quality. In the case of averaging values less than the quantification level DEQ treats these values as if they were zero. Treating these values otherwise would put the agency in the position of enforcing a result which was not truly quantified. With the inclusion of the daily maximum limits characterizing the same data set, water quality should be protected regardless of whether or not the monthly average includes <QL results.

In response to comments, the Revised Draft includes lower QLs to reflect actual laboratory capabilities.

13. Whole Effluent Toxicity

- **Whole Effluent Toxicity tests are invalid since the evaluation parameters for the chronic test state “report the LC₅₀ for each chronic test at the 48-hour point”.**
- **The chronic test should be 28-day flow-through tests.**
- **The “growth period” in the Whole Effluent Toxicity tests is invalid. A “growth” metric is invoked as an assessment parameter for a 7-day “chronic” exposure period for young *Pimephales promelas*, yet, the stipulated reporting period for the permit is 48 hours, which is an “acute” exposure period, not chronic.**

Staff Response

The chronic test required by the Initial Draft is a 7-day test determining the No Observed Effect Concentration (NOEC) for survival and growth. The 48-hour LC₅₀ is reported in addition to NOEC in order to calculate an acute-to-chronic ratio if needed. Short term chronic toxicity tests are commonly used in NPDES permitting. The EPA guidance manual cited below was promulgated by reference and is approved under Clean Water Act section 304(h). The draft permit requires use of approved testing and reporting required in 40 CFR 136.3, Table IA: *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, EPA 821-R-02-013, October 2002* <http://www.epa.gov/cwa-methods/chronic-toxicity-freshwater-wet-methods>.

Few Whole Effluent Toxicity laboratories in the United States have the ability to perform the long duration chronic tests, and even fewer have the ability to perform flow-through tests. One Whole Effluent Toxicity laboratory in Virginia has the equipment to do flow-through tests, but does not run them nor is the laboratory certified by the Virginia Environmental Laboratory Accreditation Program to perform the flow-through tests for permit compliance. The short-term (4-7 day) chronic tests have been shown to provide sufficient indication of toxicity for survival and growth.

The survival and growth effects for *Pimephales promelas* are determined at 7 days by the NOEC statistics, as stated in the draft permit. The 48-hour acute LC₅₀ endpoint that is to be reported is for survival at 2 days, but the NOEC for survival is determined at 7 days for the chronic test using *Pimephales promelas* as per the method specifications.

14. Dominion should cease discharge if limits are exceeded and the discharge should not resume until the limits can be met.

Staff Response

In response to comments, the Revised Draft includes the following special condition:

The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or Whole Effluent Toxicity limit at Outfall 501, 502, 503, 504, or 505. The permittee shall promptly notify DEQ, in no case later than 24 hours, after the discovery of the exceedance. Should an exceedance occur, the permittee shall initiate a review of the treatment operations and data to identify the cause(s) of the exceedance and initiate appropriate corrective action(s). Resumption of the discharge shall not occur until such time as an evaluation report is provided to DEQ and written authorization to resume the discharge is granted by DEQ.

15. Further review of the draft permit on page 27 #19 notes that exceedances of 90 mg/L TSS in one day or 30 mg/L over a 7 day rolling average requires that Dominion contact DEQ within 24 hours. JROC would like to request that an additional requirement be added to the permit such that when these thresholds are passed (90 mg/L & 30 mg/L) the discharge is immediately shut off until measured concentrations go below those thresholds. It is easy to imagine a windy day that turns up all of the coal ash into the effluent, and given that the particles are where the majority of the contaminants are, JROC finds it wise to stop the discharge until those hazardous particles have settled back to the bottom of the pond. Again, because the flow is not mandatory due to the lack of influent, we do not see this as a significant burden to the permittee and we would like to see this requirement added to the permit.

Staff Response

Part I.G.19 of the Initial Draft applied to the Metal Cleaning Waste Treatment Basin and not to the coal ash ponds. The discharge from the Metal Cleaning Waste Treatment Basin is authorized to occur either via Internal Outfall 202 to the West Ash Pond or via Internal Outfalls 504 or 505. Before a discharge to the James River could occur, Dominion would be required to demonstrate that a discharge that includes wastewater from the Metal Cleaning Waste Treatment Basin meets the limits in Part I.A.9 for process wastewater from dewatering. As discussed above, a special condition has been added to the Revised Draft requiring Dominion to immediately cease the discharge upon becoming aware of an exceedances of an established effluent and/or Whole Effluent Toxicity limit at Outfall 501, 502, 503, 504, or 505.

16. PCB monitoring should require the use of Method 1668 to be consistent with the TMDL monitoring and to ensure PCBs are not discharged.

Staff Response

EPA Method 608 is an EPA-approved methodology for analyzing PCB and organochlorine pesticide concentrations. It meets DEQ's quantifiable level requirements and is widely used to analyze

pollutant concentrations in industrial and municipal wastewater effluents. Method 1668 has not been EPA approved and is not an appropriate method to demonstrate compliance with Part I.G.9 of the draft permit.

The basis for this prohibition is the Steam Electric Guidelines 40 CFR Part 423, which contains the following “technology-based” limit for PCBs: “There shall be no discharge of polychlorinated biphenyl compounds such as those used for transformer fluid.” The origin of this prohibition can be found in the 1974 development document for Effluent Limitation Guidelines and New Source Performance Standards for the Steam Electric Power Generating Point Source Category and was based solely on the use of technology for spill prevention and containment to prevent spills of PCB-containing oil at utilities and to prevent such oils from entering the stormwater discharge. The zero discharge prohibition is narrow in scope and based on a specific analytical capability, consistent with EPA Method 608. Discussions with EPA Region III confirm that Method 608 is appropriate for determining compliance with this federal effluent guideline.

In response to comments, the Revised Draft includes separate PCB monitoring using EPA Method 1668 for Outfall 002 during the period following notification of the West Treatment Pond operating in its final configuration and notification that no further discharge of process wastewater from dewatering activities is occurring from Outfall 002. The results of this monitoring will be utilized in future TMDL development.

17. There is a dramatic difference in the wastewater profiles between the Possum Point and Brems Stations. This leads to the possibility that the wastewater streams at both facilities may not have been adequately characterized.

Staff Response

DEQ recognizes the difficulty in characterizing the wastewater that will be generated during the dewatering process before the dewatering activities commence. That was one of the reasons that DEQ utilized the approach discussed on pages 2 and 3 in Appendix E of the fact sheet for identifying and evaluating constituents of potential concern associated with the removal of waters from the coal ash ponds. This approach included establishing water quality based limits for certain parameters regardless of whether or not the existing data for the facility demonstrated a reasonable potential to exceed the water quality criteria. This approach also included establishing Whole Effluent Toxicity limits to address certain parameters in the absence of an applicable Virginia numeric water quality criterion.

18. Comments/Requests from the United States Fish and Wildlife Service (USFWS)

Thank you for giving us an opportunity to review the materials pertaining to the above referenced and for answering our questions along the way. As you know, we are concerned about how this permit may impact freshwater mussels known to occur in the James River watershed, including the federally listed endangered James spinymussel (*Pleurobema collina*) and three species that are currently being reviewed for listing under the Endangered Species Act: the yellow lance (*Elliptio lanceolata*), Atlantic pigtoe (*Fusconaia masoni*), and green floater (*Lasmigona subviridis*).

We support DEQ's efforts to limit the concentrations of pollutants present in wastewater that will be discharged from the ash ponds as they are dewatered and permanently closed. However, we are concerned that the proposed limits may not be adequately protective of aquatic life, including the four species of mussel listed above. Central to this concern is the fact that there is no limit on the total volume of water that can be discharged and therefore the total loading of metals is unlimited.

Given the complex nature of this permit, we request that the comment period be extended by 30 days so that we can further review the materials provided. We may have additional concerns once we better understand what is being proposed and how it might impact our trust resources.

Staff Response

9VAC25-31-290 requires public notice to be sent to federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected states and any state agency responsible for plan development under § 208(b)(2), § 208(b)(4) or § 303(e) of the CWA and the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The natural resource agencies are on a required mailing list that is distributed per 9VAC25-31-290.C.1.f and is submitted at the same time public notice is submitted to newspaper.

This mailing list is distributed every 2 weeks. The mailing list is the mechanism by which EPA (for minor permits), DGIF, VIMS, USFWS, NMFS, Corps of Engineer, and adjacent states are notified of upcoming VPDES permit actions. DEQ is to provide additional information if those entities request them and to address their comments.

DEQ provided electronic access to the draft permit, fact sheet, and application on October 30, 2015. The mailing list was distributed on November 2, 2015. Comments were received from USFWS on December 14, 2015, and are addressed below.

In response to comments, the Revised Draft includes a maximum effluent flow limit of 10.2912 MGD for the discharge of process wastewater from dewatering activities.

The constituents of concern for coal combustion residuals are addressed in the draft permit through a combination of elements, including established pollutant effluent limits, monitoring requirements, and Whole Effluent Toxicity limits to address potential toxicity. Please see the staff response to comments #3 and #4 for information regarding the WQS and the toxicological information used in establishing the water quality criteria for protecting against acute and chronic toxicity to aquatic life as well as protection of human health.

VPDES permits are designed to be protective of the WQS, which establish the beneficial uses of all waters in the Commonwealth and the narrative and numeric criteria necessary to ensure water quality is maintained and protected. The draft permit has been prepared in accordance with all appropriate statutes, regulations, guidelines and policies to protect the receiving waters. As discussed in the staff response to comments #3, #4, #6, #7, and #8, the effluent limits have been established using very conservative assumptions to protect and maintain the WQS.

DEQ has followed the requirements for notification established in law and regulation. Consistent with this standard operating practice, it is the agency's decision that the 45-day public comment period was adequate and an extension is not necessary.

19. Comments/Requests from the Virginia Department of Game and Inland Fisheries (DGIF)

We received your 20 November 2015 notification of the proposed modification to the Dominion – Bremono Power Station Virginia Pollutant Discharge Elimination System (VPDES) permit (VA0004138). The VPDES permit modification addresses the industrial wastewater and stormwater discharges associated with closure of coal ash ponds located at the Station.

To better evaluate the potential impacts of this discharge to fish and wildlife resources under our jurisdiction, we request clarification of the proposed effluent volumes, chemistry, and constituents, and of their ecotoxicology. We also request explanation of how the proposed monitoring protocols would: (1) document existing baseline concentrations of the discharge constituents at end-of-pipe and in the receiving waters, and (2) adequately evaluate impacts to the environment resulting from the discharge.

Thank you for the opportunity to comment on this draft permit. We would appreciate clarification of these topics to facilitate our review of potential impacts to wildlife resources that may accrue from the proposed discharges.

Staff Response

9VAC25-31-290 requires public notice to be sent to federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected states and any state agency responsible for plan development under § 208(b)(2), § 208(b)(4) or § 303(e) of the CWA and the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The natural resource agencies are on a required mailing list that is distributed per 9VAC25-31-290.C.1.f and is submitted at the same time public notice is submitted to newspaper. This mailing list is distributed every 2 weeks. The mailing list is the mechanism by which the EPA (for minor permits),

DGIF, VIMS, USFWS, NMFS, Corps of Engineer, and adjacent states are notified of upcoming VPDES permit actions. DEQ is to provide additional information if those entities request them and to address their comments.

The mailing list was distributed on November 2, 2015. DGIF requested information on the Bremono Power Station draft permit on November 20, 2015. DEQ provided electronic access to the draft permit, fact sheet, and application on November 20, 2015. Comments were received from DGIF on December 14, 2015, and are addressed below.

Information on the expected volumes to be discharged can be found in the staff response to comment #1. The constituents of concern for coal combustion residuals are addressed in the draft permit through a combination of elements, including established pollutant effluent limits, monitoring requirements, and Whole Effluent Toxicity limits to address potential toxicity. Please see the staff response to comments #3 and #4 for information regarding the WQS and the toxicological information used in establishing the water quality criteria for protecting against acute and chronic toxicity to aquatic life as well as protection of human health.

VPDES permits are designed to be protective of the WQS, which establish the beneficial uses of all waters in the Commonwealth and the narrative and numeric criteria necessary to ensure water quality is maintained and protected. The draft permit has been prepared in accordance with all appropriate statutes, regulations, guidelines and policies to protect the receiving waters. Monitoring to demonstrate compliance with the established effluent limits will serve to gauge the potential impact of the discharge on the aquatic environment. Staff does not believe additional monitoring of the discharge or ambient environment is necessary. As discussed in the staff response to comments #3, #4, #6, #7, and #8, the effluent limits have been established using very conservative assumptions to protect and maintain the WQS.

20. Comments/Requests from the Virginia Department of Conservation and Recreation

Division of Planning and Recreation Resources

The Department of Conservation and Recreation (DCR), Division of Planning and Recreational Resources (PRR), develops the *Virginia Outdoors Plan* and coordinates a broad range of recreational and environmental programs throughout Virginia. These include the Virginia Scenic Rivers program; Trails, Greenways, and Blueways; Virginia State Park Master Planning and State Park Design and Construction.

We have reviewed the Dominion application for the Bremono Power Station regarding the closure of the coal ash ponds. Please note that the river is regularly used, year round, by recreational boaters and paddlers as it is an established blueway; in addition, this section of the James qualifies for scenic river designation. The project is also approximately 40-mile upriver of DCR's Powhatan State Park in Goochland County.

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area

outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the James River – Bremono Stream Conservation Unit (SCU) is within the project area. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The James River – Bremono SCU has been given a biodiversity ranking of B4, which represents a site of moderate significance. The natural heritage resources associated with this site is:

Lasmigona subviridis

Green floater

G3/S2/NL/LT

The Green floater, a rare freshwater mussel, ranges from New York to North Carolina in the Atlantic Slope drainages, as well as the New and Kanawha River systems in Virginia and West Virginia (NatureServe, 2009). In Virginia, there are records from the New, Roanoke, Chowan, James, York, Rappahannock, and Potomac River drainages. Throughout its range, the Green floater appears to prefer the pools and eddies with gravel and sand bottoms of smaller rivers and creeks, smaller channels of large rivers (Ortman, 1919) or small to medium-sized streams (Riddick, 1973). Please note that this species has been listed as state threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

In addition, the Atlantic pigtoe (*Fusconaia masoni*, G2/S2/SOC/LT) and Virginia pigtoe (*Lexingtonia subplana*, G1Q/SH/NL/NL) have been historically documented within the project area. The Atlantic pigtoe is a medium-sized freshwater mussel which ranges from the Ogeeshee drainage in Georgia north to Virginia (NatureServe, 2009). In Virginia, this species is known from the James, Chowan and Roanoke River basins (NatureServe, 2009). The Atlantic pigtoe prefers clear, swift waters with gravel or sand and gravel substrates. Many populations from the main stem of larger rivers have disappeared and the species is becoming limited to the headwater areas of drainages in which it occurs. This could have implications for populations being able to reestablish after a localized, catastrophic event and for genetic exchange.

Threats to the Atlantic pigtoe include pollution, impoundments, clearcutting, and dredging (Gerberich, 1991). This species does not appear to be able to tolerate habitat changes and it appears to be very poor at recolonizing previously disturbed habitats (NatureServe, 2009). A recent study determined that the glochidia of the Atlantic pigtoe are extremely sensitive to pollution (Augsburger et al., 2003). Please note that this species is currently listed as threatened by the VDGIF and is also tracked as a species of concern by the United States Fish and Wildlife Service (USFWS); however, this designation has no official legal status.

The Virginia pigtoe is a state historic freshwater mussel. There are questions surrounding the Virginia pigtoe's taxonomic status, and its original description as a species may be based on partially-gravid Atlantic pigtoe (*Fusconaia masoni*). If it is a valid species, it is endemic to the James River drainage of Virginia (NatureServe, 2009).

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species.

James River has been designated by the Virginia Department of Game and Inland Fisheries (VDGIF) as a "Threatened and Endangered Species Water". The species associated with this T

& E Water are the Brook floater (*Alasmidonta varicosa*, G3/S1/NL/LE), the Green floater and the Atlantic pigtoe.

To minimize impacts to the aquatic ecosystem, DCR supports the permit conditions requiring coal ash pond effluent including pore water meet water quality standards at the individual outfalls prior to release into the James River, development of an emergency spill and leak plan as part of the Stormwater Pollution Prevention Plan and low total suspended solids limits. Due to the legal status of the Green floater, Atlantic pigtoe, and Brook floater, DCR also recommends coordination with Virginia's regulatory authority for the management and protection of these species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity. Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The VDGIF maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov).

Staff Response

9VAC25-31-290 requires public notice to be sent to federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected states and any state agency responsible for plan development under § 208(b)(2), § 208(b)(4) or § 303(e) of the CWA and the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The natural resource agencies are on a required mailing list that is distributed per 9VAC25-31-290.C.1.f and is submitted at the same time public notice is submitted to newspaper. This mailing list is distributed every 2 weeks. The mailing list is the mechanism by which the EPA (for minor permits), DGIF, VIMS, USFWS, NMFS, Corps of Engineer, and adjacent states are notified of upcoming VPDES permit actions. DEQ is to provide additional information if those entities request them and to address their comments.

The mailing list was distributed on November 2, 2015. DCR requested information on the Dominion – Bremono Power Station draft permit on December 9, 2015. DEQ provided electronic access to the draft permit, fact sheet, and application on December 9, 2015. Comments were received from DCR on December 14, 2015, and are addressed below.

The effluent limits for the discharges of process wastewater from dewatering activities are not based on meeting the WQS prior to release into the James River. The effluent limits must be met at the individual outfalls; however, mixing with the James River has been utilized in the development of the effluent limits as discussed in the staff response to comments #6 and #8.

The constituents of concern for coal combustion residuals are addressed in the draft permit through a combination of elements, including the establishment of pollutant effluent limits, monitoring requirements, and Whole Effluent Toxicity limits to address potential toxicity. Please see the staff response to comments #3 and #4 for information regarding the WQS and the toxicological information used in establishing the water quality criteria for protecting against acute and chronic toxicity to aquatic life as well as protection of human health.

VPDES permits are designed to be protective of the WQS, which establish the beneficial uses of all waters in the Commonwealth and the narrative and numeric criteria necessary to ensure water quality is maintained and protected. The draft permit has been prepared in accordance with all appropriate statutes, regulations, guidelines and policies to protect the receiving waters. As discussed in the staff response to comments #3, #4, #6, #7, and #8, the effluent limits have been established using very conservative assumptions to protect and maintain the WQS.

Part I.G.3 of the Initial Draft required that the Operation and Maintenance Manual include procedures for reporting and responding to any spill/overflows/treatment works upsets. In addition, Part I.H.2.b(4) of the Initial Draft required that the Stormwater Pollution Prevention Plan clearly identify areas where potential spills and leaks that can contribute pollutants to stormwater discharges can occur and their corresponding outfalls.

The Initial Draft included monthly average total suspended solids limits of 30 mg/L and daily maximum total suspended limits of 45 mg/L.

21. The evaluation of threats to Threatened & Endangered species is inadequate. The Green Floater Mussel is listed as a threatened species under the Virginia Endangered Species Act and is known to exist in the James River in the area of the Bremono Plant and in the downstream reach of the James River before complete mixing of the effluent with the James will occur, and where exceedances of ambient water quality criteria to protect aquatic species will occur within an as-yet-undefined portion of the James River. Additionally, the Federally Endangered James Spiny mussel historically occurred in the James River. Yet DEQ failed to even confer with the state and federal resource agencies regarding the impacts of the discharges of toxic water from coal ash ponds on endangered species and their habitat in the James River prior to issuing the draft permit for public comment. The Atlantic sturgeon, a federally protected, endangered species, may use areas that could be affected by the discharge.

Staff Response

Pursuant to the 2007 Memorandum of Understanding among DEQ, DGIF, DCR, and USFWS regarding threatened and endangered species coordination during the VPDES permitting process, DGIF and DCR are notified of the receipt of an application if notification is requested by those agencies. The agencies are informed of the annual list of permits that are scheduled for reissuance during the upcoming calendar year, and they identify the specific permits they would like to review. The notification is executed through either a coordination form and/or DCR's Natural Heritage Database. The Bremono Power Station permit was identified as a candidate permit reissuance for review. The coordination with DGIF and DCR was conducted in accordance with applicable regulations and policies. In addition, DEQ hosted a conference call with USFWS, DGIF, and DCR on December 10, 2015 to discuss the derivation of the effluent limits for the discharge of processing wastewater from dewatering activities.

Please see the staff response to comments #18, #19, and #20 for additional information.

22. The fact sheet does not address the issue of the Chesapeake Bay TMDL and TSS (or sediment). 40 CFR 122.4(i) prohibits the discharge of pollutants to impaired waters without an allocation. The dewatering is a new discharge and would fall under this prohibition. –

Staff Response

Virginia's Phase I Watershed Implementation Plan recognizes that waste load allocations for sediment loads will be set at technology levels since wastewater is an insignificant portion of the sediment load. As a further clarification, individual and general VPDES permits are considered consistent with the Chesapeake TMDL as long as the aggregated total suspended solids (TSS) loads for all individual and general permit facilities is less than the aggregate TSS waste load allocation in the Phase I Watershed Implementation Plan. The Bremono discharges are not new; they are a continuation of discharges that have occurred for decades. Further, by looking at a single James

River discharger as an example, it can be demonstrated that there is more than adequate TSS waste load allocation available under the TMDL. The Henrico WWTP has a waste load allocation based on a design flow of 75 MGD and an effluent TSS concentration of 30 mg/L. The actual TSS effluent limit for Henrico WWTP is 8 mg/L so there is an excess TSS waste load allocation of $(75 \text{ MGD})(30 - 8 \text{ mg/l})(3.785) = 6,245 \text{ kg/d}$ available from just one facility.

23. Public Notice, Notification, and Review

- **Most people are not aware of the situation and there are no requirements to inform the public or downstream communities when Dominion will dewater the coal ash ponds.**
- **Concerns over the notification procedures used by VADEQ.**
- **DEQ needs a more robust notification process.**

Staff Response

All notifications and notices have been provided in accordance with applicable state laws and regulations, policies, and practices. Specifically, 9VAC25-31-290 C.2, states that public notice shall be given by publication once a week for two successive weeks in a newspaper of general circulation in the area affected by the discharge. Additionally, Section 8.01-324 of the Code of Virginia establishes criteria for which newspapers may be used for legal notices and publication. Staff utilized the established criteria outlined in Section 8.01-324 of the Code of Virginia when selecting *The Daily Progress* for publication of the legal notice. Public notice was published on October 30, 2015 and November 6, 2015 in *The Daily Progress*. In addition, public notice was published in the *Fluvanna Review* on November 5, 2015 and November 12, 2015. The public comment period totaled 45 days, establishing a period for providing written comment before the public hearing that exceeds the minimum requirements and a shortened period for providing written comment after the public hearing. The comment period for this permitting action closed on December 14, 2015. All notifications and notices have been provided in accordance with applicable state laws and regulations.

Pursuant to Section 62.1-44.15:01 of the State Water Control Law, the public notice is to be mailed to the chief elected official and chief administrative officer and planning district commission. By letter dated October 30, 2015, DEQ notified the Fluvanna County Administrator, Chairman of the Fluvanna County Board of Supervisors, and Thomas Jefferson Planning District Commission on October 30, 2015.

24. Opposition to the Permit and Requests for Extension of Comment Period

- **The permitting action and process appears to be rushed. Why is there such a rush?**
- **Opposition to Dominion's application to drain contaminated water from coal ash ponds directly into the James River.**
- **Request from Senator A. Donald McEachin to extend the comment period 60 days.**
- **Because of the complexity of the issue and the volume of technical information, comment period should be extended. The draft permit and fact sheet are several hundred pages, and the proposed dewatering action has never been undertaken in Virginia.**
- **Deny the permit and extend the comment period 60 days to review information, attend the hearing and obtain additional information from DEQ to inform public comments.**
- **Urge to deny the permit and extend the comment period 60 days to allow science to inform the potential impacts to the river and public health.**

Staff Response

DEQ has followed the requirements and procedures for public participation established in law and regulation, including requirements to process permitting actions in a timely manner. Consistent with this standard operating practice, it is the agency's decision that the 45-day public comment period was adequate and an extension is not necessary.

25. Coal Ash Pond Closure

- **The coal ash ponds must be excavated, and all contents must be stored in dry, lined storage away from bodies of water.**

- **Reject plans to dump coal ash waste from Possum and Bremono. Clean it up responsibly.**

Staff Response

This permitting action addresses dewatering activities required for closure but does not govern the method of closure of any of the surface impoundments on-site. Closure of these impoundments is governed by and addressed by the 2015 EPA Final Rule on the Disposal of Coal Combustion Residuals and applicable provisions of the Virginia Solid Waste Management Regulations. The closure of these impoundments will be addressed through a solid waste permit which will include provisions for closure, post-closure care, and groundwater protection.

26. Release of Coal Ash into Waters, Dumping of Toxic Waste

- **The James River has seen improvement in recent years. This will set back the improvements seen in the river.**
 - **Stop giving Dominion a free pass to put its coal ash waste into our treasured waterways.**
 - **Reject plans to dump coal ash waste from Bremono Power Station. Clean it up responsibly.**
 - **The high metal concentrations in ash pond sediment will be allowed to be discharged.**

Staff Response

The laws, regulations and policies governing the existing and proposed discharges from the subject facility are the same that have, in many ways, been responsible for the improvements in water quality noted in the James River Basin. The Initial Draft, as well as the Revised Draft, was prepared in accordance with all applicable laws, regulations and policies to maintain the WQS applicable to the discharge receiving waters and all applicable beneficial uses.

27. Consideration of Other Water and Ash Disposal Alternatives

- **Dominion should be required to find another method of disposal for the coal ash wastewater.**
- **With all of the resources we have available to us, we need to think of healthier alternatives that will not put human and wildlife health at risk. Be the leaders you are - you have the responsibility to protect our land, animals, economy, and people - instead of doing what's easiest, do what you were appointed, elected, and chosen to do - lead to create a great place to live.**

Staff Response

There is no prohibition in state law or regulation against anyone applying for an individual wastewater discharge permit. If an application for a permit is submitted then DEQ has a legal responsibility to prepare a draft permit that would be protective of water quality.

28. Dominion should stop using coal at the Bremono Power Station.

Staff Response

Dominion ceased using coal for fuel at the Bremono Power Station in September 2013.

29. By allowing the discharge of toxics into the river, the draft permit is inconsistent with the 2014 Chesapeake Bay Agreement that Virginia signed.

Staff Response

The Chesapeake Bay Watershed Agreement, signed by Virginia, commits to “continuously improving practices and controls that reduce and prevent the effects of toxic contaminants below levels that harm aquatic systems and humans.” The draft permit has effluent limits based on the Water Quality Standards (9VAC25-260). The Water Quality Standards have been developed and refined over the course of decades of research to be protective of aquatic life and human health. Please see the staff response to comment #3 for additional information on the Water Quality Standards.

- 30. The fine that DEQ would charge (\$32,000 per day) if they violated the industry standards and ended up contaminating the river is less than the EPA charges per incident per day for lead removal (\$37,500 per day per incident).**

Staff Response

DEQ penalties are set by the Code of Virginia at § 62.1-44.32, and to charge more would require statutory changes. EPA has approved DEQ's penalty authority as substantially similar to theirs. DEQ penalties would be assessed on a per violation vs. per incident basis and could conceivably amount to more than \$37,500 per day (e.g. violation of more than one permit limit or requirement).

Comments 31 – 68 were received from the permittee during the public comment period

- 31. New daily intake and effluent temperature monitoring requirements have been included. The station's air permit limits the number of hours that it can operate during a given year and, consequently, there may be a substantial number of days during any year during which the station will not operate. In addition, once the station is dispatched, it typically takes several hours to get the unit on-line and stabilized. Taking daily temperature measurements would be difficult during a "start-up" period that occurred late in the evening when staffing would be minimal and available staff would be working to bring the unit on-line. In light of the above, Dominion requests that the following footnote be added to Part I.A.1, "Daily measurements of intake and effluent temperature are not required on days when neither generating unit is operational for less than four hours."**

Staff Response

The footnote has not been added. Due to the lack of recent data for intake and effluent temperature, daily measurement of intake temperature is required on any day that an intake occurs and daily measurement of effluent temperature is required any day that a discharge occurs from Outfall 001 in order to more fully characterize intake and effluent temperatures under all operating conditions.

- 32. pH limits of 6.0 (minimum) and 9.0 (maximum) have been included on internal Outfall 203. These are water quality-based limits for the protection of the receiving stream and are not necessary to ensure that the station's sanitary wastewater receives adequate treatment. Dominion requests that these limits be removed.**

Staff Response

The pH limits have not been removed from internal Outfall 203. 40CFR133.102(c) requires that the effluent values for pH shall be maintained within the limits of 6.0 to 9.0.

- 33. Dominion requests that process wastewaters from the West Ash Pond and Metals Pond be included as sources to internal Outfall 504. Adding these sources will allow us to manage all (or the majority) wastewater treatment at a single location on site. The other internal Outfalls (i.e. 501, 502, 503 and 505) could then be utilized to handle specific wastewaters associated with a particular pond should the need arise.**

Staff Response

Part I.A.9 of the Revised Draft has been changed to add the West Ash Pond and Metal Cleaning Waste Treatment Basin as sources to internal Outfall 504.

- 34. Dominion requests that the requirement for 1/Day sampling for Total Residual Chlorine at Outfall 002 be limited to 1/Day during weekdays.**

Staff Response

The monitoring requirement for Total Residual Chlorine at Outfall 002 has been not changed to 1/Day during weekdays. Due to the lack of recent data for Total Residual Chlorine and the fact that new treatment units will be utilized, daily monitoring for Total Residual Chlorine is required any day that a discharge occurs from Outfall 002.

35. Outfalls 007 and 008 are characterized in the permit as "stormwater *not exposed to industrial activity.*" By contrast, in Parts I.A.6 and I.A.8, Outfalls 003 and 006 are characterized as "stormwater *not associated with a regulated industrial activity.*" For consistency, Outfalls 007 and 008 should be characterized the same as Outfalls 003 and Outfall 006.

Staff Response

Part I.A.11 of the Revised Draft has been changed to characterize Outfalls 003 and 006 the same as Outfalls 007 and 008, which is "stormwater not exposed to industrial activity".

36. Part I.E.1.a requires the collection of 24-hour flow-proportioned composite samples from Outfall 001 for use in Whole Effluent Toxicity tests. Outfall 001 consists of once-through cooling water. This water is withdrawn from the James River at a constant rate during operation of the station's generating units and would not be expected to change substantially in any given 24-hour period when the units are generating. Consequently, Dominion requests to use grab samples rather than 24-hour composite samples to satisfy the Whole Effluent Toxicity testing requirement. Use of a grab sample is also consistent with Appendix J (page 2) of the Fact Sheet, which states that "a grab sample is representative of the discharge at Outfall 001." Dominion also requests that when practicable the Whole Effluent Toxicity testing of Outfall 001 be required during periods when both units are on-line. The toxicity endpoints included in the permit are based on this mode of operation and inclusion of this requirement will align the Whole Effluent Toxicity testing requirements with the instream monitoring in I.G.13.

Staff Response

The sample type for Whole Effluent Toxicity testing at Outfall 001 has not been changed to a grab sample. The fact sheet has been changed to reflect the 24-hour composite sample type. Part I.E.1.a of the Revised Draft has been changed to require the Whole Effluent Toxicity monitoring be performed as near to full plant operating conditions as reasonably possible, which matches the language that is included for the instream monitoring in Part I.G.13.

37. The schedule in Part I.E.1.f requires quarterly toxicity testing of Outfall 001 for a period of one year, followed by annual testing. The station's air permit limits the number of hours that it can operate during a given year and, consequently, there may be quarterly periods during which the station does not operate, or is not dispatched for a period long enough, to conduct all four required quarterly tests. One way to address this would be to include a testing schedule similar to that included in Part I.E.3.f for Outfall 002 (West Treatment Pond) with the monitoring beginning during the first full quarter following permit reissuance.

Staff Response

The testing schedule in Part I.E.1.f of the Revised Draft has been changed to require the 1st quarterly monitoring be performed in the first full calendar quarter following permit reissuance, the subsequent quarterly monitoring be performed every calendar quarter following the previous quarter until there are a minimum of 4 quarters tested, the 1st annual monitoring be performed the first full calendar year following the 4 completed quarterly tests, and the subsequent annual monitoring be performed every calendar year following the 1st annual testing period.

38. 24-hour flow-proportioned samples are also required for use in Whole Effluent Toxicity tests with Outfall 002 (West Treatment Pond). Given the average and maximum flow rates for the wastewater to be treated in this pond (1.53/4.3 MGD) and the volume of the pond (19.87 MG), the estimated retention time is approximately between 4.6 to 13.4 days. Consequently, Dominion requests to use grab samples rather than 24-hour samples. The use of grab samples is also consistent with Appendix J (page 2) of the Fact Sheet, which

states that "grab samples are considered representative for Outfall 002 in its final configuration."

Staff Response

The sample type for Whole Effluent Toxicity testing at Outfall 002 (West Treatment Pond) has not been changed to a grab sample. The fact sheet has been changed to reflect the 24-hour composite sample type.

39. 24-hour flow-proportioned composite samples are required for use in Whole Effluent Toxicity tests of the internal 500 series outfalls. Appendix J (page 2) indicates that 4-hour composite samples are required "since that is the sample type for chemical parameters..." Dominion request's to use 4-hour composite samples for WET testing with these outfalls.

Staff Response

The sample type for Whole Effluent Toxicity testing at the internal 500 series outfalls has not been changed to a 4-hour composite sample. The fact sheet has been changed to reflect the 24-hour composite sample type.

40. Dominion believes that the reference in Part I.E.4.f should be to I.E.4.c.

Staff Response

The reference in Part I.E.4.f is correct and has not been changed.

41. Dominion requests that the words "once-through cooling" be inserted after "no" and before "water" in the first sentence of the third paragraph in Part I.F.4.

Staff Response

The words "once-through cooling" have not been inserted after "no" and before "water" in the first sentence of the third paragraph in Part I.F.4.

42. Dominion requests that the words "taken for compliance with this permit" be added to the end of the sentence in Part I.G.3.a.

Staff Response

The words "taken for compliance with this permit" have been added to the end of the sentence in Part I.G.3.a of the Revised Draft.

43. The last sentence of Part I.G.3.d could be interpreted very broadly to require Dominion to list the type and quantity of all wastes, fluids, and pollutants (e.g., chemicals) stored at the Bremono Power Station regardless of whether they would be identified under Part I.G.2. Dominion requests that this sentence be reworded as follows: "List the type and quantity of the characterized materials stored at this facility."

Staff Response

The last sentence in Part I.G.3.d of the Revised Draft has been reworded as follows: "List the type and quantity of wastes, fluids, and pollutants characterized in Part I.G.2 that are stored at this facility."

44. Dominion requests that Part I.G.3.g be removed. It is more applicable to municipal systems and has been deleted from other similar Dominion permits.

Staff Response

Part I.G.3.g has not been removed from the permit.

45. Part I.G.7 is a new condition that requires that the sewage collection and treatment system meet Reliability Class II requirements of the Sewerage Collection and Treatment Regulations (9VAC25-790-490). To comply with this condition will require some upgrades to the existing STP. Dominion estimates that it will take between three to six months to complete this work. Therefore, Dominion requests that a six-month compliance schedule be included in the permit.

Staff Response

A six-month compliance schedule has been included in the Revised Draft to meet the Reliability Class II requirements in Part I.G.7.

46. Part I.G.10 is the same as the current permit condition Part I.E.7 except that the second paragraph from the current condition appears to have been omitted. The condition does not make sense without the omitted paragraph. Please add the second paragraph from the existing permit.

Staff Response

In order to be consistent with draft VPDES permit No. VA0002071 for Dominion – Possum Point Power Station, Part I.G.10 of the Revised Draft has been changed to:

10. Additional Chlorine Limitations and Monitoring Requirements

- a. Neither free available nor total residual chlorine may be discharged via Outfall 001 from any single generating unit for more than two hours in any one day, unless the permittee demonstrates to DEQ that discharge for more than two hours is required for macroinvertebrate control. If the permittee is dechlorinating, the two hour requirement is nullified.*
- d. Simultaneous multi-unit chlorination is permitted.*
- e. Monitoring for free available and/or total residual chlorine shall only be required when the permittee is chlorinating.*

47. The schedule for conducting in-stream thermal monitoring in Part I.G.13 requires that the monitoring be performed during the months of February and July. The station's air permit limits the number of hours that it can operate during a given year and consequently, it may not be possible to comply with this condition without forcing the station to operate. Consequently, Dominion requests the following windows for the winter and summer testing periods: Winter (January 1 – March 31) and Summer (June 1 – August 31). This will provide flexibility to better ensure that Dominion is able to perform the testing during the critical periods of concern. NOTE: Dominion believes that the last reporting deadline in this schedule should be October 31, 2020 rather than July 31, 2020.

Staff Response

Part I.G.13 of the Revised Draft has been changed to require instream monitoring be performed from January 1 – March 31 and June 1 – August 31 of each year. The report submittal dates have been changed as well.

48. Part I.G.14 requires that water quality criteria monitoring for Outfall 002 be initiated no later than one year following the West Treatment Pond beginning operation in its final configuration. For toxicity testing under Part I.E.3.f, the testing is not to begin until (1) the West Treatment Pond begins operation in its final configuration and (2) DEQ is notified that no further discharge of process wastewater from dewatering activities is occurring from Outfall 002. Dominion believes that the same dual requirements should apply to the initiation of water quality criteria monitoring for Outfall 002.

Staff Response

Part I.G.14 of the Revised Draft has been changed to require that water quality criteria monitoring for Outfall 002 be initiated during the first full calendar quarter following notification of the West Treatment Pond operating in its final configuration and notification that no further discharge of process wastewater from dewatering activities is occurring from Outfall 002.

49. Part I.G.15 is consistent with the language in the industrial section of DEQ's Permit Manual 2014 (IN-3 A.21) except that it includes the following additional requirement: "The permittee shall sample once for each foot of drawdown, and, when the discharge no longer meets permit limits, the discharge shall cease and the rest of the lagoon contents shall be pumped and hauled to another, permitted facility for treatment and disposal." This additional language is specific for sewage treatment lagoons and closure of those facilities under Virginia's Sewage Collection and Treatment Regulations (9VAC25-790-450). DEQ Guidance Memorandum No. 05-2005 provides guidance related to the slow drawdown of lagoons to ensure that "effluent limits specified in the VPDES permit for the facility are not violated" and it is our understanding from discussions with DEQ staff that the one foot per day drawdown rate is being included in the permits for municipal facilities with lagoons. Dominion does not maintain or operate a sewage lagoon at the Bremono Power Station. Consequently, Dominion requests that this additional language be deleted from Part I.G.15.

Staff Response

The following statement has been removed from Part I.G.15 of the Revised Draft, "The permittee shall sample once for each foot of drawdown, and, when the discharge no longer meets permit limits, the discharge shall cease and the rest of the lagoon contents shall be pumped and hauled to another, permitted facility for treatment and disposal." Part I.G.15 of the Revised Draft has also been changed to clarify that this condition applies to the Metal Cleaning Waste Treatment Basin and the Sewage Treatment Plant. The drawdown of the Metal Cleaning Waste Treatment Basin was addressed in Part I.G.19 of the Initial Draft. Closure of the coal ash ponds will be addressed under a solid waste permit and drawdown of the coal ash ponds is addressed under Part I.G.23 which has been added to the Revised Draft.

50. Dominion requests to have 14 days to make the notifications required under Part I.G.20. This should have no real impact to the environment while providing Dominion additional compliance certainty.

Staff Response

Part I.G.20 has not been changed.

51. Dominion believes that the reference in Part I.G.21.a should be to Part I.G.21 b-g. Please revise.

Staff Response

Part I.G.21.a of the Revised Draft has been changed to reference Part I.G.21 b-g.

52. Dominion requests to add "raw river water" as an allowable non-stormwater discharge in Part I.H.1.f.(1).

Staff Response

Part I.H.1.f.(1) of the Revised Draft has been changed to add "raw river water" as an allowable non-stormwater discharge.

53. Dominion requests that the sample types for ammonia as NH₃-N, chloride, and hardness In Attachment B be changed to grab from composite.

Staff Response

The sample type for Ammonia-N, Chloride, and Hardness in Attachment B of the Revised Draft has been changed to "grab or composite".

54. Fact Sheet: Appendix A, page 1 – Dominion recently submitted an addendum to the application to recognize that an additional non-industrial stormwater outfall (proposed Outfall 009) will be constructed as a result of the West Ash Pond closure. This outfall will discharge to Holman Creek and should be included in this section.

Staff Response

Appendix A of the revised fact sheet has been changed to include the new stormwater Outfall 009.

55. Fact Sheet: Appendix A, page 3 – Under New Outfalls, please include the new stormwater Outfall 009.

Staff Response

Appendix A of the revised fact sheet has been changed to include the new stormwater Outfall 009.

56. Fact Sheet: Appendix A, page 8 – Under heading OUTFALL 006: The last sentence of the second paragraph says that during the period of ash dewatering, “there will be permit limits and monitoring requirements at Outfall 006.” Please clarify that the permit limits and monitoring requirements will be applied at the internal 500 series outfalls, which may then be discharged to Outfall 006.

Staff Response

Appendix A of the revised fact sheet has been changed to reflect this clarification.

57. Fact Sheet: Appendix A, page 9 – In the second paragraph, please remove the second sentence in the second paragraph under OUTFALL 003 – EAST ASH PONDS that states... “discharges continuously apparently from ground water contributions.” The discharge from Outfall 003 is precipitation dependent and, consequently, there are periods when there is not a continuous discharge from this outfall.

Staff Response

Because the discharge from the East Ash Ponds occurs through the former surface decant structure and appears to be precipitation dependent, Appendix A of the revised fact sheet has been changed to remove the second sentence in the second paragraph under OUTFALL 003 – EAST ASH PONDS.

58. Fact Sheet: Appendix A, page 9 – In the figure on this page, the East Ash Pond area #3 is characterized as a wetland area. This area is not jurisdictional and Dominion requests that “wetlands area” be removed from the figure.

Staff Response

Appendix A of the revised fact sheet has been changed to remove “wetlands area” from the figure.

59. Fact Sheet: Appendix A, page 9 – The last sentence in the first paragraph states that “No discharge from the East Ash Ponds to an external outfall may occur until the limits in Part I.A.9 of the permit become effective.” In order to recognize the existence in the area of stormwater runoff directed to Outfall 003, along with potential seepage within the drainage feature along the toe of the berm, Dominion requests that this sentence be modified as follows: “No discharge of dewatering water from the East Ash Pond to an external outfall may occur until the limits...become effective.”

Staff Response

Appendix A of the revised fact sheet has been changed to revise the referenced sentence to, “No discharge of process wastewater from dewatering activities from the East Ash Ponds to an external outfall may occur until the limits in Part I.A.9 of the permit become effective.”

60. Fact Sheet: Appendix A, page 10 – Please add the following as wastewater sources to the North Ash Pond: dewatering and contact stormwater from the West Ash Pond. These sources of wastewater are consistent with wastewaters authorized for introduction to the North Ash Pond and were authorized under the Notice of Planned Changes – Revision 2 (September 1, 2015).

Staff Response

Appendix A of the revised fact sheet has been changed to add dewatering water and contact stormwater from the West Ash Pond as wastewater sources to the North Ash Pond.

61. Fact Sheet: Appendix A, page 10 – Fifth paragraph under OUTFALL 004 – NORTH ASH POND: Dominion requests that “treated” be deleted from this sentence. Dominion will employ treatment as necessary to ensure compliance with the discharge limits.

Staff Response

Staff could not find the word “treated” on page 10 of Appendix A, so no changes were made to the fact sheet in response to this request.

62. Fact Sheet: Appendix B, page 1 – In the fifth paragraph, please recognize the inclusion of the non-contact stormwater outfall (proposed Outfall 009). The “second map” should also be revised to recognize this outfall.

Staff Response

Appendix B of the revised fact sheet has been changed to include the new stormwater Outfall 009.

63. Fact Sheet: Appendix H, page 1 – Second bullet Thermal Mixing Zone – Dominion Bear Garden Power Station: The location of Outfall 001 for the Bear Garden Power Station is shown on page 4 (not 3) of Appendix B.

Staff Response

Appendix H of the revised fact sheet has been changed to reference page 4 of Appendix B.

64. Fact Sheet: Appendix J, page 1 – The rationale for Acute versus Chronic Toxicity Testing bullet number three refers to Outfalls 002, 003, 004 and 006 at combined Stage II with a flow of 10.2912 MGD. Dominion believes this bullet should refer to internal outfalls 501, 502, 503, 504 and 505.

Staff Response

Appendix J of the revised fact sheet has been changed to refer to internal Outfalls 501, 502, 503, 504, and 505.

65. Fact Sheet: Appendix J, page 2 – Same as comment #61 above for bullet number three under Sample Type.

Staff Response

Appendix J of the revised fact sheet has been changed to refer to internal Outfalls 501, 502, 503, 504, and 505.

66. Fact Sheet: Appendix J, page 3 – Under “WET Limits for Stage II flow of 10.2912 MGD,” the Whole Effluent Toxicity limit is given as 1.0 TUa. The Whole Effluent Toxicity limit given in the draft permit in Section I.E.4.b is NOAEC = 100%.

Staff Response

The Acute Whole Effluent Toxicity limit in Appendix J of the revised fact sheet has been changed to NOAEC = 100%.

67. Fact Sheet: Appendix L, page 1 – Part I.A.1: Bullet three related to copper limits should be removed. Dominion has provided data to demonstrate that these limits are not required.

Staff Response

Staff could find no reference in Appendix L – Part I.A.1 to copper limits, so no changes were made to the fact sheet.

68. Fact Sheet: General – Dominion understands that DEQ intends for the VPDES permit to cover designated point source discharges during both the interim and final configuration of the ash ponds (i.e., pre- and post-closure). Dominion also understands that any other surface impacts incidental to the design and function of the earthen berms around the ponds will be addressed through the closure and post-closure care requirements of the pending solid waste permit under the Virginia Solid Waste Management Act and associated regulations. Dominion supports this approach.

Staff Response

This permitting action addresses dewatering activities required for closure. Closure of these impoundments is governed by and addressed by the 2015 EPA Final Rule on the Disposal of Coal Combustion Residuals and applicable provisions of the Virginia Solid Waste Management Regulations. Closure and post-closure care under those requirements will include groundwater monitoring, associated surface water monitoring, and other measures. The requirements of a solid waste permit will continue to ensure that the facility is not causing any impacts to surface water.

Staff Response to *Technical and Toxicological Evaluation of Coal Ash Pond Dewatering Permit proposed for Bremono Bluff Power Station, Virginia* Submitted as an attachment of the comment letter provided by Southern Environmental Law Center on December 10, 2015, and also submitted as Attachment E of the comment letter provided by Southern Environmental Law Center on December 14, 2015.

DEQ has reviewed the report; “Technical and Toxicological Evaluation of Coal Ash Pond Dewatering Permit proposed for Bremono Bluff Power Station, Virginia” that was prepared by Dr. Lemly and provided by the Southern Environmental Law Center along with their comments on the proposed permit limits for a Dominion Power permit. This report focused on a review of fifteen metals. EPA and Virginia water quality criteria designed to protect aquatic life have been established for 10 of these metals; arsenic, cadmium, copper, chromium (chromium III and chromium VI), lead, mercury, nickel, selenium, silver and zinc. Virginia also has water quality criteria designed to protect human health for thallium that are applicable in all waters and a barium criterion applicable in designated public water supplies.

The first goal of the review was to determine the source of the “high hazard” threshold concentration that was identified in the report as the starting point in the reports assessment. The report identified these as being EPA nationally recommended water quality criteria and/or water quality criteria adopted by Virginia, however not all of them are. Of the fifteen “high hazard” threshold concentrations used in Table 1, only those for chromium VI, and mercury are accurate and represent Virginia’s water quality chronic criteria for freshwater. The report used recommended EPA water quality chronic criteria concentrations for cadmium, chromium VI (the Cr VI criterion is lower than the Cr III criterion, so this is a conservative value for total chromium), lead, and mercury as a “high hazard” threshold. However, Virginia has updated the older EPA criteria and has adopted revised water quality criteria for cadmium, nickel, and lead. Virginia’s criteria for these three metals should be used, and all metals criteria that should be adjusted for hardness should be adjusted to the hardness of the James River at Bremono Bluff, which is reported to average 62.5 mg/L of CaCO₃. Virginia’s regulatory water quality criteria are shown below for the metals for which Virginia has adopted criteria. The criteria are shown for a hardness of 62.5 of CaCO₃. (* indicates Virginia’s criteria was updated from older EPA criteria).

Metal	Virginia’s Acute Criterion (µg/L)	Virginia’s Chronic Criterion (µg/L)	Report’s “High Hazard” threshold value (µg/L)
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Arsenic	340	150	36
Cadmium*	2.3	0.78	0.25
Chromium VI	16	11	11
Chromium III	390	50	
Copper	8.6	6.0	1.45
Lead*	65	7.4	2.5
Mercury	1.4	0.77	0.77
Nickel*	120	14	8.2
Selenium	20	5	2
Silver	1.5		1.9
Zinc	79	79	81
	Virginia's Human Health Criterion		
Barium	2,000 (drinking water only)		1,000
Thallium	0.24 (drinking water only) 0.47 (all other waters)		20

The report seems to have only identified and assessed chronic criteria and compared them to the draft permit limits for a daily maximum and ignored the acute criteria and the monthly average limits in the draft permit. It would have been more accurate to compare the short term (acute) criteria to the corresponding short term draft permit limits (daily maximum limits) and compared the long term (chronic) criteria concentrations to the long term draft permit limits (monthly averages). If this had been done the differences between the criteria and the permit limits would have been less than the report indicates. Also, because the draft permit limits include limits for both chromium III and VI, the report should have compared the correct criterion to the correct draft permit limit. Instead, the report compared the higher permit limit proposed for chromium III to the lower criterion of chromium VI. Because of the significant differences between many of the report's "high hazard" threshold values and the criteria, an effort was made to accurately identify the actual source of the "high hazard" concentrations used in Dr. Lemly's report. The findings are summarized below.

Copper: The report identifies the high hazard threshold used for copper to be the EPA 2007 biotic ligand model (BLM) which requires site-specific values for; temperature, pH, dissolved organic carbon, calcium, magnesium, sodium, potassium, sulfate, chloride, and alkalinity, but it does not specify what values were used for these parameters to calculate the BLM copper criterion. It is impossible to know if the value of 1.45 µg/L for copper is accurate or appropriate for this point in the river. Virginia uses a hardness based calculation for the freshwater copper chronic criterion, which is 6.0 µg/L copper for a hardness of 62.5 mg/L for this site.

Arsenic, Nickel, Silver, and Zinc: The report used EPA's saltwater acute/chronic criteria instead of the correct freshwater acute/chronic criteria for the "high hazard" thresholds for arsenic, nickel, silver, zinc. The proper freshwater criteria are shown below.

<u>Metal</u>	<u>Freshwater Chronic Criterion</u>	<u>Saltwater Chronic Criterion (used in the report incorrectly)</u>
Arsenic	150 µg/L	36 µg/L
Nickel	14 µg/L	8.2 µg/L
Zinc	79 µg/L	81 µg/L
<u>Metal</u>	<u>Freshwater Acute Criterion</u>	<u>Saltwater Chronic Acute (used in the report incorrectly)</u>
Silver	1.5 µg/L	1.9 µg/L

Barium: The "high hazard" threshold identified in the report for barium (1,000 µg/L) is an old recommendation for treated drinking water. The current recommendation is 2,000 µg/L and Virginia has adopted a criterion of 2,000 µg/L that is applicable to designated public water supplies. However, the receiving water is not a designated water supply so this is not applicable.

Selenium: The high hazard threshold concentration used in the report of 2 µg/L for selenium is an older, EPA draft recommendation but the most recent draft recommendation for selenium in rivers is 3.1 µg/L. Virginia and EPA's current chronic criterion for selenium is 5 µg/L.

Cobalt, Manganese, Thallium, and Vanadium: The report identifies the source of the "high hazard" screening concentrations for cobalt, manganese, thallium, and vanadium for these four metals as EPA water quality criteria but EPA has not established recommended water quality criteria for the protection of aquatic life for these four metals. The actual source of the "high hazard" threshold concentrations cannot be determined for cobalt, manganese, thallium, and vanadium. Without knowing where these concentrations came from, DEQ cannot assess the significance of these values.

The hazard assessment approach used in the report

In Dr. Lemly's report, Table 1 shows a list of metals with concentrations Dr. Lemly identified as a "high hazard", which he identifies as concentrations that "exceed acute or chronic toxic levels". These "high hazard" concentrations are divided by two to produce a "moderate hazard" and divided again by two to produce a "low hazard" concentration. This is Dr. Lemly's own method of trying to assess various concentrations of potentially toxic substances. This method of simple division by two to differentiate between "high", "moderate" or "low" hazard levels is arbitrary and has no relationship to demonstrated toxicity, nor can it be related to any quantifiable level of potential risk. The chronic criterion concentration is already protective and represents a "no risk" assessment value of significant toxic effects to the aquatic community. Using half of an already "no risk" concentration or one quarter of the "no risk" level does not provide any significant toxicological extra value or protection. Although the report identifies the concentrations used to set the "high hazard" threshold concentration as being EPA water quality criteria, some are but some are not. When the "high hazard" concentration in Table 1 is not the same as a chronic criterion, many of the values used in the report are lower than the actual applicable criterion.

When the "high hazard" concentration used in the report's assessment is based on an established chronic criterion concentration, the hazard assessment procedure used in the report treats these as a threshold between moderate and high hazards. This is a misrepresentation of the basis of these well established chronic water quality criteria. At the concentration of the chronic criterion, there should be very little or no potential for toxic effects. The chronic criterion is a concentration that is considered to be protective of aquatic life and concentrations at these chronic criteria values do not represent any significant risk to aquatic life (i.e., no lethal effects and no adverse effects on spawning or reproduction, or growth). However, the report treats these chronic criteria as "high hazard" values. It would be more accurate to recognize the chronic criterion as the protective concentration that it represents and treat that criterion as a threshold between "no hazard", with concentrations higher than the chronic criterion but lower than the acute criterion as having "low hazard". This is because at concentrations below the chronic criterion, no adverse effects on the aquatic community is expected (i.e., no deaths or adverse effects on reproduction, growth or development of early life stages of fish or invertebrates). Chronic criteria are designed to provide this high level of protection based on a careful assessment of everything known about the toxicity of the chemical at the time the criterion was developed and adopted.

The report treats any value above a chronic criterion as a sign that adverse toxic effects are expected to be imminent and widespread. More realistically, at concentrations above the chronic criterion but below the acute criterion; some reductions in reproductive success or growth could occur if any of the local species are actually among the more sensitive species known in the entire national database. But, no deaths would be expected as long as the acute criterion is not exceeded.

The main difficulty with the approach taken in the report is that the assessment treats the permit limits as though these concentrations will be the concentrations that aquatic life in the James River will be exposed to for enough time for the exposure to cause toxic effects. This could be several days if the high threshold value is the same as a true chronic criterion. The report ignores the fact that the discharge will be diluted by the much higher volume of flow in the river.

A more detailed review of the individual metals' "high hazard" threshold concentration used in Dr. Lemly's assessment is shown below.

Arsenic: Table 1 shows a "high" value of 36 µg/L.

EPA's and Virginia's water quality criteria for the protection of aquatic life in freshwater for arsenic is 340 µg/L acute criterion (as a one hour average) and 150 µg/L chronic criterion (as a four day average).

EPA last updated their arsenic criteria in 1995, and the most sensitive species in the toxicity database was affected at 874 µg/L in an acute test, and at 891 µg/L in a chronic test. The "high hazard" concentration of 36 µg/L is only 4.1 % of the lowest toxic value in the data base for arsenic. EPA's criteria for arsenic do not identify 36 µg/L as a criterion or as a toxic threshold.

Barium: Table 1 shows a "high" value of 1000 µg/L.

Virginia has not adopted an aquatic life based water criterion for barium and EPA does not have any recommended water quality criteria for barium for the protection of aquatic life.

In 1976, EPA published a recommendation of 1,000 µg/L in domestic water supplies. This appears to be the source of the high hazard concentration. EPA's Drinking Water Program now recommends 2,000 µg/L as an allowable maximum contaminant level for barium in finished drinking water and Virginia has adopted this as a criterion for the protection of human health and this applies only at designated public water supplies.

Cadmium: Table 1 shows a "high" value of 0.25 µg/L.

EPA's current water quality criteria for the protection of aquatic life in freshwater for cadmium would be 2.0 µg/L acute and 0.25 µg/L chronic at a hardness of 100 mg/L as shown in an example in EPA's "National Recommended Water Quality Criteria-Aquatic Life Criteria Table", available on EPA's website that can be found here <http://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>.

This is identified as the source of the 0.25 µg/L used in the report as a high hazard concentration. The situation with cadmium is complicated in that Virginia's water quality criteria for cadmium are different from EPA's current criteria recommendations. Virginia's water quality criteria for the protection of aquatic life in freshwater for cadmium are 2.3 µg/L acute and 0.78 µg/L at a hardness of 62.5 mg/L. Virginia's existing criteria must be used in setting permit limits. To complicate the issue further, on December 1, 2015, EPA began the public process of revising their national recommended criteria for cadmium, also updating the criteria with more recent toxicity information. EPA's new draft cadmium chronic criteria in freshwater would be 0.51 µg/L at a hardness of 62.5 mg/L for the James River. So, for cadmium there are a number of concentrations that could be used to assess this situation, but only the current Virginia criteria can be used to set permit limits.

Chromium: Table 1 shows a "high" value of 11 µg/L.

Virginia's chronic water quality criterion for the protection of aquatic life in freshwater for chromium VI is 11 µg/L (the same as EPA's criterion) and this is identified as the source of the "high" concentration in Table 1. The chromium VI criteria are not adjusted for hardness. Virginia's chronic water quality criterion the protection of aquatic life in freshwater for chromium III is 50 µg/L at a hardness of 62.5 mg/L (the same as EPA's criterion). As noted elsewhere, the report incorrectly compares the lower, chronic criterion for chromium VI to the draft permit limits for the less toxic chromium III.

Cobalt: Table 1 shows a "high" value of 16 µg/L.

Virginia has not adopted a surface water criterion for cobalt and EPA does not have any recommended water quality criteria for cobalt for the protection of aquatic life. The source of the value of the "high" value of 16 µg/L is unidentified.

Copper: Table 1 shows a "high" value of 1.45 µg/L.

The source of this is identified as the 2007 EPA biotic ligand model for copper. The various concentrations of the various parameter inputs are not shown, so it is not possible to independently ascertain if the value of 1.45 µg/L is appropriate for the James River conditions at Bremo Bluff.

Virginia's chronic water quality criterion for the protection of aquatic life in freshwater for copper is 6.0 µg/L at a hardness of 62.5 mg/L. Virginia is proposing to adopt the biotic ligand model for copper as an alternate criteria for copper in freshwater, but until the State Water Control Board officially adopts this amendment and EPA approves it, the biotic ligand model cannot be used to establish legal permit limits in Virginia.

Lead: Table 1 shows a "high" value of 2.5 µg/L.

EPA's Current water quality criteria for lead would be 65 µg/L acute and 2.5 µg/L at a hardness of 100 as shown in an example in EPA's "National Recommended Water Quality Criteria-Aquatic Life Criteria Table", available on EPA's website that can be found here <http://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>. This seems to be the source of the 2.5 µg/L identified as a high hazard concentration. Virginia's water quality criteria for lead are different from EPA's criteria. EPA's criteria were developed in 1980, but Virginia updated these criteria in the mid 1990s by adding additional, more recent toxicity to the database for lead and recalculated the freshwater lead criteria. Virginia's chronic water quality criterion for the protection of aquatic life in freshwater for lead is 6.0 µg/L at a hardness of 62.5 mg/L.

Manganese: Table 1 shows a "high" value of 790 µg/L.

Virginia has not adopted a surface water criterion for manganese and EPA does not have any recommended water quality criteria for manganese for the protection of aquatic life. The source of the value of the "high" value of 790 µg/L is unidentified.

Mercury: Table 1 shows a "high" value of 0.77 µg/L.

This value equals Virginia's and EPA's chronic water quality criterion for the protection of aquatic life in freshwater.

Nickel: Table 1 shows a "high" value of 8.2 µg/L.

EPA's, and Virginia's water quality chronic criterion for saltwater is 8.2 µg/L. If this is the source of this value, then it is inappropriate to use a saltwater criterion to assess potential effects on freshwater aquatic life. Virginia's water quality criterion for the protection of aquatic life in freshwater for nickel at a hardness of 62.5 mg/L is 14 µg/L.

Selenium: Table 1 shows a "high" value of 2 µg/L.

EPA's 2014 draft criteria for selenium is identified as the source of this value, but the 2014 draft recommended 4.8 µg/L for flowing waters and 1.3 µg/L in lakes and reservoirs. The most recent draft criteria for selenium were published in 2015 and this recommended 3.1 µg/L for flowing waters and 1.2 µg/L in lakes and reservoirs. EPA has not finalized their recommended criteria for selenium at this time. Virginia's chronic water quality criterion for the protection of aquatic life in freshwater for selenium is 5 µg/L.

Silver: Table 1 shows a "high" value of 1.9 µg/L.

EPA's, and Virginia's acute water quality criterion for saltwater is 1.9 µg/L. If this is the source of this value used in the report, then it is inappropriate to use a saltwater criterion to assess potential effects on freshwater aquatic life. EPA's and Virginia's acute water quality criterion for the protection of aquatic life in freshwater for silver at a hardness of 62.5 mg/L is 1.5 µg/L.

Thallium: Table 1 shows a "high" value of 20 µg/L.

Virginia has not adopted a surface water criterion for thallium and EPA does not have any recommended water quality criteria for thallium for the protection of aquatic life. The source of the value of the "high" value of 20 µg/L is unidentified.

Vanadium: Table 1 shows a "high" value of 80 µg/L.

Virginia has not adopted a surface water criterion for vanadium and EPA does not have any recommended water quality criteria for vanadium for the protection of aquatic life. The source of the value of the "high" value of 80 µg/L is unidentified.

Zinc: Table 1 shows a “high” value of 81 µg/L.

EPA’s and Virginia’s chronic water quality criterion for saltwater is 81 ug/L. If this is the source of this value used in the report, then it is inappropriate to use a saltwater criterion to assess potential effects on freshwater aquatic life. EPA’s and Virginia’s chronic water quality criterion for the protection of aquatic life in freshwater for silver at a hardness of 62.5 mg/L is 79 ug/L.

VPDES General Permit for Domestic Sewage Discharges (DSD) Less Than or Equal to 1,000 GPD, VAG40 - Amendments to 9VAC25-110 and Reissuance of the General Permit: The current VPDES General Permit for Domestic Sewage Discharges will expire on August 1, 2016, and the regulation establishing this general permit is being amended to reissue another five-year permit. The staff is bringing these regulation amendments before the Board to adopt the revised permit regulation. The proposed regulation takes into consideration the recommendations of a technical advisory committee (TAC) formed for this regulatory action. The TAC consisted of three consultants (two of which represented the Virginia Society of Professional Engineers and the American Council of Engineering Companies of Virginia), the Chesapeake Bay Foundation, three Virginia Department of Health representatives, two private citizens (permittees), and DEQ staff. None of the changes from the proposed are significant. The only noteworthy change is the annual monitoring due date was changed from January 10 to September 10 to ease workload concerns for compliance staff during January when many other annual reports are due. This new date tracks with the effective date of the permit.

Summary of all comments received during the public comment period following the publication of the proposed stage, and agency response.

Commenter	Comment	Agency response
Eugene G. Holsinger Fellowship United Methodist Church	<p>The church uses far less water than 1,000 GPD – more like 5,000 gals per month. He shared information about how infrequently the building is in use. He maintains the Maintenance Manual for the septic system since its inception. All information has been shared with DEQ inspectors. Our chlorination and dechlorination tablet usage has been extremely low and I have found very little discharge from the evaporation pond - not enough to get a sample for testing.</p> <p>We built what appears to be a good pond. We have two willow bushes and many irises and day lillies in a bed containing deep mulch. We built a swale to carry discharged water to a ravine that remains dry except in heavy rains but I have never seen any in the swale below our outlet in the years we have used this system. The ravine runs perhaps a mile to what locals know as "Dry Fork" which in turn empties into Smith Creek which in turn empties into the North Fork of the Shenandoah River.</p> <p>I have given the above comments in hopes that small usage establishments such as ours are not over burdened with reporting requirements in any new permit. I feel the "Operation and Maintenance Manual for Septic Tank Sand Filters" included in</p>	<p>The agency does not intend for the new requirement to overburden the permittees. We are asking for discharge monitoring reports (which are due annually on Sept 10) and the permittee maintenance log for that year. The information we are asking for is what is required by the permit, not the O&M manual someone provided you. The permit says you must log and submit the following: the date and amount of disinfection chemicals added to the chlorinator; if dechlorination is used, the date and amount of any dechlorination chemicals that are added; the date and time of equipment failure and the date and time the equipment was restored to service; the date and approximate volume of sludge removed; and, dated receipts for chemicals purchased, equipment purchased, and maintenance performed. It sounds like you have very little activity in these areas so the log should not be burdensome. Many of these systems operate with little or no discharge. DEQ sees this as a positive thing that the system does not discharge. We will work with our inspection and compliance staff to make sure they also understand the requirements. Thank you for your comments.</p>

materials supplied to us is a bit "heavy" and much of what it is calling for does not fit since ours is a Blue Ox media filter system using pea gravel as the aggregate. If submission of a weekly maintenance report given to us as a part of the above "Operations and . . ." is required I'll tell you for sure it is an overkill. Turnover of personnel make all reporting difficult - - for us as well as you! I would be curious to see what a proposed new periodic report form is being recommended. Our church went through a very expensive exercise in having to install a large exhausting system in our new social hall, and in the 9 years we have been in the building we have yet to heat anything under the elaborate hood other than on an electric stove, and this was primarily for carry-in meals. Along came the septic needs and we once again faced high costs because of DEQ requirements and our inability to get waivers because of our smaller size or usage. We have two 1,000 gal. septic tanks and in a recent check of sludge we had two inches in one dedicated to grease from the kitchen and 4 inches in the other which would include all toilets. In nine years we have used perhaps 40 chlorinating tabs and 60 dechlorinating tabs.

In these nine years our only real maintenance cost was to replace a small air line running from an air pump to a pipe extending to the evaporation pond. The person who installed our system is our maintenance man and we have needed him on site very few times in this nine years. I stopped by the site today (Sunday PM, Aug. 2nd) to get some info from our manual for this and as usual the discharge outlet showed no water emission. If we would have had five days of heavy rain, perhaps we would have seen see a trickle at most.

A maintenance reporting form will

	<p>also be a historical document studied by persons within the church when jobs change as well as meeting your needs. We include other sections, mostly instructions, in our manual</p>	
<p>John Fischer 144 Seven Ridges Road Hot Springs, VA</p>	<p>Single-family homes also would gladly provide their monitoring and maintenance logs to DEQ. His treatment works do not appear to generate discharge at all and there is a lack of Department of Professional and Occupational Regulation (DPOR) approved inspectors in their remote area. Suggests when the annual inspection report from the VDH indicates there is no visible flow from the effluent pipe, the aerator is working properly, and the homeowner attests to low usage by declaring the number of permanent household residents, that an Operation & Maintenance service inspection report may be submitted by the homeowner/operator as had been the case a few years ago. This would reduce costs not only for the homeowner but also for the Commonwealth – costs to develop and monitor additional DPOR-certified inspectors would be reduced. Alternatively, if you conclude that homeowners could not be trusted to report, you might consider expanding reporters so that an Operation & Maintenance Service Inspection may be submitted by a licensed plumber who is not necessarily certified by DPOR. While not reducing the costs of the homeowners, the Commonwealth would still save the expense of developing specific DPOR inspectors.</p>	<p>The DEQ is only requiring the non-single family home DMRs and maintenance logs at this time. The VDH governs the single family homes under the VDH Alternative Discharging Sewage Treatment Regulations for Single Family Home Dwellings (12VAC5-640) and submittal of the information to DEQ is duplicative and will likely cause more confusion to the permittees. Also, the DEQ regulation does not require DPOR approved inspections. The requirement is in the VDH regulation mentioned above. VDH requires a minimum of semi-annual inspections to ensure proper operation and maintenance (O&M), but recent modifications to the VDH regulation does expand the type of licensed operators that may perform O&M which hopefully will help with costs and availability The VDH has been forwarded these comments.</p>
<p>Douglas J. Crooks P.O. Box 7783 Fredericksburg, Va. 22404 540-840-0192 WW Operators License # 1965004241</p>	<p>As the co-owner of two small companies (Dabney & Crooks, Inc. and WasteMaster Inc.) that have been providing operation, maintenance, sampling and repair services for these types of systems for over 30 years I have considerable experience in this area. Currently these two companies have over 300 units under contract for operational services under these</p>	<p>DEQ has many non-single family home general permit holders that do not have treatment system problems. DEQ prefers to exercise our authority for problematic systems through our enforcement program or to require an individual permit for those with continuous compliance problems. DEQ thinks it would cause a great burden to the non-single family facilities to revert to a monthly monitoring requirement. The TAC that discussed this thought the submission of maintenance logs</p>

<p>regulations. What concerns me, and has concerned me for years, is the inclusion of treatment works serving buildings or dwellings other than individual single family homes. As the title of the regulations indicates these regulations were developed for "Domestic Sewage" dischargers. It has been our experience that the wastewater being generated by holders of these permits, that are not single family home units, are discharging wastewater to these treatment systems that is unlike normal domestic sewage. We have found these non-single family home units are receiving raw sewage that is considerably higher in BOD, TSS, Oil & Grease and ammonia concentrations that the systems were designed to treat. These single family home systems were tested by the NSF, and received approval from VDH based upon this testing, utilizing normal domestic sewage as influent and not the stronger waste streams that we typically see from non-single family home users. As a result they struggle to meet discharge standards and more importantly require more frequent maintenance than the regulations require. We are currently working with DEQ-NRO on two non-single family home systems that habitually overflow as a result of trying to treat wastewater that they were not designed to treat. I would like to strongly recommend that under Part 1 of the regulations an additional set of standards be developed for non-single family home unit being permitted by this program. The 1/yr. frequency or even the 1/qtr. frequency for those system subject the Potomac Embayment Standards, in my opinion based upon years of operating experience, is too infrequent to prevent operational issues that lead to overflows or poor effluent quality. I would suggest that monthly site visits and effluent sampling, with submission of an actual DMR, would be more appropriate for these systems.</p>	<p>was for this reissuance sufficient to determine which facilities were operating properly.</p>
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	Thank you for your time and consideration.	
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Changes made to the text of the proposed regulation since the publication of the proposed stage:

Section number	Requirement at proposed stage	What has changed	Rationale for change
	<p>Added "<u><i>Applicability of incorporated references based on the dates that they became effective.</i></u>" This section was added to update all references to Title 40 Code of Federal Regulations (CFR) within the document to be those published as of July 1, 2014. This was a recommendation from the DEQ Office of Policy so that dates do not need to be added for each CFR reference.</p>	<p>July 1, 2014 date has been changed to July 1, 2015.</p>	<p>Update to current year.</p>
9VAC25-110-80	<p>The authorized discharge shall be in accordance with this cover page, Part I-Effluent Limitations, Monitoring Requirements and Special Conditions, and Part II-Conditions Applicable to All VPDES Permits, as set forth herein.</p>	<p>The authorized discharge shall be in accordance with the information submitted with the registration statement, this cover page, Part I-Effluent Limitations, Monitoring Requirements and Special Conditions, and Part II-Conditions Applicable to All VPDES Permits, as set forth herein.</p>	<p>DEQ made a change to the cover page of individual VPDES permits so that the paragraph that reads, "The authorized discharge shall be in accordance with...." was changed to include "the information submitted with the permit application," and then references this Cover Page, Part I, Part II, etc...</p> <p>This change also needs to be in the general permits, but the cover page should read, "The authorized discharge shall be in accordance with the information submitted with the registration statement, this cover page, Part I, Part II, etc..." As with the information in the applications for individual permits, the information contained on the registration</p>

			statements for general permits is important to reference. It is the information on which the permit is based.
9VAC25-110-80 Part I A 2 and Part I B 2	Monitoring results for treatment works serving buildings or dwellings other than individual single family dwellings shall be made available to DEQ personnel upon request submitted to the department on a Discharge Monitoring Report (DMR) no later than the 10th of January following the monitoring period. The monitoring period is January 1 through December 31. A copy of the maintenance log required by Part I D 2 b (4) shall also be submitted with the DMR.	Monitoring results for treatment works serving buildings or dwellings other than individual single family dwellings shall be made available to DEQ personnel upon request submitted to the department on a Discharge Monitoring Report (DMR) no later than the 10th of [January September]following the monitoring period. The monitoring period is [January 1 through December 31September 1 through August 31]. A copy of the maintenance log required by Part I D 2 b (4) shall also be submitted with the DMR.	Compliance auditing staff requested the DMR and maintenance log submittal dates be moved off the calendar year to ease workload for compliance staff during January when many other annual reports are due.

Detail of all changes and the consequences of the changes.

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change and rationale
10		"7Q10" definition	Deleted " <i>climatic</i> " from the definition as this term is not needed.
		"Climatic year" definition	Deleted this definition as it is not needed.
			Added definitions of " <i>Board</i> ", " <i>combined application</i> ", " <i>Department</i> ", " <i>individual single family dwelling</i> ", and " <i>receiving water</i> " to clarify these terms for this permit regulation.
	15		Added " <i>Applicability of incorporated references based on the dates that they became effective.</i> " This section was added to update all references to Title 40 Code of Federal Regulations (CFR) within the document to be those published as of July 1, 2015. This was a recommendation from the DEQ Office of Policy so that dates do not need to be added for each CFR reference.
20.C		Effective Date of Permit	Changed the effective (2016) and expiration (2021) dates to reflect the reissuance date of the permit.
60.A.1		Authorization to Discharge	Added: " <i>For an individual single family dwelling the owner may submit a VDH combined application in place of a</i>

			<i>registration statement.</i> " This allows these owners to submit either form to apply for general permit coverage. Similar changes were made throughout the regulation.
60.B.6		A TMDL (board adopted, EPA approved, or EPA imposed) contains an individual WLA for the facility, unless this general permit specifically addresses the TMDL pollutant of concern and the permit limits are at least as stringent as those required by the TMDL WLA.	Reworded as follows to match the wording now being used in all general permits: " <u>The discharge is not consistent with the assumptions and requirements of an approved TMDL.</u> "
60.C		"Compliance with this general permit..."	Modified as follows to better mirror the language in the Permit Regulation at 9VAC25-31-60: " <u>Compliance with this general permit constitutes compliance, for purposes of enforcement, with the federal Clean Water Act §§ 301, 302, 306, 307, 318, 403 and 405 (a) through (b), and the State Water Control Law, and applicable regulations under either, with the exceptions stated in 9VAC25-31-60 of the VPDES Permit Regulation. Approval for coverage under this general VPDES permit does not relieve any owner of the responsibility to comply with any other applicable federal, state or local statute, ordinance or regulation, including, for owners of sewage treatment works that serve individual single family dwellings, the Alternative Discharging Sewage Treatment Regulations for Individual Single Family Dwellings (12VAC5-640) of the Virginia Department of Health adopted pursuant to §§ 32.1-12, 32.1-163, and 32.1-164 of the Code of Virginia and, for owners of sewage treatment works that serve nonsingle buildings or dwellings other than individual single family dwellings, the Sewage Collection and Treatment Regulations (9VAC25-790) adopted by the State Water Control Board pursuant to § 62.1-44.1819 of the Code of Virginia.</u> "
60.D		Continuation of Permit Coverage	Updated the dates and made editorial changes as follows: "1. Any owner that was authorized to discharge under the <u>domestic sewage discharges</u> general permit issued in 2006 2011, and who is required to and submits a complete registration statement (or for an individual single family dwelling a

			<p><i>combined application) on or before August 1, 2011-2016, is authorized to continue to discharge treated domestic sewage under the terms of the 2006 2011 general permit until such time as the board either:</i></p> <p><i>a. Issues coverage to the owner under this general permit; or</i></p> <p><i>b. Notifies the owner that <u>the discharge is not eligible for coverage under this general permit-is denied.</u></i></p> <p><i>2. When the owner that was covered under the expiring or expired general permit has violated or is violating the conditions of that permit, the board may choose to do any or all of the following:</i></p> <p><i>a. Initiate enforcement action based upon the <u>2011 general permit-which has been continued;</u></i></p> <p><i>b. Issue a notice of intent to deny coverage under the new <u>reissued</u> general permit. If the general permit coverage is denied, the owner would then be required to cease the activities <u>discharges</u> authorized by the <u>administratively continued coverage under the terms of the 2011 general permit or be subject to enforcement action for operating without a permit;"</u></i></p> <p><i>These dates are updated with each reissued general permit so permittees can discharge legally and safely if the permit reissuance process is delayed.</i></p>
70.A		Registration Statement	<p>Made editorial changes as follows:</p> <p><i>"Any owner seeking coverage under this general permit, and who is required to submit a registration statement, shall submit a complete Ggeneral VPDES Ppermit Rregistration Sstatement in accordance with this chapter <u>section</u>, which shall serve as a notice of intent to be covered for coverage under the gGeneral VPDES pPermit for dDomestic sSewage dDischarges of lLess tThan or eEqual to 1,000 gGallons pPer dDay. <u>For an individual single family dwelling, the owner may submit a VDH combined application in place of the registration statement."</u></i></p>
70.A.1&2			<p>Updated the dates and made editorial changes as follows:</p> <p><i>"1. New facilities-treatment works. Any owner proposing a new discharge shall submit a complete registration statement <u>(or for an individual single family dwelling a combined application)</u> to the department at least 60 days prior to the date planned for commencing operation of the treatment works.</i></p>

		<p>2. Existing facilities treatment works.</p> <p>a. Any owner of an existing treatment works covered by an individual VPDES permit who is proposing to be covered by this general permit shall notify the department and submit a complete registration statement <u>(or for an individual single family dwelling a combined application)</u> at least 240 days prior to the expiration date of the individual VPDES permit.</p> <p>b. Any owner of a treatment works that was authorized to discharge under the general permit issued in 2006 <u>2011</u>, and who intends to continue coverage under this general permit, is automatically covered by this general permit and is not required to submit a registration statement <u>(or for an individual single family dwelling a combined application)</u> if:</p> <p>(1) The ownership of the treatment works has not changed since the registration statement <u>or combined application</u> for coverage under the 2006 <u>2011</u> general permit was submitted, or, if the ownership has changed, a new registration statement <u>(or combined application)</u> or VPDES Change of Ownership form was submitted to the department <u>by the new owner</u> at the time of the title transfer;</p> <p>(2) There has been no change in the design or operation, or both, of the treatment works since the registration statement <u>or combined application</u> for coverage under the 2006 <u>2011</u> general permit was submitted;</p> <p>(3) For treatment works serving individual single family dwellings, the Virginia Department of Health-VDH has no objection to the automatic permit coverage renewal for this treatment works based on system performance issues, enforcement issues, or other issues sufficient to the board. If the Virginia Department of Health-VDH objects to the automatic renewal for this treatment works, the owner will be notified by the board in writing; and</p> <p>(4) For treatment works serving nonsingle <u>single</u> buildings or dwellings other than individual <u>single</u> family dwellings, the board has no objection to the automatic permit coverage renewal for this treatment works based on system performance issues, or enforcement issues, <u>or other issues sufficient to the board</u>. If the board objects to the automatic renewal for this treatment works, the owner will be notified <u>by the board</u> in writing.</p> <p>c. Any owner that <u>of</u> a treatment works that</p>
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			<i>was authorized to discharge under the general permit issued in 2011 who does not qualify for automatic permit coverage renewal shall submit a complete registration statement (or for an individual single family dwelling a combined application) to the department on or before June 2, 2011 2016."</i>
70.A.3		Late Notifications	<p>Changed section to "<u>Late Registration Statements</u>" and clarified the text as follows: "<u>Late Registration statements will be accepted by the board (or for individual single family dwellings combined applications) for existing treatment works covered under subdivision 2 b of this subsection will be accepted after August 1, 2016, but authorization to discharge will not be retroactive. Owners described in subdivision 2 b of this subsection that submit registration statements (or combined applications) after June 2, 2016, are authorized to discharge under the provisions of 9VAC25-110-60 D (Continuation of permit coverage) if a complete registration statement (or combined application) is submitted before August 2, 2016.</u>"</p> <p>What this means is that an owner must apply for coverage before August 2, 2016 or they will be discharging without a permit and may be subject to enforcement action.</p>
70.B		Registration Statement	<p>Made editorial changes to B.1.a & b and B.2.a as follows:</p> <p><u>"1. a. Indicate if the facility building served by the treatment works is an individual single family dwelling. If the facility building is not an individual single family dwelling, describe the facility's use of the building or site served.</u></p> <p><u>b. Name and street address of the facility building or site served by the treatment works.</u></p> <p><u>2. a. Name, mailing address, email address (where available), and work and home telephone numbers of the facility owner of the treatment works. For a dwelling, indicate if the owner is or will be the occupant of the dwelling or facility served by the treatment works."</u></p>
	70.B.2.b	Registration Statement	<p>Added B.2.b to ask for a contact name if the owner will not be the occupant of the building or dwelling: "<u>b. If the owner is not or will not be the occupant of the dwelling or facility, provide an alternate contact name, mailing address, email address (where available), and telephone number of</u></p>

			<i>the dwelling or facility, if available."</i>
70.B		Registration Statement	<p>Made editorial changes to B.4, 6, 7 & 8 as follows:</p> <p><i>"4. The amount of discharge from the treatment works, in gallons per day, on a monthly average, and the design flow of the treatment works, in gallons per day.</i></p> <p><i>6. For a proposed treatment works, indicate if there are central sewage facilities available to serve the facility building or site.</i></p> <p><i>7. If the facility treatment works currently has a VPDES permit, provide the permit number. Indicate if the facility treatment works has been built and begun discharging.</i></p> <p><i>8. For the owner of any proposed treatment works or any treatment works that has not previously been issued a VPDES permit:</i></p> <p><i>a. A 7.5 minute U.S. Geological Survey (USGS) topographic map or equivalent (e.g., a computer generated map) that indicates the discharge point, the location of the property to be served by the treatment works, and the location of any wells, springs, other water bodies, and any residences within 1/2 mile downstream from the discharge point;</i></p> <p><i>b. A site diagram of the existing or proposed sewage treatment works; to include the property boundaries, the location of the facility or dwelling building or site to be served, the individual sewage treatment units, the receiving water body, and the discharge line location; and..."</i></p>
70.B.9		Maintenance Contract	<p>Renamed the item to "<u>Operation and Maintenance</u>".</p> <p>In 9.a, removed the detail from the item and specified: <i>"For the owner of a treatment works serving an individual single family dwelling, indicate if a valid operation and maintenance contract has been obtained in accordance with the requirements are specified in the VDH regulations at 12VAC5-640-500."</i></p> <p>In 9.b, removed the unnecessary detail from the item (it is specified in the permit itself) and clarified that this applies to: <i>"the owner of a treatment works serving a nonsingle building or dwelling other than an individual single family dwelling"</i></p>
70.B.10			<p>Removed the unnecessary detail from the item (it is specified in the permit itself) and clarified that this applies to: <i>"the owner of a treatment works serving a nonsingle building or dwelling other than an</i></p>

			<i>individual single family dwelling"</i>
70.C		Signature Requirements	Clarified that: <i>"The registration statement shall be signed in accordance with the requirements of 9VAC25-31-110 A of the VPDES Permit Regulation."</i>
	70.D		Added an allowance for the Registration to be submitted electronically: <i>"Where To Submit. The registration statement may be delivered to the department by either postal or electronic mail and shall be submitted to the DEQ regional office serving the area where the treatment works is located."</i>
80		The authorized discharge shall be in accordance with this cover page, Part I-Effluent Limitations, Monitoring Requirements and Special Conditions, and Part II-Conditions Applicable to All VPDES Permits, as set forth herein.	<p>The authorized discharge shall be in accordance with <u>the information submitted with the registration statement</u>, this cover page, Part I-Effluent Limitations, Monitoring Requirements and Special Conditions, and Part II-Conditions Applicable to All VPDES Permits, as set forth herein.</p> <p>DEQ made a change to the cover page of individual VPDES permits so that the paragraph that reads, "The authorized discharge shall be in accordance with....." was changed to include "<u>the information submitted with the permit application,</u>" and then references this Cover Page, Part I, Part II, etc...</p> <p>This change also needs to be in the general permits, but the cover page should read, "The authorized discharge shall be in accordance with <u>the information submitted with the registration statement</u>, this cover page, Part I, Part II, etc..." As with the information in the applications for individual permits, the information contained on the registration statements for general permits is important to reference. It is the information on which the permit is based.</p>
80 Part I		General Permit	Changed the effective and expiration dates to reflect the upcoming permit term.
80 Part I A.1		First Effluent Limits Table	Added footnote (6) to the TRC Final Effluent Instantaneous Maximum limit, and the D.O. Instantaneous Minimum limit. Footnote (6) states: <i>"Does not apply when the receiving stream is an ephemeral stream. "Ephemeral streams" are drainage ways, ditches, hollows, or swales that contain only (a) flowing water during or immediately following periods of rainfall, or (b) water supplied by the discharger. These waterways would normally have no active aquatic community."</i>

80 Part I A.2		Monitoring Data	<p>Changed this to require owners of treatment works serving buildings or dwellings other than individual single family dwellings (i.e., those that report to DEQ) to submit their monitoring results to the Department along with their maintenance logs. This change will assist the Department with compliance with this permit. <i><u>"Reporting of results to DEQ is not required; however, the monitoring-Monitoring results for treatment works serving buildings or dwellings other than individual single family dwellings shall be made available to DEQ personnel upon request submitted to the department on a Discharge Monitoring Report (DMR) no later than the 10th of September following the monitoring period. The monitoring period is September 1 through August 31. A copy of the maintenance log required by Part I D 2 b (4) shall also be submitted with the DMR."</u></i></p>
80 Part I B 1		Second Effluent Limits Table	<p>Changed the Total Residual Chlorine (TRC) limit to break out "After contact tank" and "Final effluent" as two separate entries, to be consistent with the way this is presented in the Part I A Effluent Limits table.</p>
80 Part I B.2		Monitoring Data	<p>Changed this to require owners of treatment works serving buildings or dwellings other than individual single family dwellings (i.e., those that report to DEQ) to submit their monitoring results to the Department along with their maintenance logs. This change will assist the Department with compliance with this permit. <i><u>"Reporting of results to DEQ is not required; however, the monitoring-Monitoring results for treatment works serving buildings or dwellings other than individual single family dwellings shall be made available to DEQ personnel upon request submitted to the department on a Discharge Monitoring Report (DMR) no later than the 10th of September following the monitoring period. The monitoring period is September 1 through August 31. A copy of the maintenance log required by Part I D 2 b (4) shall also be submitted with the DMR."</u></i></p>
	80 Part I C		<p>Added a new limits set for discharges to receiving waters subject to the Policy for the Potomac River Embayments (PPRE) (9VAC25-415). This was done to allow owners of treatment works discharging to these waters to be eligible for coverage under this general permit. Presently these facilities must be covered under an</p>

			individual permit. Monitoring for these dischargers is required quarterly and the limits are based on the PPRE limits and on limits developed for existing individual permits in the PPRE area. Monitoring results for treatment works serving individual single family dwellings in this area are to be submitted to both DEQ and VDH.
80 Part I C	80 Part I D	Special Conditions	Renumbered to accommodate the addition of the new limit set above.
80 Part I D.2		Maintenance Contract	<p>Renamed this special condition to <i>"Operation and Maintenance"</i>.</p> <p>In D.2.a, removed the detail from the special condition and specified: <i>"The Operation and maintenance requirements for treatment works serving individual single family dwellings are specified in the Virginia Department of Health regulations at 12VAC5-640-500-require-maintenance contracts for treatment works serving individual single family dwellings."</i></p> <p>In D.2.b, clarified that this applies to: <i>"Treatment works serving nonsingle buildings or dwellings other than an individual single family dwellings."</i></p> <p>In D.2.b(2), changed the requirement for the owner of a proposed treatment works to submit a copy of a valid maintenance contract to have the owner submit a certification that they have a valid maintenance contract.</p> <p>In D.2.b(3)(b), added: <i>"... the owner shall begin emergency pump and haul of all sewage generated from the facility or dwelling or otherwise ensure that no discharge occurs if full and complete repairs cannot be accomplished within 48 hours;"</i></p> <p>In D.2.b(3)(c), specified that the contract provider log shall be maintained <i>"at the treatment works"</i></p> <p>Deleted D.2.b(3)(e) that the maintenance contract shall be valid for a minimum of 24 months of consecutive coverage. The section already requires that a maintenance contract be kept in force during the permit term, so this requirement was unnecessary.</p>
	80 Part I D.2.b(4)		<p>Added a requirement for the permittee to keep a maintenance log:</p> <p><i>"(4) The permittee shall keep a log of all maintenance performed on the treatment works including, but not limited to, the following:</i></p> <p><i>(a) The date and amount of disinfection chemicals added to the chlorinator.</i></p>

			<p><u>(b) If dechlorination is used, the date and amount of any dechlorination chemicals that are added.</u></p> <p><u>(c) The date and time of equipment failure(s) and the date and time the equipment was restored to service.</u></p> <p><u>(d) The date and approximate volume of sludge removed.</u></p> <p><u>(e) Dated receipts for chemicals purchased, equipment purchased, and maintenance performed."</u></p>
80 Part I D.3		Operation and Maintenance Plan	<p>Made editorial changes to Part I D.3:</p> <p>"3. <i>Operation and maintenance plan. The owner of any treatment works serving a nonsingle-building or dwelling other than an individual single family dwelling may request an exception to the maintenance contract requirement by submitting an operation and maintenance plan to the board for review and approval. At a minimum, the operation and maintenance plan shall contain the following information:</i></p> <p><i>3.b(1) The date and amount of disinfection chemicals added to the chlorinator (if applicable).</i></p> <p><i>3.d. An effluent monitoring plan to conform with the requirements of Part I A, Part I B or Part I B-C, as appropriate, including all sample collection, preservation, and analysis procedures. Note: The Discharges from the treatment works should be sampled during normal discharging operations or normal discharging conditions (i.e., operations that are normal for that facility treatment works). The owner or maintenance provider should not force a discharge in order to collect a sample."</i></p>
80 Part I D.4		Compliance Recordkeeping	<p>Added quantification levels (QL) for cBOD₅ (2 mg/L), Ammonia as N (0.20 mg/L), and Total Phosphorus (0.10 mg/L). These were added parameters under the PPRE limit set (Part I C), so the QLs were needed.</p>
	80 Part II A.4	Monitoring	<p>Added A 4 as follows: "<u>Samples taken as required by this permit shall be analyzed in accordance with IVAC30-45 (Certification for Noncommercial Environmental Laboratories) or IVAC30-46 (Accreditation for Commercial Environmental Laboratories).</u>"</p> <p>This is a new regulatory requirement effective January 1, 2012, and is being added to all general permits as they are reissued.</p>
80 Part II		Reports of Noncompliance	<p>Added an online allowance for immediate</p>

I NOTE			(24-hour) noncompliance reporting, and a link to the web page.
80 Part II M		Duty to Reapply	<p>Made date changes and editorial changes:</p> <p><i>"M.1. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, and the permittee does not qualify for automatic permit coverage renewal, the permittee shall submit a new registration statement (or for an individual single family dwelling a VDH combined application) at least 60 days before the expiration date of the existing permit, unless permission for a later date has been granted by the board. The board shall not grant permission for registration statements (or combined applications) to be submitted later than the expiration date of the existing permit.</i></p> <p><i>M.2. A permittee qualifies for automatic permit coverage renewal and is not required to submit a registration statement (or for an individual single family dwelling a VDH combined application) if:</i></p> <p><i>M.2.a. The ownership of the treatment works has not changed since this general permit went into effect on August 2, 20112016, or, if the ownership has changed, a new registration statement (or for an individual single family dwelling a VDH combined application) or VPDES Change of Ownership form was submitted to the department by the new owner at the time of the title transfer;</i></p> <p><i>M.2.b. There has been no change in the design or operation, or both, of the treatment works since this general permit went into effect on August 2, 20112016;</i></p> <p><i>M.2.d. For treatment works serving nonsingle buildings or dwellings other than single family dwellings, the board has no objection to the automatic permit coverage renewal for this treatment works based on system performance issues, or enforcement issues, or other issues sufficient to the board. If the board objects to the automatic renewal for this treatment works, the permittee will be notified by the board in writing.</i></p> <p><i>M.3. Any permittee that does not qualify for automatic permit coverage renewal shall submit a new registration statement (or for an individual single family dwelling a VDH combined application) in accordance with Part II M 1."</i></p>
80 Part II V		Upset	Clarified that the term "upset" is defined in 9VAC25-31-10 (the VPDES Permit

80 Part II Y		Transfer of Permits	<p>Regulation).</p> <p>Revised this subsection so that the Board may waive the automatic transfer timing requirement (i.e., 30 days in advance of proposed transfer). Permittees are rarely able to meet this requirement and the staff thinks they need some flexibility with this. Also, the references to modifications and revocations and reissuances have been removed because these events are not appropriate for coverage under general permits.</p> <p>"1.—Permits are not transferable to any person except after notice to the department. Except as provided in Part II Y 2, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.</p> <p>2. As an alternative to transfers under Part II Y 1, Coverage under this permit may be automatically transferred to a new permittee if:</p> <p>1. The current permittee notifies the department within 30 days of the transfer of the title to the facility or property, unless permission for a later date has been granted by the board;</p> <p>2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and</p> <p>3. The board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue deny the new permittee coverage under the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II Y 2-b. "</p>
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Facilities in Significant Noncompliance: One new permittee was reported to EPA on the Quarterly Noncompliance Report (QNCR) as being in significant noncompliance (SNC) for the quarter ending June 30, 2015. The permittee, the facility and the reported instances of noncompliance are as follows:

1. Permittee/Facility: **Dupont Teijin Films**
Type of Noncompliance: **Failure to Meet Permit Effluent Limit (Biochemical Oxygen Demand Quantity Average)**
City/County: Hopewell, Virginia
Receiving Water: James River
Impaired Water: The James River aquatic life use is impaired due to inadequate submerged aquatic vegetation, low dissolved oxygen and high chlorophyll a. The recreation use is impaired due to E. coli. The fish consumption use is impaired due to a VDH advisory for polychlorinated biphenyls. The fish consumption use also has several non-impairing observed effects – arsenic and mercury due to fish tissue screening value exceedances and kepone due to a VDH advisory.
River Basin: James River Basin, Lower James River SubBasin
Dates of Noncompliance: April, May and June 2015
Requirements Contained In: VPDES Permit No. VA0003077
DEQ Region: Piedmont Regional Office

Dupont has indicated that the violations were due, in part, to start up of upgraded wastewater treatment units at the plant. The effluent limit violations occurred at an internal outfall, no violations were noted at the James River outfall. Staff of the Piedmont Regional Office anticipate that an administrative penalty order will be processed for these violations.

Boyd Farm, LLC, Goochland County - Consent Order w/Civil Charge and a Corrective Action

Plan: Boyd Farm purchased the Property on August 20, 2013. In the fall of 2013 and again in the spring of 2014, Boyd Farm cleared, grubbed, and graded the northern and southern portion of the Property respectively in order to convert the Property from a silviculture operation into an agricultural operation. On June 19, 2014, DEQ Staff conducted an inspection of the Property after receiving a report that the Property had been cleared and there had been a discharge of fill material and an accumulation of sediment in state waters. Staff observed significant adverse impacts and impairments to state waters as a result of land clearing activities, grading, road construction, and the lack of erosion and sediment controls. DEQ Staff, in coordination with the USACE and the US EPA, conducted multiple inspections of the Property and observed significant adverse impacts and impairments to state waters due to the discharge of sediment as a result of the lack of installation and maintenance of sufficient, interim land stabilization measures and the vast scale of land disturbing activity that had occurred. A final impact map was developed to specify the areas of the unauthorized discharge of sediments and fill material to state waters that were significantly altered or degraded without a permit. The final impacts were 7.93 acres of wetlands and 10,385 linear feet of stream. The consent order before the Board includes a civil charge and injunctive relief consisting of requirements to complete a Corrective Action Plan. Due to the significant adverse impacts to state waters and the complexity of the Corrective Action Plan necessary to ensure the restoration of state waters, financial assurance is a requirement of this consent order. Civil Charge: \$278,542

Roanoke Electric Steel Corp. d/b/a Steel Dynamics Roanoke Bar Division, Roanoke - Consent Special Order with Civil Charge:

On February 15, 2014, an employee of Roanoke Electric Steel Corporation d/b/a Steel Dynamics Roanoke Bar Division (“RES”) was performing a daily check of the roll storage area of the Facility and noticed a fuel oil odor. The roll storage area is located adjacent to Peters Creek, which flows through the site. RES employees then made a visual check of the stream and observed a sheen on the surface shortly after 9:00 A.M. RES employees immediately deployed two sets of absorbent booms in the stream to

intercept the minor bank seepage. RES employees notified the National Response Center at 9:30 A.M. based on the sheen observed on the stream. W.E.L. of Roanoke (“WEL”) was contacted and arrived on-site at 11:15 A.M. and deployed additional absorbent booms and pads. Six recovery trenches were excavated to intercept the oil prior to reaching the stream. RES directed WEL to excavate six test pits in the roll storage area between the suspected source area and the identified impacts to the stream. Several subsurface utilities were encountered during the excavation activities and it was apparent that the oil was following a sanitary sewer lateral that leads under the stream. Fuel oil was identified in three of the six interceptor trenches, which were utilized as extraction points for recovery of the fuel oil prior to reaching the stream. Due to the large volume of oil recovery, two tankers were mobilized to the site to hold the recovered oil prior to transportation to an off-site facility for disposal. By February 16, 2014, WEL had recovered an estimated 2,200 gallons of fuel oil from the containment area. Excavated material from the trenches and test pits were placed on plastic, covered and stored on-site at the facility’s slag storage area. A composite soil sample was sent for analysis to determine proper disposal options. All soil analysis met applicable non-hazardous waste disposal criteria. The Department requested that RES conduct a surfactant flush to assist with the mobilization and recovery of the fuel oil. RES contracted with Apex Companies, LLC (“Apex”) to conduct abatement activities and perform the surfactant flush as requested. Apex carried out the subsurface surfactant event between February 26 and 28, 2014. A vacuum truck was used to draw down the water table in the interceptor trenches and allow infiltration of fuel oil from the surfactant injection process. Based on daily inspections and the absence of any fuel oil in several of the perimeter recovery trenches, the Department approved the closure of three of the six recovery trenches. To further evaluate any migration of fuel oil, the closed trenches were backfilled with #57 stone and a 12-inch perforated corrugated riser pipe was installed within each trench from an estimated terminal depth of 10-12 feet to the surface to allow for measurement of water table elevations and the presence of fuel oil. As of March 31, 2014, fuel oil has not been detected in any of the closed recovery trench riser pipes. The fuel oil was stored in two ASTs at the Facility; one with a capacity of 10,000 gallons and the other with a capacity of 7,500 gallons. The two ASTs are connected to a common manifold with a ~ 4” pressurized feed line to provide a backup fuel source for the Facility’s billet reheat furnace. The furnace is normally fueled by natural gas; however, the natural gas supplier curtailed the supply due to extremely low nighttime temperatures. Most of the feed line was above grade, but a short section ran under the building slab near the furnace area and a defect in this section is suspected as being the source of the release. The release was not detected during this period of usage but 38 days later. RES estimates that 10,000 gallons of fuel oil was released during the event based on extrapolation of inventory from the last usage event on January 15, 2009 and the January 6-7, 2014 event. As a result of the unpermitted petroleum discharge to state waters, the Department issued Notice of Violation (“NOV”) No. NOV-14-02-BRRO-001 to RES on February 28, 2014. Department staff met with RES representatives on March 20, 2014, to discuss the incident, NOV and active remediation of the site. Apex has completed Initial Abatement Measures at the facility as directed by the Department from February 15, 2014 through December 1, 2015, with W.E.L. recovering an estimated 9,700 gallons of fuel oil through the period. Civil Charge: \$71,450

FY 2016 Virginia Clean Water Revolving Loan Fund Final Authorizations and Draft Living Shorelines Loan Program Guidelines for Public Comment: Title IV of the Clean Water Act requires the yearly submission of a Project Priority List and Intended Use Plan in conjunction with Virginia’s Clean Water Revolving Loan Fund Capitalization Grant application. Section 62.1-229 of Chapter 22, Code of Virginia, authorizes the Board to establish to whom loans are made, the loan amounts, and repayment terms. The next step in this yearly process is for the Board to set the loan terms and authorize the execution of the loan agreements.

During the 2015 session, the Virginia General Assembly amended *Chapter 22* of the *Code of Virginia* by adding §62.1-229.5. The new code section further expanded the activities of the Virginia Clean Water Revolving Loan Fund by allowing the State Water Control Board to authorize low interest loans from the Fund to a local government for establishing living shorelines or to a local government that has developed a funding program to individual citizens for the purpose of establishing living shorelines to protect or improve water quality. Living shorelines are a relatively new shoreline management practice that provides erosion control and water quality benefits; protects, restores or enhances natural shoreline habitat; and maintains coastal processes through the strategic placement of natural elements including plants, stone, sand fill, and other structural and organic materials. The legislation authorized the Board to develop

guidelines for the administration of living shoreline loans. Staff has developed draft guidelines and is recommending that the Board authorize them for public review and comment.

FY2016 Revolving Loan Fund Final Authorizations: At its October 2015 meeting, the Board targeted 19 projects totaling \$70,190,977 in loan assistance from available and anticipated FY 2016 resources and authorized the staff to present the proposed funding list for public comment. A public meeting was convened on November 10th. Notice of the meeting was posted on the Virginia Regulatory Town Hall, the DEQ public calendar, and DEQ’s Clean Water Financing and Assistance Program website. The only comment received during the public review/comment period was from the Virginia Resources Authority (VRA). VRA stated that, given the recent payment default by the Virginia Conservation Legacy Fund (VCLF), they would not support closing the loan with VCLF.

The staff has conducted initial meetings with the FY 2016 targeted recipients and has finalized the recommended interest rates and loan terms in accordance with the Board’s guidelines. There is one change being proposed to the funding list. Based on input from the Virginia Resources Authority as stated above, the staff is recommending that the VCLF project not be approved for funding. Therefore the 2016 funding list being recommended for final authorization includes 18 projects at a total amount of \$67,540,977.

The loan terms listed below are submitted for Board consideration. In accordance with Board guidelines, a residential user charge impact analysis was conducted for each wastewater and stormwater project. This analysis determines the anticipated user charges as a result of the project relative to the affordable rate as a percentage of the applicant’s median household income. Projects involving higher user charges relative to community income generally receive lower interest rates than those with relatively lower user charges. In accordance with Board guidelines, the interest rate for land conservation and Brownfield remediation projects with 10 year terms is 3% below the prime rate, which is currently 3.25%, resulting in an interest rate of 0.25%. As approved by the Board last year, we are again recommending that the ceiling rate for wastewater loans be set at 1.5% below market based on VRA’s evaluation of the market conditions that exist the month prior to each loan closing.

Since the Board’s October meeting, Congress has still not finalized the federal SRF appropriation for FY 2016. As such, we are unsure as to the amount, if any, that could be made available as principal forgiveness in FY 2016. The staff will analyze the projects with regard to the program’s hardship affordability criteria and will be prepared to work with the Director on providing principal forgiveness to some projects as allowed by previous delegations if it is provided for by the appropriation.

FY 2016 Proposed Interest Rates and Loan Authorizations

	<i>Locality</i>	<i>Loan Amount</i>	<i>Rates & Loan Terms</i>
1	City of Norfolk	\$7,000,000	0%, 20 years
2	Town of Pound	\$3,386,135	0%, 25 years
3	BVU Authority	\$5,976,277	0%, 20 years
4	Town of Elkton	\$2,767,900	CR, 20 years
5	City of Salem	\$4,991,000	0%, 20 years
6	Wise County PSA	\$268,977	0%, 30 years
7	City of Martinsville – Phase I	\$10,000,000	0%, 30 years
8	Town of White Stone	\$750,000	0%, 25 years
9	City of Martinsville – Phase II	\$11,740,000	0%, 30 years
10	Town of Marion	\$505,175	CR, 20 years
11	Charles City County	\$1,104,500	0%, 25 years
12	City of Galax	\$8,573,000	0%, 20 years
13	Floyd County PSA	\$1,549,500	CR, 20 years
14	Scott County PSA	\$563,238	0%, 25 years

15	Harrisonburg/Rockingham RSA	\$3,000,000	CR, 20 years
16	City of Lynchburg (stormwater)	\$1,705,275	0%, 20 years
17	The Nature Conservancy in Va.(land)	\$2,660,000	0.25%, 10 years
18	City of Norfolk (Brownfield)	\$1,000,000	0.25%, 10 years
	Total Request	\$67,540,977	CR= Ceiling Rate

Draft Guidelines for Living Shorelines Loan Program: The staff has developed draft guidelines for a new Living Shorelines Loan Program in accordance with the legislation passed by the 2015 Virginia General Assembly. The draft guidelines carry forward many of the same principals from our other existing clean water loan programs including the application procedures/timeframe, eligibility, and interest rate criteria as well as providing special guidelines for the development of local plans for localities that wish to develop funding programs for individual citizens. The staff consulted with other DEQ staff as well as the Virginia Resources Authority, Virginia Institute of Marine Science, Virginia Marine Resources Commission, and the Middle Peninsula Planning District Commission during the development process. At this time we are seeking Board authorization to present the draft guidelines for public review/comment with anticipation of returning to the Board in March for final adoption.