

MEMORANDUM

To: State Water Control Board Members

From: Bryant Thomas – Regional Water Permits and Planning Manager
Susan Mackert – Water Permit Writer, Senior II

Date: December 29, 2015

Subject: 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 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:

Attachment B to this memorandum provides summaries of the comments received during the public comment period and staff's responses to those comments. Where possible, comments were grouped and summarized according to issue. Attachment C to this memorandum provides a listing of all those providing comments. 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 in Attachment A.

Recommendation:

The staff recommendation will be presented at the Board meeting on January 14, 2016.

Staff Contact Information:

Should you have any questions or require additional information please contact us.

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Attachment Listing

Attachment A – Changes to the Draft Permit
Attachment B – Response to Comments
Attachment C – List of Commenters
Attachment D – Correspondence between elected officials and DEQ
Attachment E - Revised, Proposed Fact Sheet with Attachments
Attachment F – Proposed Permit

Attachment A
VPDES Permit No. VA0002071
Summary of Changes to the Draft Permit
Published for Public Comment

- 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.

Attachment B
VPDES Permit No. VA0002071
Dominion – Possum Point Power Station
Response to Comments

Introduction

This document serves as staff's response to comments document for those comments received during the public comment period associated with this permitting action.

Staff reviewed all comments submitted during the public comment period. A summary of the comments received along with responses prepared by staff are found within this response to comments document. Where possible, comments were summarized according to issue.

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. See Attachment D of this SWCB memorandum for the related correspondence.

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:

- a. 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.*
- b. A 30-day compliance schedule is included in the revised, proposed permit to comply with effluent limits.*
- c. 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 Brems. 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 it's 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 (SWPP) 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 which 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.

Appendix 1

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)
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.

<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	11 µg/L	8.2 µg/L
Zinc	61 µg/L	81 µg/L

<u>Metal</u>	<u>Freshwater Acute Criterion</u>	<u>Saltwater Acute Criterion (used in the report incorrectly)</u>
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. Lely'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 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.

Attachment C
VPDES Permit No. VA0002071
Dominion – Possum Point Power Station
Response to Comments – List of Commenters

Introduction

The information within this attachment serves as supporting documentation staff's response to comments document for those comments received during the public comment period associated with the this permitting action. A listing of those who provided comments is found here.

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

Attachment C
VPDES Permit No. VA0002071
Dominion – Possum Point Power Station
Commenter Listing

Comments Submitted During Public Comment Period October 30, 2015 – December 14, 2015		
Name / Organization	Date Received	Staff Comments
Perrie'Lee Prouty	November 21, 2015	
Delegate David Bulova (37 th District)	November 23, 2015	
Senator Dave Marsden (37 th District)	November 23, 2015	
Delegate Scott Surovell (44 th District / Senator-Elect 36 th District)	November 23, 2015	
Talia Moser	December 1, 2015	
Kathryn Stoneman	December 1, 2015	
Julia Bernier	December 2, 2015	
Stan Deardorff	December 2, 2015	
Vernon Hunter	December 2, 2015	
George Paine	December 2, 2015	
Ruth Prodan	December 2, 2015	
Hannah Seligmann	December 2, 2015	
Jeffrey Silvan	December 2, 2015	
Nora Slick	December 2, 2015	
Kenneth Wall	December 2, 2015	
Bruce Allardice	December 3, 2015	
Dave Antos	December 3, 2015	
Michael Bartgis	December 3, 2015	
Jeff Bates	December 3, 2015	
Gary Beard	December 3, 2015	
Robert Bishop	December 3, 2015	
Jan Church	December 3, 2015	
Donald Craig	December 3, 2015	
C. Tracy Deihr	December 3, 2015	
Robert Dutton	December 3, 2015	

Name / Organization	Date Received	Staff Comments
Ryan Hill	December 3, 2015	
Paul Jacobs	December 3, 2015	
Todd Lipsey	December 3, 2015	
Eileen Martin	December 3, 2015	
Douglas Meikle	December 3, 2015	
Joseph Mensh	December 3, 2015	
Bryan Novotny	December 3, 2015	
Carl Onesty	December 3, 2015	
John Percic	December 3, 2015	
Dean Philpott	December 3, 2015	
Bonni Rogers	December 3, 2015	
Alexander Smelyansky	December 3, 2015	
Mark Stempler	December 3, 2015	
Justin Strautz	December 3, 2015	
Lawrence Tayon	December 3, 2015	
Mike Ward	December 3, 2015	
Hannah Wiegard	December 3, 2015	
John Allen	December 4, 2015	
Scott Anderson	December 4, 2015	
Jane Anthony	December 4, 2015	
Phoebe Antrim	December 4, 2015	
Terri Armao	December 4, 2015	
Marc Armstead	December 4, 2015	
Ernesto Ayala	December 4, 2015	
Ajay Batish	December 4, 2015	
Zeshan Bilal	December 4, 2015	
Jessie Thomas-Blate	December 4, 2015	
Richard Brown	December 4, 2015	
Judy Bryan	December 4, 2015	
Margaret Chen	December 4, 2015	

Name / Organization	Date Received	Staff Comments
James Church	December 4, 2015	
Malini Cunje	December 4, 2015	
Brian Dick	December 4, 2015	
Kelly Eigler	December 4, 2015	
Carollanne Farmer	December 4, 2015	
Donna Feirtag	December 4, 2015	
Shawn Firth	December 4, 2015	
Jane Flinn	December 4, 2015	
Lisa Fues	December 4, 2015	
Ron Gilliland	December 4, 2015	
Robert and Sallie Gregor	December 4, 2015	
Gay Griffin	December 4, 2015	
Robert Guthrie	December 4, 2015	
Robert Halsey	December 4, 2015	
Sara Harrison	December 4, 2015	
Jim Hartley	December 4, 2015	
Teresa Hebert	December 4, 2015	
Juliana Hemphill	December 4, 2015	
Volkmar Heratsch	December 4, 2015	
Daniela Horsman	December 4, 2015	Submitted two sets identical comments
H. Johnson	December 4, 2015	
Ron Kappick	December 4, 2015	
Jim Kenimer	December 4, 2015	
Miles Keogh	December 4, 2015	
Jay Kohn	December 4, 2015	
Wayne Lumsden	December 4, 2015	
Chris Lynch	December 4, 2015	
Amanda Malkin	December 4, 2015	
Ann Mallek	December 4, 2015	
Henry Mcentee	December 4, 2015	
Mira Meltzer	December 4, 2015	
Robert Meyers	December 4, 2015	

Name / Organization	Date Received	Staff Comments
Amy Miller	December 4, 2015	
Annie McPhee Miller	December 4, 2015	
Jim Morgan	December 4, 2015	
Stuart Morse	December 4, 2015	
Yuri Noreell	December 4, 2015	
Amy O'Connor	December 4, 2015	
Jacqueline Den Otter	December 4, 2015	
John Otto	December 4, 2015	
Diana Paguaga	December 4, 2015	
Catherine Peltier	December 4, 2015	
Andrea Pignotti	December 4, 2015	
Jodi Polissky	December 4, 2015	
Wendy Reed	December 4, 2015	
Seth Robbins	December 4, 2015	
Bruce Robertson	December 4, 2015	
Anthony Romito	December 4, 2015	
Deborah Rosse	December 4, 2015	
Edwin Rothschild	December 4, 2015	
Susy Rothschild	December 4, 2015	
Dilip Sathe	December 4, 2015	
Jacob Shank	December 4, 2015	
Jonathan Snyder	December 4, 2015	
Sandra Steinberg	December 4, 2015	
Miaie Sung	December 4, 2015	
Karen Tillotson	December 4, 2015	
Chris Timura	December 4, 2015	
Catherine Toulsaly	December 4, 2015	
Elizabeth Towle	December 4, 2015	
Larry Towne	December 4, 2015	
Liliana Traweek	December 4, 2015	
Gertrude Vbenally	December 4, 2015	
Lisa Waldrop	December 4, 2015	

Name / Organization	Date Received	Staff Comments
Jessica Ward	December 4, 2015	
Bruce Wartel	December 4, 2015	
Amy White	December 4, 2015	
Amy Whitord	December 4, 2015	
James Wilson	December 4, 2015	
Richard Viola	December 4, 2015	
Frank Yeung	December 4, 2015	
Angela Zacatales	December 4, 2015	
Brooke Franklin	December 5, 2015	
Adriana Greci Green	December 5, 2015	
Lee Harvey	December 5, 2015	
David Juth	December 5, 2015	
Jennifer Lasley	December 5, 2015	
Parrie Henderson-O'Keefe	December 5, 2015	
Rich Rebuck	December 5, 2015	
Diane Rohn	December 5, 2015	
Taylor Simmons	December 5, 2015	
Sherry Ward	December 5, 2015	
James Williams	December 5, 2015	
Katherine Wychulis	December 5, 2015	
Joan Yater	December 5, 2015	
Brenda Yu	December 5, 2015	
Arthur Brantz	December 6, 2015	
John Cabala	December 6, 2015	
William Dent	December 6, 2015	
Richard Firth	December 6, 2015	
John Gibson	December 6, 2015	
Mary Gillelan	December 6, 2015	
Christine Harrison	December 6, 2015	
Margaret Hausman	December 6, 2015	
Grace Holden	December 6, 2015	
Milton Horsman	December 6, 2015	

Name / Organization	Date Received	Staff Comments
Roxane Hughes	December 6, 2015	
Monica Lumsden	December 6, 2015	
Catherine LeMay-Phillips	December 6, 2015	
Jane Powers	December 6, 2015	
Louise Wallon	December 6, 2015	
Jason Berry	December 7, 2015	
Sonja Carlborg	December 7, 2015	
Kay Corbett	December 7, 2015	
Eileen Doughty	December 7, 2015	
Thomas Driscoll	December 7, 2015	
Justin Edwards	December 7, 2015	
Delia Engstrom	December 7, 2015	
Monica Bing-Grant	December 7, 2015	
Seyra Hammond	December 7, 2015	
C. Jonah Holland	December 7, 2015	
Laurie Jaghlit	December 7, 2015	
Paul Julienne	December 7, 2015	
Letitia Kashani	December 7, 2015	
Blake Leggett	December 7, 2015	
Cristina Lewandowski	December 7, 2015	
Vadim Lubarsky	December 7, 2015	
Peggy McElligott	December 7, 2015	
Linda Milton	December 7, 2015	
Parthenia Monagan	December 7, 2015	
Inge Phillips	December 7, 2015	Submitted two sets identical comments
Frank Principi / Prince William Board of County Supervisors	December 7, 2015	
J. Sarah Sorenson	December 7, 2015	
Michelle Stein	December 7, 2015	
Patricia Strat	December 7, 2015	
Kelley Studholme	December 7, 2015	
George Williams	December 7, 2015	

Name / Organization	Date Received	Staff Comments
Marc Aveni / On Behalf of Prince William Board of County Supervisors	December 8, 2015	Public Hearing
Michael Bocynski / Clean Water Action	December 8, 2015	Public Hearing
Robin Broder	December 8, 2015	
Kevin Brown / Mayor (Quantico)	December 8, 2015	Public Hearing
Greg Buppert / Southern Environmental Law	December 8, 2015	Public Hearing
Kayla Burgess	December 8, 2015	
Matt Campbell	December 8, 2015	
Joseph Canny	December 8, 2015	Public Hearing
Dumi Cerritos	December 8, 2015	
Fahd Chudhary	December 8, 2015	
Jim Civitarese	December 8, 2015	
Alan Coleman / National Capital Chapter of Trout Unlimited	December 8, 2015	Public Hearing
Ellen Cosby / Potomac River Fisheries Commission	December 8, 2015	Public Hearing
Robert Dickinson	December 8, 2015	Public Hearing
Dennis Dineen	December 8, 2015	Public Hearing
Mayra Flores	December 8, 2015	
Jerry Forman / Mayor (Dumfries)	December 8, 2015	
Oscar Fuentes	December 8, 2015	
Michael "Misha" Gill	December 8, 2015	
Patty Gisper	December 8, 2015	
Eric Gopleard / Faith Alliance for Climate Solutions	December 8, 2015	Public Hearing
Robert Haggerty	December 8, 2015	
Kerry Hall	December 8, 2015	
Duane Hapner	December 8, 2015	Public Hearing
Margaret Harrison	December 8, 2015	
Constance Hartke	December 8, 2015	
Lee Harvey	December 8, 2015	Public Hearing
Ed Higbee	December 8, 2015	Public Hearing
Daniela Horsman	December 8, 2015	Public Hearing
Kati Jaquays	December 8, 2015	

Name / Organization	Date Received	Staff Comments
Dave Jones / Old Dominion Small Mouth Club	December 8, 2015	Public Hearing
Rebecca Jones	December 8, 2015	
Daniel Kelly	December 8, 2015	Public Hearing
John Klamut	December 8, 2015	Public Hearing
Ryan Kmetz	December 8, 2015	Submitted two sets identical comments
Ed Knight	December 8, 2015	Public Hearing
Jared Kupiec / Chief of Staff	December 8, 2015	Prince William Board of County Supervisor Frank Principi
Daniel Lane	December 8, 2015	
Delegate Scott Lingamfelter - (31 st District)	December 8, 2015	Public Hearing
Ivy Main / Virginia Chapter of the Sierra Club	December 8, 2015	Public Hearing
Niron Manandhar	December 8, 2015	
Sumana Manandhar	December 8, 2015	
Marthyn Mancian	December 8, 2015	
Jennifer Meyer	December 8, 2015	
Benjamin Moore	December 8, 2015	Public Hearing
Danta Murphy	December 8, 2015	
William Murphy /Councilman (Dumfries)	December 8, 2015	
Phillip Musegaas / Potomac Riverkeeper Network	December 8, 2015	Public Hearing
Dan Naujoks / Potomac Riverkeeper Network	December 8, 2015	Public Hearing
Sherri Nosenzo	December 8, 2015	Public Hearing
Keith Ogyr	December 8, 2015	
Lacie Omps	December 8, 2015	
Daniel Pautler	December 8, 2015	
Mark Pollan	December 8, 2015	
Frank Principi / Prince William Board of County Supervisors	December 8, 2015	Public Hearing
Dean Revermann	December 8, 2015	Public Hearing
Art Reynolds	December 8, 2015	Public Hearing
Brent Schnupp	December 8, 2015	
Amrik Singh	December 8, 2015	
Lakhwinder Singh	December 8, 2015	
Bob Smith	December 8, 2015	

Name / Organization	Date Received	Staff Comments
Linda Smith	December 8, 2015	
Lorenz Steininger	December 8, 2015	
Delegate Scott Surovell - (44 th District / Senator-Elect 36 th District)	December 8, 2015	Public Hearing
Driss Tankirt	December 8, 2015	
Cathy Taylor /Dominion	December 8, 2015	Public Hearing
Matthew Thompson	December 8, 2015	
Eileen Thrall / Friends of Quantico Bay	December 8, 2015	Public Hearing
Jeff Triplett	December 8, 2015	Public Hearing
Jayden Tumiwa	December 8, 2015	
Tim Waggener	December 8, 2015	Public Hearing
Whitney Whiting / Blue Ridge Environmental Defense League	December 8, 2015	Public Hearing
Harry Wiggins	December 8, 2015	Public Hearing
Charlie Young	December 8, 2015	Public Hearing
Caroline Butler	December 9, 2015	
John Cheatham	December 9, 2015	
Marcel Courtillet II	December 9, 2015	
Nick DeRosa	December 9, 2015	
Isabel Eljaiek	December 9, 2015	
Herschel Finch	December 9, 2015	
Christa Fish	December 9, 2015	
Malee Garcia	December 9, 2015	
Colleen Garrison	December 9, 2015	
Sherrie Good	December 9, 2015	
Mara Hyman	December 9, 2015	
Ben Jacobi	December 9, 2015	
Suzanne Keller	December 9, 2015	
Leigh Kirchner	December 9, 2015	
Caleb Laieski	December 9, 2015	
Abigail Magnani	December 9, 2015	
Joshua Maltby	December 9, 2015	
Thomas Mann / National Capital Chapter Trout Unlimited	December 9, 2015	

Name / Organization	Date Received	Staff Comments
Monika Merk	December 9, 2015	
Rev. Glenn Mingo	December 9, 2015	
Aaron Parr	December 9, 2015	
Reanna Pettigrew	December 9, 2015	
Ashley Pollock	December 9, 2015	
Susan Rager	December 9, 2015	
David Raine	December 9, 2015	
Joanna Salidis	December 9, 2015	
Beth Sherk	December 9, 2015	
Marilyn Shifflett	December 9, 2015	
Eliza Spell	December 9, 2015	
Galen Staengl	December 9, 2015	
Jerry Stewart	December 9, 2015	
Keith Barker	December 10, 2015	
Constance Conroy	December 10, 2015	
Joseph Michael Finger	December 10, 2015	
Allison Hamrick	December 10, 2015	
Mark Hardesty	December 10, 2015	
Lee Harvey	December 10, 2015	
Patti Jo Knight	December 10, 2015	
Caleb Laieski	December 10, 2015	Different comments from those submitted 12-9-15
Kristin Newland	December 10, 2015	
Randy Quesenberry	December 10, 2015	
Heidi Rugg	December 10, 2015	
Lisa Waldrup	December 10, 2015	
Carrie Allen	December 11, 2015	
Sally Anderson	December 11, 2015	
Cheryl Atkinson	December 11, 2015	
Leslie Back	December 11, 2015	
Samuel Bleicher	December 11, 2015	
Margaret Bonsee	December 11, 2015	

Name / Organization	Date Received	Staff Comments
John Broughton	December 11, 2015	
Steven Bruckner	December 11, 2015	
Jeffrey Bussells	December 11, 2015	
Bethany Cardone	December 11, 2015	
Christina Cowan	December 11, 2015	
Virginia Cowles	December 11, 2015	
Thomas Crockett	December 11, 2015	
Susan Eanes	December 11, 2015	
Janet Eddy	December 11, 2015	
John Eustis	December 11, 2015	
Virginia Germino	December 11, 2015	
Peggy Gilges	December 11, 2015	
Joseph Glombiak	December 11, 2015	
Ann Gould	December 11, 2015	
Jerry Green	December 11, 2015	
Tom Hoffman	December 11, 2015	
Ken Hohman	December 11, 2015	
Tina Horowitz	December 11, 2015	
David Hurley	December 11, 2015	
Mark Kapcan	December 11, 2015	
Sarah Kennedy	December 11, 2015	
Lisa Knight	December 11, 2015	
Dana Krauskopf	December 11, 2015	
Sheri Langham	December 11, 2015	
Linda Layne	December 11, 2015	
Robert Leggett	December 11, 2015	
Laura Livesay	December 11, 2015	
Christine Llewellyn	December 11, 2015	
Lois Lommel	December 11, 2015	
Christie Lum	December 11, 2015	
Chris Lumpkin	December 11, 2015	
Kathleen McLane	December 11, 2015	

Name / Organization	Date Received	Staff Comments
Richard McLane II	December 11, 2015	
Mary Beth Mains	December 11, 2015	
Kymberly Messersmith	December 11, 2015	
Charity Moschopoulos	December 11, 2015	
George Paine	December 11, 2015	
Gray Puryear	December 11, 2015	
John Reeves	December 11, 2015	
Judith Sanders	December 11, 2015	
Elizabeth Sartoris	December 11, 2015	
Robert Shippee	December 11, 2015	
Debbie Slack	December 11, 2015	
Raymond Smith	December 11, 2015	
George Spagna	December 11, 2015	
Richard Taschler	December 11, 2015	
John Thackston	December 11, 2015	
Christine Payden-Travers	December 11, 2015	
Kelly Tsow	December 11, 2015	
Patricia VonOhlen	December 11, 2015	
Christiane Riederer VonPaar	December 11, 2015	
Lloyd Vye	December 11, 2015	
Kale Warren	December 11, 2015	
Jan Wiley	December 11, 2015	
Barbara Williamson	December 11, 2015	
Nancy Wood	December 11, 2015	
Deborah Wooten	December 11, 2015	
Maxwell Wyndorf	December 11, 2015	
Natasha Atkins	December 12, 2015	
Cathy Brunick	December 12, 2015	
David Campbell	December 12, 2015	
R. Wayne Ellis	December 12, 2015	
Judy Hinch	December 12, 2015	
Bruce Kaiser	December 12, 2015	

Name / Organization	Date Received	Staff Comments
Bruce Kaiser	December 12, 2015	Different comments from first submittal
Patricia Larch	December 12, 2015	
Fred Lavy	December 12, 2015	
Lena Lewis	December 12, 2015	
Steven Carter-Lovejoy	December 12, 2015	
John McPeck	December 12, 2015	
Jane March	December 12, 2015	
Lloyd Parcell	December 12, 2015	
Edward Savage	December 12, 2015	
Gayle Thompson	December 12, 2015	
Charles Turner	December 12, 2015	
Phyllis White	December 12, 2015	
Meredith Ackroyd	December 13, 2015	
Becca Amos	December 13, 2015	
John Bryant	December 13, 2015	
Paula Chow	December 13, 2015	Submitted two sets identical comments
Mark Director	December 13, 2015	
Janissa Hamilton	December 13, 2015	
Kathryn Hamm	December 13, 2015	
Harriet Hirsch	December 13, 2015	
Carl Kikuchi / Audubon Society of Northern Virginia	December 13, 2015	
Karen Kreps	December 13, 2015	
Anne Little	December 13, 2015	
Peg Lockwood	December 13, 2015	
Joseph Mirabile	December 13, 2015	
April Moore	December 13, 2015	
Kyle Moore	December 13, 2015	
Pat Okerlund	December 13, 2015	
Helen Sanders	December 13, 2015	
Raymond Smith	December 13, 2015	

Name / Organization	Date Received	<i>Staff Comments</i>
Charlie Taylor / New Horizon Bass Anglers	December 13, 2015	
Roxanne Wackenhuth	December 13, 2015	
John Zeugner	December 13, 2015	
Lydia Armistead	December 14, 2015	
Stephanie Arkilic	December 14, 2015	
Jessica Arons	December 14, 2015	
Ernie Aschenbach / Department of Game and Inland Fisheries (DGIF)	December 14, 2015	
Jeffrey Bock	December 14, 2015	
Glenda Booth / Friends of Dyke Marsh	December 14, 2015	
BJ Brown	December 14, 2015	
Kevin Brown / Mayor (Quantico)	December 14, 2015	
Greg Buppert / Southern Environmental Law - Potomac Riverkeeper Network	December 14, 2015	
Linda Canino	December 14, 2015	
Joseph Canny	December 14, 2015	
Rob Carkin	December 14, 2015	
Hillary Clawson / Mason Neck Citizens Association	December 14, 2015	
Kem Clawson	December 14, 2015	
Melody Cochran	December 14, 2015	
Jeff Cohen	December 14, 2015	
Bill Cranor	December 14, 2015	
Amy Decker	December 14, 2015	
Preety Desai	December 14, 2015	
Mariah Dudley	December 14, 2015	
Marc Felton	December 14, 2015	
Vince and Tina Fleming	December 14, 2015	
Nancy Fowler / Friends of James River Park	December 14, 2015	
Martin Gary / Potomac River Fisheries Commission	December 14, 2015	
Mitchell Gordon	December 14, 2015	
Lisabeth Graninger	December 14, 2015	

Name / Organization	Date Received	Staff Comments
Sepideh Hadid	December 14, 2015	
Katrina Hamilton	December 14, 2015	
Randy Heubusch	December 14, 2015	
Brad Hierstetter / Bay Catfish Advocates	December 14, 2015	
Christine Ibaraki	December 14, 2015	
Beth Ike	December 14, 2015	
John Ironmonger	December 14, 2015	
Cecelia Kirkman	December 14, 2015	
Charity Avé-Lallemant	December 14, 2015	
Judy Lathrop	December 14, 2015	
Mark Livoti	December 14, 2015	
Jim Long / Mattawoman Watershed Society	December 14, 2015	
Tatiane Pena McCormick	December 14, 2015	
Senator-Elect Jeremy McPike (29 th District)	December 14, 2015	
Cheryl Marschak	December 14, 2015	
Susan Mitchell	December 14, 2015	
Ryan Moore	December 14, 2015	
Linda Muller	December 14, 2015	
Betsy Nichols / Waterkeepers Chesapeake	December 14, 2015	
Alan Peltzer	December 14, 2015	
William Penniman	December 14, 2015	
Elisabeth Pethybridge	December 14, 2015	
Walter Phebus	December 14, 2015	
Julie Philp	December 14, 2015	
Emeline Phipps	December 14, 2015	
Rachel Rees	December 14, 2015	
Robbie Rhur / Department of Conservation and Recreation (DCR)	December 14, 2015	
Roger Schickedantz	December 14, 2015	
Steve Schreiber	December 14, 2015	
Alan Schroeder	December 14, 2015	

Name / Organization	Date Received	Staff Comments
Bill and Elena Skipper	December 14, 2015	
S.P. Smolinski	December 14, 2015	
Diane Spaulding	December 14, 2015	
Wray Stitcher	December 14, 2015	
Delegate Scott Surovell - (44 th District / Senator-Elect 36 th District)	December 14, 2015	
Cathy Taylor / Dominion	December 14, 2015	
Tim Tomastik	December 14, 2015	
Barbara Tuset	December 14, 2015	
Suzanne van der Eijk	December 14, 2015	
Lauren Watkins	December 14, 2015	
Whitney Whiting / Blue Ridge Environmental Defense League	December 14, 2015	
Crystal Whitley	December 14, 2015	
Vernon Wong	December 14, 2015	
Emily Wroten	December 14, 2015	
Athena Zavalas	December 14, 2015	
Nick Zavalas	December 14, 2015	
Vincent Young	December 14, 2015	
Name Not Provided	December 14, 2015	Twtcons@aol.com
Name Not Legible (#1)	December 14, 2015	Mailing address on file
Name Not Legible (#2)	December 14, 2015	Mailing address on file
Name Not Legible (#3)	December 14, 2015	Mailing address on file
Name Not Legible (#4)	December 14, 2015	Mailing address on file
Name Not Legible (#5)	December 14, 2015	Mailing address on file
Name Not Legible (#6)	December 14, 2015	Mailing address on file

**Other Items Associated With Public Comment Period
October 30, 2015 – December 14, 2015**

Name / Organization	Date Received	Staff Comments
John Harms	December 12, 2015	Request to strike comments from record – submitted without his knowledge by family member

Attachment D
VPDES Permit No. VA0002071
Dominion – Possum Point Power Station
Correspondence Between Elected Officials and DEQ

Commonwealth of Virginia

GENERAL ASSEMBLY
RICHMOND

November 23, 2015

Mr. David Paylor
Director
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, VA 23218

RE: 60-day extension for comments on the Possum Point draining permit

Dear Director Paylor:

Thank you for the public information session on November 18, 2015 regarding permitting actions for Dominion's Possum Point coal ash ponds, including the pending VPDES permit modification for draining Pond D. You and your staff have been very helpful to our fellow lawmakers and the public to help us better understand this very important issue.

Based on what we have learned so far, we believe the complexity of this issue, and the volume of technical information related to the permit modification, warrant additional time for public review and comment. The draft permit and Fact Sheet are over 300 pages, and the proposed dewatering action has never been undertaken in the Commonwealth of Virginia. Several of Delegate Surovell's constituents at the public hearing told him they only found out about the action through his email message or blog post. It is not clear to us that the public is fully aware that actions are proceeding.

We should endeavor to do this right from the outset to set a strong, protective precedent for our state. Moreover, we are not aware of any urgent circumstances that would require the draining of Pond D as soon as possible.

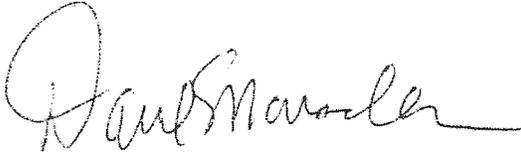
There also remains a concerning lack of specific information on the volume of metals-laced water to be discharged and the rate of discharge, as well as scant information on the baseline environmental conditions in Quantico Creek. DEQ's Special Study for assessing contamination in the Creek will not be completed prior to making a decision on whether to allow the dewatering discharge. Finally, the issue of the surface water discharge from the Pond D toe drain, which is documented to contain coal ash metals, has not been fully addressed, and no limits on metals have been proposed for this waste stream.

In light of this, we think the public is best served by having additional time to review the permitting information, attend the public hearing on December 8, and have the time available following the hearing to obtain additional information from DEQ to inform public comments. Therefore, we are requesting a sixty-day extension of the public comment period, which is currently slated to end on December 14, to allow additional

time for review and allow independent consultants to better inform us about potential impacts to receiving waters and potential public health issues we may want to consider. Alternatively, it seems to us that additional information is necessary to complete the permit process at least relating to the toe drain. If their application is incomplete, we would think that would merit additional time.

Thank you for considering this request. Please let us know if you have any information.

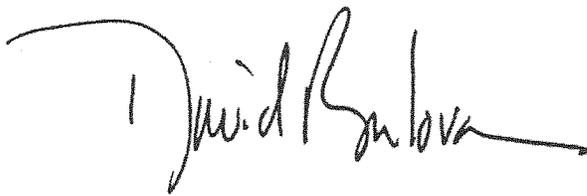
Very Truly Yours,



Senator Dave Marsden, 37th District



Delegate Scott A. Surovell, 44th District
Senator-Elect, 36th District



Delegate David Bulova, 37th District



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

December 3, 2015

The Honorable Dave W. Marsden, 37 District
Senate of Virginia
P.O. Box 10889
Burke, VA 22009

The Honorable Scott A. Surovell, 44th District
Virginia House of Delegates
P.O. Box 289
Mount Vernon, VA 22121

The Honorable David L. Bulova, 37th District
Virginia House of Delegates
P.O. Box 106
Fairfax Station, VA 22039

Gentlemen:

Re: Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0002071
Dominion - Possum Point Power Station Public Comment Period Extension Request

The Department of Environmental Quality (DEQ) received your letter dated November 23, 2015, requesting a sixty-day extension to the public comment period for the draft VPDES permit modification for the Dominion – Possum Point Power Station (Possum Point). The comment period for the proposed permit modification is scheduled to end on December 14, 2015, following a December 8, 2015, public hearing on the proposed permit action.

Thank you for your interest and involvement in the process for establishing a closure plan for the coal ash ponds at Possum Point. Through the process of public involvement, we are improving the development of a closure plan for the coal ash ponds, which includes the issuance of both a waste permit and a VPDES wastewater discharge permit. The action under consideration here is the modification of an existing VPDES permit to regulate dewatering of the ponds to maintain water quality standards. A waste permit is still under development and will

The Honorable Dave W. Marsden
The Honorable Scott A. Surovell
The Honorable David L. Bulova
December 3, 2015

contain the bulk of the closure requirements for the ash ponds including groundwater monitoring. That draft permit will receive public notice in the spring.

In your November 23 letter you provided specific concerns to support the request for extending the public comment period. In response, we provide the following information to help clarify the position of DEQ, the regulatory basis for proceeding, and further understanding of the technical considerations.

It is important to highlight that closure of these ponds will help resolve the environmental concerns associated with the ash ponds. The proposed dewatering is a necessary activity regardless of the ash pond closure approach which is implemented. Thus, we believe it important that the VPDES permit process proceed at a steady pace so that dewatering can proceed and closure can be accomplished as soon as practicable.

As you are aware, the proposed VPDES permit modification primarily addresses the industrial wastewater and stormwater discharges necessary for the closure of the facility's ash ponds. Because it is not a permit reissuance, or renewal, the permitting action, and associated items for public comment, are limited in scope and purpose to those specifically requested by the applicant. Most of the permit and fact sheet are unchanged from the existing permit that is in place and are not related to the discharges from the closure of the coal ash ponds.

You note concerns with a lack of specific information concerning the volume of water to be discharged from the dewatering activity, baseline water quality data and the nature of the discharge from the toe drain from Ash Pond D. With regard to discharge volumes and rates, it is important to understand that the Water Quality Standards are concentration based and the proposed effluent limits are likewise concentration based. This is a standard process for all of our VPDES permit calculations. DEQ understands there is approximately 150 million gallons of impounded waters to be discharged during the initial phase of draw-down of Ash Pond D. At the average daily discharge rate of 2.53 million gallons per day contained in the draft permitting action, it is estimated that the initial draw-down period will be roughly 40-60 days. However, the draft permit is designed to assure that water quality standards are fully maintained without regard to volume.

With regard to baseline conditions in Quantico Creek, the draft permit is designed to ensure maintenance of water quality standards through the combination of establishing effluent limits, monitoring requirements to ensure conformance with proposed limitations as well as management actions and reporting requirements from the permittee. The special study 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 of

The Honorable Dave W. Marsden
The Honorable Scott A. Surovell
The Honorable David L. Bulova
December 3, 2015

the entire Quantico Creek watershed that contribute to the levels of metals in sediment observed in the tidal portion of the waterbody.

Lastly, you note the surface water discharge from the toe drain of Pond D. The draft permit contains monitoring requirements from this point of discharge to better characterize pollutants which may be present. This approach is consistent with our standard permitting procedures and past practices with flows from earthen dams. However, based on the comments we have received to date, staff will reexamine this aspect of the draft permit to assess if changes need to be made to ensure water quality standards are maintained.

We appreciate your concerns on this permitting action and we agree that the public participation is vital and helps to ensure the resulting permit is protective of water quality. As in all permitting actions, the agency is following 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 and given the narrow scope of this proposed permitting action, we are convinced the 45 day public comment period which closes December 14, 2015, is adequate and plan to present the draft permit to the State Water Control Board at its January 14, 2016, meeting.

I and my staff are available should you have any questions concerning this matter, or wish to discuss the draft VPDES permit in more detail.

Sincerely,



David K. Paylor

DKP:ewf

Attachment E
VPDES Permit No. VA0002071
Dominion – Possum Point Power Station
Proposed, Revised Fact Sheet

Introduction

This attachment contains staff's proposed, revised Fact Sheet for the Dominion – Possum Point Power Station.

This document gives pertinent information concerning the modification of the Virginia Pollutant Discharge Elimination System (VPDES) Permit listed below. This permitting action is being processed as a modification to a Major, Industrial permit. The discharges result from the operation of an existing 1845 Mega Watt (MW) natural gas and oil fired steam electric generating station. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards (WQS) of 9VAC25-260 et seq.

On June 30, 2014, The Department of Environmental Quality – Northern Regional Office (DEQ-NRO) received a permit modification request from Dominion Resources Services for the Possum Point Power Station. On December 24, 2014, DEQ-NRO received an addendum to the June 2014 modification request. On August 20, 2015, an additional modification request was received to address closure of the ash ponds at the Possum Point Power Station pursuant to a 2015 U.S. Environmental Protection Agency (EPA) final Rule that regulates the disposal of coal combustion residuals (CCR); hereafter referred to as final coal combustion residuals rule. A final modification request was received on October 21, 2015, to address stormwater outfalls associated with ash handling areas. This permit action addresses the industrial wastewater and stormwater discharges associated with the closure of the facility’s ash ponds and those items not related to ash pond closure noted in Section 31 of the Fact Sheet. All other aspects of the Fact Sheet and final permit issued April 3, 2013 remained unchanged.

- | | | | | |
|----|--|--|-------------------------------------|-----------------------------|
| 1. | Facility Name and Mailing Address: | Dominion – Possum Point Power Station
5000 Dominion Boulevard
Glen Allen, VA 23060 | SIC Code : | 4911 -
Electric Services |
| | Facility Location: | 19000 Possum Point Road
Dumfries, VA 22026 | County: | Prince William |
| | Facility Contact Name: | Mr. Jeff Marcell | Telephone Number: | (703) 441-3813 |
| 2. | Permit No.: | VA0002071 | Expiration Date of previous permit: | October 23, 2012 |
| | Other VPDES Permits associated with this facility: | None | | |
| | Other Permits associated with this facility: | Air – Registration Number 70225 (Title V)
Hazardous Waste – VAD000620476 | | |
| | E2/E3/E4 Status: | Not Applicable | | |
| 3. | Owner Name: | Virginia Electric and Power Company d/b/a Dominion Virginia Power | | |
| | Owner Contact/Title: | Ms. Oula Shehab-Dandan /
Environmental Consultant | Telephone Number: | (804) 273-2697 |
| 4. | Reissuance Application Complete Date: | April 12, 2012 | | |
| | Permit Modified By: | Susan Mackert, Bryant Thomas | | |
| | Draft Modification Reviewed By: | Alison Thompson, Thomas Faha | | |
| | Central Office Review By: | Allan Brockenbrough, Curt Linderman, Justin Williams | | |
| | Public Comment Period : | Start Date: October 30, 2015 | End Date: | December 14, 2015 |

5. Receiving Waters Information: Outfall 001/002 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	Quantico Creek	Rivermile:	0.83
Stream Code:	1aQUA	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

Receiving Waters Information: Outfall 003 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	Quantico Creek	Rivermile:	0.97
Stream Code:	1aQUA	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

Receiving Waters Information: Outfall 004 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	Quantico Creek	Rivermile:	0.13
Stream Code:	1aQUA	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

Receiving Waters Information: Outfall 005 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	UT, Quantico Creek*	Rivermile:	0.14
Stream Code:	1aXGR	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

*UT – Unnamed Tributary

Receiving Waters Information: Outfall 007 (Maryland Waters)

Receiving Stream Name :	Potomac River	Rivermile:	81.96
Section:	Maryland 02140102	Subbasin:	Lower Potomac
Stream Class:	Maryland Designated II	Special Standards:	Maryland Designated Use II

Receiving Waters Information: Outfall 008 (Maryland Waters)

Receiving Stream Name :	Potomac River	Rivermile:	81.99
Section:	Maryland 02140102	Subbasin:	Lower Potomac
Stream Class:	Maryland Designated II	Special Standards:	Maryland Designated Use II

Receiving Waters Information: Outfall 009 (Maryland Waters)

Receiving Stream Name :	Potomac River	Rivermile:	82.02
Section:	Maryland 02140102	Subbasin:	Lower Potomac
Stream Class:	Maryland Designated II	Special Standards:	Maryland Designated Use II

Receiving Waters Information: Outfall 010/S107 (VAN-A26E)

Receiving Stream Name :	UT, Quantico Creek	Rivermile:	0.09
Stream Code:	XOC	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II

Receiving Waters Information: Outfalls 001/002, 003, 004, 007, 008, and 009

7Q10 Low Flow:	Tidal	7Q10 High Flow:	Tidal
1Q10 Low Flow:	Tidal	1Q10 High Flow:	Tidal
30Q10 Low Flow:	Tidal	30Q10 High Flow:	Tidal
Harmonic Mean Flow:	Tidal	30Q5 Flow:	Tidal

Receiving Waters Information: Outfall 005 (Interim Configuration) and Outfall 010

7Q10 Low Flow:	0 MGD	7Q10 High Flow:	0 MGD
1Q10 Low Flow:	0 MGD	1Q10 High Flow:	0 MGD
30Q10 Low Flow:	0 MGD	30Q10 High Flow:	0 MGD
Harmonic Mean Flow:	0 MGD	30Q5 Flow:	0 MGD

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

- | | |
|---|---|
| <input checked="" type="checkbox"/> State Water Control Law | <input checked="" type="checkbox"/> EPA Guidelines (40 CFR Part 423) |
| <input checked="" type="checkbox"/> Clean Water Act | <input checked="" type="checkbox"/> Water Quality Standards (VA and MD) |
| <input checked="" type="checkbox"/> VPDES Permit Regulation | <input type="checkbox"/> Other |
| <input checked="" type="checkbox"/> EPA NPDES Regulation | |

7. Licensed Operator Requirements: Not Applicable (Industrial Discharge)

8. Reliability Class: Not Applicable (Industrial Discharge)

9. Permit Characterization:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Private | <input checked="" type="checkbox"/> Effluent Limited | <input checked="" type="checkbox"/> Possible Interstate Effect |
| <input type="checkbox"/> Federal | <input checked="" type="checkbox"/> Water Quality Limited | <input type="checkbox"/> Compliance Schedule Required |
| <input type="checkbox"/> State | <input checked="" type="checkbox"/> Whole Effluent Toxicity Program Required | <input type="checkbox"/> Interim Limits in Permit |
| <input type="checkbox"/> POTW | <input type="checkbox"/> Pretreatment Program Required | <input type="checkbox"/> Interim Limits in Other Document |
| <input type="checkbox"/> TMDL | | |

10. Wastewater Sources and Treatment Description:

The Dominion – Possum Point Power Station is an existing natural gas and oil fired steam electric generating station. The facility ceased the use of coal in March 2003, but five ash ponds (A, B, C, D, and E) remain on site. Please see Sections 11, 21.c and 22.k of the Fact Sheet for additional discussion on the ash ponds. All coal piles have subsequently been removed.

The facility utilizes three boiler units (Units 3, 4, and 5), one combined cycle combustion turbine (Unit 6), and six simple cycle combustion turbines generating a combined 1845 MW total gross. Water needed for unit operations is withdrawn from the Potomac River utilizing intake structures located on the Virginia shore. The intake structure formerly associated with Units 1 and 2, which were retired in June 2003, is currently used for Units 5 and 6. A second intake structure is dedicated to Units 3 and 4. An oil loading dock is also located on the Potomac River north of the two intake structures.

TABLE 1 – Generation Units		
Generating Unit	Fuel Source	MW Generation
Unit 3	Natural Gas	110 MW
Unit 4	Natural Gas	220 MW
Unit 5	#6 Low Sulfur Fuel Oil / #2 Low Sulfur Fuel Oil	850 MW
Unit 6	Natural Gas / #2 Low Sulfur Fuel Oil	575 MW
Combustion Turbines 1 - 6	#2 Low Sulfur Fuel Oil	15 MW each

Pursuant to the final coal combustion residuals rule promulgated on April 17, 2015, Dominion is closing the ash ponds at the Possum Point Power Station. To date, pre-closure activities have included the movement of ash from Ash Ponds A, B, C, and E to Ash Pond D as authorized under Part I.F.11 of the facility's existing permit, as well as the pumping of comingled decant water, dewatering water and stormwater from Ash Ponds A, B, C, and E to Ash Pond D. There has not been a discharge of the comingled water; all water is currently stored in Ash Pond D. In order to begin preparation for closure of the existing ash ponds, all water that is currently stored in Ash Pond D must be discharged. As such, the primary focus of this permit modification is to address the discharge of the comingled decant water, dewatering water, and stormwater from Ash Pond D. The discharge from Ash Pond D will be managed through the use of a treatment system designed to address the effluent limitations established within this permit. See Section 18 of the Fact Sheet for additional discussion on the treatment system.

See Attachment 1 for the National Pollutant Discharge Elimination System (NPDES) Permit Rating Worksheet.

See Attachment 2 for a facility schematic/diagram.

TABLE 2 – Industrial Process Wastewater Outfall Description

Outfall Number	Discharge Sources	Treatment	Average Flow	Latitude and Longitude ¹
001/002**	Unit 3, Unit 5 and Unit 6, Stormwater*	Mixing	86.38 MGD	38° 32' 12" N 77° 17' 00" W
	<p>*Sources include Unit 3 condenser cooling water, Unit 5 cooling tower blowdown (Internal Outfall 201), Unit 6 cooling tower blowdown (Internal Outfall 202), Internal Outfall 503 (interim, based on operational needs) and stormwater. The average flow does not include flows that may be contributed from Internal Outfall 503.</p> <p>**Because the discharge from Outfall 001 and Outfall 002 originates from a common Seal Basin, the discharge is considered to be identical. As such, the discharge location is designated as Outfall 001/002 and reported on a Discharge Monitoring Report form as Outfall 001.</p>			
003	Unit 4 Condenser Cooling Water	None	82.55 MGD	38° 32' 17" N 77° 16' 58" W
004	Low Volume Waste Settling Pond*	Sedimentation, Flocculation, Skimming, Neutralization, Chemical Precipitation, Mixing	2.59 MGD	38° 31' 55" N 77° 17' 04" W
	<p>*Sources include Internal Outfall 503 (interim, based on operational needs), Outfall 502 discharge, Unit 5 cooling tower drift, yard drains, floor drains, Unit 5 circulating water, Units 1-4 sand filter backwash, filter purge, Unit 6 wash water, Unit 6 Reverse Osmosis (RO) trailer discharge, electro dialysis reversal (EDR) backwash, neutralization sump, and stormwater. The average flow does not include flows that may be contributed from Internal Outfall 503.</p>			
005	Ash Pond D Dewatering*	Sedimentation, Mixing, Skimming	0.98 MGD	38° 33' 6.89" N 77° 17' 36.8" W
	<p>* Interim sources include: Ash Pond D comingled process water discharge (Internal Outfall 503). * Final sources include: Internal Outfall 503 and Outfall 501.</p>			
007	Intake Screen Backwash Water*	Mixing	0.19 MGD	38° 32' 9.8" N 77° 16' 45.8" W
	*Sources include Units 3, 4, 5 and 6 cooling water intake structures.			
008	Intake Screenwell Freeze Protection Water*	Mixing	0.00 MGD	38° 32' 10" N 77° 16' 46" W
	*Sources include non-contact cooling water.			
009	Intake Screen Backwash Water *	Mixing	0.19 MGD	38° 32' 11.5" N 77° 16' 45.6" W
	* Sources include Units 3 – 4 cooling water intake structures.			

TABLE 2 – Industrial Process Wastewater Outfall Description (Continued)

Outfall Number	Discharge Sources	Treatment	Average Flow	Latitude and Longitude ¹
010	Ash Pond D Toe Drain*	None	Variable	38° 32' 48.9" N 77° 17' 10.8" W
	*Sources include groundwater infiltration from Ash Pond D (toe drainage), diverted groundwater around the impoundment and stormwater.			
201 (Internal)	Unit 5 Cooling Tower Blowdown	Dechlorination, Sedimentation, Mixing	1.48 MGD	38° 32' 11" N 77° 16' 57" W
202 (Internal)	Unit 6 Cooling Tower Blowdown	Dechlorination, Sedimentation, Mixing	0.91 MGD	38° 32' 11" N 77° 16' 57" W
501 (Internal)	Metals Cleaning Waste Treatment Basin*	Mixing, Neutralization, Chemical Precipitation, Sedimentation	1.04 MGD	38° 32' 58" N 77° 17' 20" W
	*Sources include boiler wash water, air preheater rinse, precipitator rinse, stormwater.			
502 (Internal)	Oily Waste Treatment Basin*	Mixing, Sedimentation, Skimming	0.57 MGD	38° 32' 42" N 77° 16' 40" W
	*Sources include Unit 5 wastewater from various operations, oil unloading and handling system wastewater, tank bottoms, auxiliary boiler blowdown, Unit 6 cooling tower drift, false start drains, stormwater.			
503 (Internal)	Comingled Process Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)*	Technology to be Determined	2.53 MGD	NA
	*Sources include comingled decant water, dewatering water and stormwater from Ash Pond D, Ash Pond E and/or Ash Pond A, B, C complex and/or the subsurface dewatering system (underdrains from Ash Pond D).			

1. A component of the last reissuance process involved a review of outfall locations by DEQ planning staff. Based on this review, Dominion was asked to confirm the outfall coordinates which were provided within the application package. The latitude and longitude in Table 2 above have been updated to reflect Dominion's field verified coordinates which may differ from those found within the permit application. The updated coordinates are also found in Attachment 7.

See Attachment 3 for industrial process wastewater outfall locations.

TABLE 3 – Stormwater Outfall Description

Outfall Number	Drainage Area	Latitude and Longitude ¹
S5**	Approximately 3.9 acres between the Unit 5 cooling towers.	38° 32' 0.2" N 77° 16' 52.7" W
S31	Approximately 0.15 acres from two drop inlets located at the north end of the Unit 5 Cooling Tower B.	38° 32' 9.2" N 77° 16' 47.2" W
	*Cooling tower mist is an allowable non-stormwater discharge pursuant to 9VAC25-151-50	
S35**	Approximately 0.15 acres from the north end of Unit 5 Cooling Tower B.	38° 32' 10" N 77° 16' 46" W
S36	Approximately 0.11 acres located around the Unit 1 and 2 stacks and the road under the Unit 3 and 4 precipitators.	38° 32' 11.2" N 77° 16' 46" W
S37	Approximately 2.0 acres from the area around the Administration Building (primarily vehicle parking and roof drainage) and the eastern one half of the maintenance shop.	38° 32' 09" N 77° 16' 46" W
S42**	Approximately 6.6 acres from multiple drop inlets located around the perimeter of the Unit 5 boiler and dust collector.	38° 32' 14" N 77° 16' 43.1" W
S49	Approximately 0.15 acres from a drop inlet located in the drainage area east of the Unit 5 boiler and north of the oil dock foam house.	38° 32' 17" N 77° 16' 40.6" W
S61**	Approximately 2.8 acres from the main entrance way to the plant, the gravel area west of the old combustion turbine buildings, a portion of the roadway leading from the old combustion turbines to the northwest end of the 115 kV switchyard, grassy area and railway located west of the 115 kV switchyard, and the west end of the maintenance shop.	38° 32' 13.5" N 77° 17' 00" W
S77	Approximately 0.14 acres from the area surrounding the eastern edge of the No. 6 fuel oil pipe bench leading north to the Unit 5 transfer pump house.	38° 32' 20.7" N 77° 16' 37.3" W
S78	Approximately 0.61 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 25" N 77° 16' 36.1" W

TABLE 3 – Stormwater Outfall Description (Continued)

Outfall Number	Drainage Area	Latitude and Longitude ¹
S79	Approximately 0.56 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 27.5" N 77° 16' 35.5" W
S80	Approximately 0.36 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 31.6" N 77° 16' 35.1" W
S86	Approximately 34.6 acres from drainage ditches on both sides of the railroad and sheet flow from the west side of the 230 kV switchyard, all of the Measurement and Regulator (M&R) station, west of the light oil containment tanks, parking lot near old combustion turbines, and the main entrance.	38° 31' 53.5" N 77° 17' 5.5" W
S94	Approximately 0.23 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 35" N 77° 16' 34.7" W
S95	Approximately 2.6 acres consisting of multiple ditches and graded surfaces at the north end of the Station.	38° 32' 35" N 77° 16' 34.7" W
S107	Stormwater from the base area of the impoundment of Ash Pond D. Outfall 010 may be re-designated as a stormwater only outfall in accordance with Part I.F.23.	38° 32' 48.9" N 77° 17' 10.8" W
S108	Approximately 0.76 acres from the area south of Ash Pond E located near the construction entrance at the point of convergence for runoff from a Virginia Department of Transportation (VDOT) culvert and the culverts containing the station's former ash sluice lines.	38° 32' 52" N 77° 17' 21" W

1. A component of the reissuance process involved a review of outfall locations by DEQ planning staff. Based on this review, Dominion was asked to confirm the outfall coordinates which were provided within the application package. The latitude and longitude in Table 3 above have been updated to reflect Dominion's field verified coordinates which may differ from those found within the permit application. The updated coordinates are also found in Attachment 7.

The following industrially influenced stormwater outfalls have been deemed representative:

** Outfall S5 is deemed representative of Outfall S31 and S35

** Outfall S42 is deemed representative of Outfalls S49 and S77

** Outfall S61 is deemed representative of Outfalls S36 and S37

11. Solids Generation and Management:

The Dominion – Possum Point Power Station is an existing natural gas and oil fired steam electric generating station that does not treat domestic sewage and does not produce sewage sludge.

The facility has a permanent repository, Ash Pond D, for dredge spoil material and residuals related to the operation and maintenance of the Possum Point Power Station. Additionally, Ash Pond D may be used as a repository for dredge spoil material that is not related to operations at the Station provided the material originated from the Potomac River, Quantico Creek or public water bodies in the Quantico Creek watershed meeting the definition of State waters in Virginia.

Ash Pond D is a lined structure that was placed into service in 1989. The pond has a surface area of seventy-two acres, a maximum depth of 120 feet, and a design capacity of over one billion gallons. Please see Section 24.k of the Fact Sheet for further discussion pertaining to solids management.

Table 4 below provides a detailed description of dredge spoil material and residuals disposal in Ash Pond D.

TABLE 4 – Dredge Spoil Material and Residuals Disposal ¹		
Description	Estimated Volume (yd ³)	Frequency
Filter Cake – from water treatment unit for Unit 6	50	Weekly ²
Dredge spoils and soils from the Possum Point site	50	Twice a year
Dredge spoils from the Quantico Creek watershed	50	Once a year
Solids from treatment ponds and stormwater management facilities	100	Once a year
Cooling tower basin sludge	200	Once a year
Solids from station floor drains, lift stations, and sumps	100	Once a year

1. Estimated volumes do not include potential special projects such as coal combustion byproducts in former ash ponds A, B, and C and spoils from Potomac River channel dredging.
2. Weekly when Unit 6 is operating; expected annual volume is approximately 850 cubic yards.

12. Other Discharges and Monitoring Stations in Vicinity of Possum Point Discharge Locations - Virginia Waters: 001/002, 003, 004, 005, 010, S5, S61, and S86

The facilities and monitoring stations listed below either discharge to or are located within the waterbody VAN-A26E.

TABLE 5	
1aQUA000.43	DEQ special study monitoring station located in the tidal portion of Quantico Creek approximately 1.7 miles downstream of Outfall 005 and 100 yards upstream of the railroad bridge
1aQUA001.00	DEQ fish tissue monitoring station located approximately 0.7 miles upstream of the railroad bridge
1aQUA001.09	DEQ special study monitoring station located approximately 0.75 rivermiles upstream of the railroad bridge
1aQUA001.81	DEQ special study monitoring station located downstream for the unnamed tributary to Quantico Creek into which Outfall 005 (Ash Pond E) discharges.
1aQUA002.38	DEQ special study monitoring station located in the upper Quantico Creek embayment.
1aQUA004.20	DEQ special study monitoring station located in the free-flowing portion of Quantico Creek near Route 1.
1aQUA004.88	DEQ special study monitoring station located in the free-flowing portion of Quantico Creek near Van Buren Road.
VA0002151	U.S. Marine Corps Base Quantico – NREAB Industrial (Chopawamsic Creek)
VA0002151	U.S. Marine Corps Base Quantico – NREAB Industrial (Potomac River)
VA0002151	U.S. Marine Corps Base Quantico – NREAB Industrial (Potomac River, UT)
VAR051039	NuStar Terminals (Potomac River)
VAR051065	Whitehurst Transport, Incorporated (Quantico Creek)
There are no public water supply intakes within a five mile radius of any of the outfalls listed in Table 2 and Table 3.	

13. Material Storage:

Material storage information was provided as a component of the reissuance package.

See Attachment 4 for a bulk chemical list.

See Attachment 5 for bulk chemical storage locations.

14. Site Inspection:

Performed by Susan Mackert and Bryant Thomas on February 17, 2012, in support of the 2013 permit reissuance. The site visit confirms that the information provided in the facility's permit reapplication package dated April 5, 2012, and received April 10, 2012, is accurate and representative of actual site conditions. The site visit memo can be found as Attachment 6.

15. Receiving Stream Water Quality and Water Quality Standards:a) Ambient Water Quality Data

- 1) Outfalls 001/002, 003, S61 and S107 discharge into a portion of tidal Quantico Creek. The following is the water quality summary for this portion of Quantico Creek, as taken from the Draft 2012 Integrated Assessment*:

DEQ fish tissue monitoring station 1aQUA001.00 located approximately 0.7 miles upstream of the railroad bridge.

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, Polychlorinated Biphenyl (PCB) fish consumption advisory and fish tissue monitoring. A PCB Total Maximum Daily Load (TMDL) for the tidal Potomac River watershed has been completed and approved.

The submerged aquatic vegetation data is assessed as fully supporting the aquatic life use. For the open water aquatic life subuse; the thirty day mean is acceptable, however, the seven day mean and instantaneous levels have not been assessed.

The recreation and wildlife uses were not assessed.

Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment, sediment chemistry analysis (elevated nickel levels), and sediment bioassay for estuarine waters were all factors for this determination. Station 1aQUA001.09, approximately 0.75 rivermiles above the railroad bridge, was sampled in 2001 for the Coastal 2000 program (part of the estuarine probabilistic monitoring program).

- 2) Outfalls 004, S5 and S86 discharge into the downstream most segment of tidal Quantico Creek. The following is the water quality summary for this portion of Quantico Creek, as taken from the Draft 2012 Integrated Assessment*:

DEQ ambient monitoring station 1aQUA000.43 located in the tidal portion of Quantico Creek, approximately 1.7 miles downstream of the outfall and located 100 yards upstream of the railroad bridge.

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. A PCB TMDL for the tidal Potomac River watershed has been completed and approved.

The aquatic life use is fully supporting. The submerged aquatic vegetation data is assessed as fully supporting the aquatic life use. For the open water aquatic life subuse; the thirty day mean is acceptable, however, the seven day mean and instantaneous levels have not been assessed.

The recreation and wildlife uses are fully supporting.

- 3) Outfalls 005 and 010 discharge to unnamed tributaries to Quantico Creek that have not been monitored. The nearest downstream DEQ regular ambient monitoring station is 1aQUA000.43, which is located in the tidal portion of Quantico Creek, approximately 1.7 miles downstream of the outfalls and located 100 yards upstream of the railroad bridge. Discharge from these outfalls flows downstream into the tidal segment of Quantico Creek described above in Section 15.a.1 of the Fact Sheet, then into the tidal segment described above in Section 15.a.2 of the Fact Sheet.
- 4) Outfalls 007, 008, 009, S31, S36, S37, S42, S49, S77, S78, S79, S80, S94 and S95 discharge into the tidal freshwater Potomac River. DEQ does not conduct ambient monitoring on the Potomac River, as this portion of the river falls under the jurisdiction of the state of Maryland. The following information is found in Maryland's Draft Water Quality Assessment 2012 Integrated Report:

The Upper Potomac River Tidal Fresh is listed as impaired for the open-water fish and shellfish subcategory, and for the seasonal migratory fish spawning and nursery subcategory of the aquatic life use due to total nitrogen and total phosphorus. A TMDL has been completed for the Chesapeake Bay watershed.

*Virginia’s Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.

The full planning statement is found as Attachment 7.

b) 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 6						
Impairment Information in VA Draft 2012 Integrated Report*						
Waterbody Name	Impaired Use	Cause	TMDL Completed	WLA	Basis for WLA	TMDL Schedule
Quantico Creek	Aquatic Life	Estuarine Bioassessments	No	N/A	N/A	2018
		Sediment Bioassays for Estuarine and Marine Waters	No	N/A	N/A	2018
	Fish Consumption	PCBs	Tidal Potomac PCB TMDL 10/31/2007	None	---	N/A
Impairment Information in MD Draft 2012 Integrated Report						
Waterbody Name	Impaired Use	Cause	TMDL Completed	WLA	Basis for WLA	TMDL Schedule
Potomac River	Open-Water Fish and Shellfish Seasonal Migratory Fish Spawning and Nursery	Total Nitrogen and Total Phosphorus	There is a completed TMDL for the aquatic life use impairment for the Chesapeake Bay.			
*Virginia’s Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.						

c) Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections.

Quantico Creek and UTs to Quantico Creek

Quantico Creek and tidally influenced portions of the unnamed tributaries to Quantico Creek are located within Section 6 of the Potomac River Basin, and are classified as Class II waters. Class II tidal waters in the Chesapeake Bay and its tidal tributaries must meet dissolved oxygen concentrations as specified in 9VAC25-260-185 and maintain a pH of 6.0-9.0 standard units (S.U.) as specified in 9VAC25-260-50. In the Northern Virginia area, Class II waters must meet the Migratory Fish Spawning and Nursery Designated Use from February 1 through May 31. For the remainder of the year, these tidal waters must meet the Open Water use. The applicable dissolved oxygen concentrations are presented in Attachment 8. Class III, free-flowing waters are to achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Potomac River

The mainstem of the Potomac River is considered Maryland waters. The receiving stream, per the Maryland Water Quality Criteria, has been designated as Use II water. The use goals include the support of estuarine and marine aquatic life and shellfish harvesting. The dissolved oxygen (D.O.) may not be less than 5.0 mg/L at any time and a pH of 6.5 – 8.5 standard units (S.U.) must be maintained.

d) Virginia Water Quality Standards

1) Existing Permit

Ammonia:

The freshwater, aquatic life Water Quality Criteria for Ammonia are dependent on the instream and/or effluent temperature and pH. Agency guidance uses the 90th percentile temperature and pH values because they best represent the critical design conditions of the receiving stream.

With the last reissuance, pH and temperature data from the tidal portion of Neabsco Creek (1ANEA000.57) were used as Neabsco Creek has similar characteristics to the tidal portion of Quantico Creek. It was staff's opinion that the data contained a sampling bias since most ambient samples were collected between 10 a.m. and 2 p.m. This time period is the period of highest photosynthetic activity in a shallow, open embayment such as the mouth of Neabsco Creek. During peak photosynthetic activity, the pH rises as carbon dioxide is taken up by the green autotrophic organisms, i.e. algae, present in the embayment (*Textbook of Limnology*, 3rd edition, G. Cole). Because of this sampling bias, staff used the 50th percentile pH and temperature values rather than the recommended 90th percentile temperature and pH values for the calculation of the ammonia as nitrogen Water Quality Criteria. These values are shown below in Table 7.

TABLE 7 – Instream 50 th Percentile Derivations (2007)	
50 th percentile pH	50 th percentile temperature
8.2 S.U.	18°C

A new ambient monitoring station (1aQUA000.43) was installed in the tidal portion of Quantico Creek in March 2007. The use of data from this monitoring station is more appropriate given Outfall 004 and Outfall 005, for which ammonia criteria are being developed, discharge to Quantico Creek and an unnamed tributary to Quantico Creek, respectively. As such, staff has reviewed pH and temperature data from this monitoring station for the time period of March 2007 – July 2012 (Attachment 9b). Because ample data exists for the receiving stream it is staff's best professional judgement that the 90th percentile temperature and pH values be used as they best represent the critical design conditions of the receiving stream. The values are shown below in Table 8 were used to derive the criteria in Attachment 9a.

TABLE 8 – Instream 90 th Percentile Derivations (2012)	
90 th percentile pH	90 th percentile temperature
8.1 S.U.	28°C

When instream temperature and pH data are available for use, staff also utilizes effluent pH and temperature data to establish the ammonia water quality standard to account for mixing in receiving waters. Of the four outfalls with discharges to Virginia state waters, Outfall 005 was selected for use as representative of all outfalls with regard to water quality criteria derivation. Outfall 005 was selected because metals criteria need to be evaluated for this discharge. The 90th percentile pH was derived from Outfall 005 DMR submissions dated April 2009 to May 2012 and was determined to be 8.6 S.U (Attachment 9b). Because the facility is not required to monitor temperature at this outfall, a default value of 25°C was used. The ammonia water quality standards calculations are shown in Attachment 9a.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent hardness (expressed as mg/L calcium carbonate). When dilution is applied to the discharge, the hardness of both the receiving stream and the effluent are considered. When there is no dilution applied, only the hardness of the effluent is considered as the criteria apply at the 'end-of-pipe'. The average hardness of the receiving stream, Quantico Creek, is 46 mg/L CaCO₃.

The hardness-dependent metals criteria shown in Attachment 9a are based on the values above.

2) Modified Permit – Outfall 005, Outfall 010 and Internal Outfall 503

Ammonia:

As noted above, during the reissuance of the existing permit staff utilized pH and temperature data from ambient monitoring station 1aQUA000.43 located in the tidal portion of Quantico Creek. It is staff's best professional judgement that the 90th percentile temperature and pH values determined during the 2013 reissuance be carried forward to determine the water quality criteria for Internal Outfall 503 as they best represent the critical design conditions of the receiving stream. As such, the 90th percentile pH of 8.1 S.U. and a 90th percentile temperature value of 28°C shall be used.

When instream temperature and pH data are available for use, staff also utilizes effluent pH and temperature data to establish the ammonia water quality standard to account for mixing in receiving waters. Staff utilized data from the modification application for blended ash dewatering and contact waters collected in May 2015. The 90th percentile pH was determined to be 7.9 S.U (Attachment 10b). Because the data collected in May does not reflect seasonality, it is staff's best professional judgement that the 90th percentile temperature for the effluent be set equal to that of the instream 90th percentile temperature. As such, a value of 28°C was used. The ammonia water quality standards calculations are shown in Attachment 10a.

Metals:

As noted above, during the reissuance of the permit staff utilized the average hardness, 46 mg/L, for Quantico Creek. It is staff's best professional judgement that the average hardness used during the 2013 reissuance is representative of this receiving stream and will be carried forward to determine the water quality criteria for Internal Outfall 503 where mixing is applied in the computations. An average hardness of 100 mg/L CaCO₃ was applied to the dewatering water from Ash Pond D as a conservative value in computations for Outfall 005. The average hardness of 61 mg/L CaCO₃ was applied to the discharge from Outfall 010 based on groundwater monitoring data.

The hardness-dependent metals criteria shown in Attachment 10a are based on the values above.

Additionally, the background concentrations shown in Table 9 below were utilized to derive the criteria shown in Attachment 10a. Three ambient water quality stations, IAQUA000.43, IAQUA001.28, and IAQUA002.38, were sampled by DEQ on June 25, 2015. All samples were collected from a low slack tide. For purposes of background calculations, the sample collected near the mouth of Quantico Creek was not considered as this is downstream from the expected discharge location and more likely influenced by the Potomac River. While not utilized in the reissuance of the permit in 2013, background concentrations were included with this modification. The use of background concentrations is appropriate with this modification as the samples collected on June 25, 2015, were not influenced by the discharge from Outfall 005 which had not discharged since May 9, 2015.

TABLE 9 – Background Values Determined from June 2015 Metals Sampling	
Parameter Name (Reporting Units)	Background Value ¹
Arsenic, Dissolved (µg/L as As)	1.61
Cadmium, Dissolved (µg/L as Cd)	0
Chromium, Dissolved (µg/L as Cr)	0.36
Copper, Dissolved (µg/L as Cu)	1.98
Lead, Dissolved (µg/L as Pb)	0.24
Mercury-TL, Unfiltered Water (ng/L) ²	1.00
Nickel, Dissolved (µg/L as Ni)	1.14
Selenium, Dissolved (µg/L as Se) ³	0.49
Silver, Dissolved (µg/L as Ag)	0
Zinc, Dissolved (µg/L as Zn)	0.85

¹Background values were determined for the two samples collected using the following guidelines:

- If both reported values were quantifiable, then the arithmetic average was determined.
- If both reported values were less than detection, the background is considered zero.
- If one of the reported values was quantifiable and one was non-detect or above detection but below quantification, either the detection limit or the quantification limit was used in computing the arithmetic average.

²Data for mercury, while in the total recoverable form, was utilized due to its availability and as a conservative measure.

³Data for selenium, while in the dissolved form, was utilized due to its availability with the ratio of total recoverable to dissolved assumed to be 1:1.

e) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia.

1) *Quantico Creek and UTs to Quantico Creek*

Quantico Creek and the unnamed tributaries to Quantico Creek are located within Section 6 of the Potomac River Basin. This section has been designated with a special standard of “b”.

Special Standard “b” (Potomac Embayment Standards) established effluent standards for all sewage plants discharging into Potomac River embayments and for expansions of existing plants discharging into non-tidal tributaries of these embayments. 9VAC25-415, Policy for the Potomac Embayments controls point source discharges of conventional pollutants into the Virginia embayment waters of the Potomac River, and their tributaries, from the fall line at Chain Bridge in Arlington County to the Route 301 bridge in King George County. The Potomac Embayment Standards are not applied to the facility’s discharges since the discharges do not contain the pollutants of concern in appreciable amounts.

2) *Potomac River*

The mainstem of the Potomac River is considered Maryland waters. The receiving stream, per the Maryland Water Quality Criteria, has been designated as Use II water. The use goals include the support of estuarine and marine aquatic life and shellfish harvesting.

f) Threatened or Endangered Species

The Virginia Department of Game and Inland Fisheries (DGIF) Fish and Wildlife Information System Database was searched on June 5, 2012, for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Atlantic Sturgeon, Brook Floater, Peregrine Falcon, Upland Sandpiper, Loggerhead Shrike, Henslow's Sparrow, Bald Eagle, and Migrant Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

The receiving streams are within a reach identified as having an Anadromous Fish Use. It is staff's best professional judgment that the proposed limits are protective of this use.

g) Maryland Water Quality Standards

The mainstem of the Potomac River is considered Maryland waters. Outfalls 007, 008, and 009 discharge to the Potomac River, thus having the potential to impact Maryland waters. Staff has reviewed Title 26, Subtitle 08 of the Code of Maryland Regulations (Maryland Water Quality Standards) and believes that the effluent limitations established in this permit will comply with Maryland's water quality standards at the discharge points to the Potomac River.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

All receiving streams have been classified as Tier 1 as effluent limits were established to meet the Water Quality Standards (WQS), because of the highly developed receiving stream watersheds in Prince William County (Quantico Creek) and the District of Columbia metropolitan area (Potomac River), and the water quality impairment listed for the tidal fresh water Potomac River. The permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving streams, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Pursuant to DEQ Guidance Memo 00-2011, there are two recommended approaches for calculating wasteload allocations and addressing antidegradation for discharges in tidal waters. One approach is to utilize fresh water flow frequencies and the other is to utilize tidal dilution factors. For purposes of this reissuance, the WLA were calculated using the tidal dilution factor method.

a) Effluent Screening:

The discharges from Outfalls 004, 005, 010, 201, 202, 501, 502 and 503, are covered by Federal Effluent Guidelines established in 40 CFR – Part 423. This regulation was recently updated with a publication date of November 3, 2015 and an effective date January 4, 2016. The updated guidelines are applied to the discharges addressed by this permit modification; the existing guidelines are implemented through the current effluent limitations established in the permit that are not part of the permit modification. When applicable, both the water

quality based limits and Federal Effluent Guideline requirements were compared for these outfalls. The most stringent limitation was used as the basis for the final limit. See Section 17.e of the Fact Sheet for additional discussion on the applicable Federal Effluent Guidelines.

Effluent data obtained from the permit application and Discharge Monitoring Report (DMR) forms from April 2009 through March 2012 has been reviewed and determined to be suitable for evaluation. The following pollutants require a wasteload allocation analysis: Total Residual Chlorine and Dissolved Nickel.

b) Water Quality Wasteload Allocations (WQWLAs):

Quantico Creek and the Potomac River are tidally influenced receiving streams. The unnamed tributaries to Quantico Creek may have tidal influence under certain flow and storm conditions. However, as a conservative measure, tidal dilutions are not applied to these outfalls and all critical flows are assumed to be zero. In accordance with agency guidance for tidal receiving waters, the acute wasteload allocations are established by multiplying the acute water quality criteria by a factor of 2 unless there is site specific dilution data available. The two times factor is derived from acute criteria being defined as one half of the final acute value (FAV) for a specific toxic pollutant. The FAV is determined from exposure of the specific toxicant to a variety of aquatic species, and is based on the level of a chemical or mixture of chemicals that does not allow the mortality, or other specified response, of aquatic organisms. These criteria represent maximum pollutant concentration values, which when exceeded, would cause acute effects on aquatic life in a short time period. For chronic wasteload allocations a dilution of 50 is used unless there is site specific dilution data available. The above tidal WQWLA determinations are consistent with the instructions found within DEQ Guidance Memo 00-2011.

With the last permit reissuance, the facility was required to conduct a new thermal mixing zone study. It was staff's best professional judgement that due to the retirement of Units 1 and 2 and the addition of Unit 6, operational changes at the Station warranted re-evaluation of the existing mixing zone boundaries from those approved in the mid-1980s study. In response to the permit requirement, the permittee conducted a detailed analysis of the mixing zone conditions and re-evaluated the accuracy of the mixing zone dimensions that were previously developed. The re-evaluation study plan was submitted to DEQ in October 2008, with the final thermal mixing zone modeling report submitted in October 2011. Statistical analysis of the positions of the thermal plume during extreme summer and winter simulations indicates that ninety-nine (99) percent of the time the plume would remain within about 657 and 507 acres, respectively, in Quantico Creek and a part of the Potomac River. The results of the re-evaluation do not differ significantly from those established in the mid-1980s study. Additionally, based upon temperature data collected, there have been no exceedances of the 3°C delta standard in Quantico Creek or the state water quality standard for temperature. Correspondence dated July 9, 2012, from the Virginia Department of Game and Inland Fisheries (DGIF) indicates that fish from Quantico Creek are all within expected ranges and are comparable to those from neighboring creeks. DGIF also indicates that there is no reason to believe there is any impairment to fishery resources in Quantico Creek as a result of the discharge from the Possum Point Power Station. The final thermal mixing zone modeling report is maintained within the Northern Regional Office's files and is found as Attachment 10. The correspondence from DGIF is found as Attachment 11.

Because site specific dilution data were not determined as part of the thermal mixing zone study, a default acute dilution factor of 2:1 and a default chronic dilution factor of 50:1 shall be used (based on DEQ Guidance Memo 00-2011) for the tidally influenced receiving waters. Please refer to the outfall discussions below for the applicability of dilution factors on an outfall-by-outfall basis. Attachment 9a summarizes the wasteload allocation determinations.

1) Outfalls 001/002, 003 and Internal Outfall 503

Outfalls 001/002 and 003 discharge to tidal Quantico Creek. It is staff's best professional judgement that as recommended in agency guidance a dilution factor of 2:1 is appropriate for these outfalls for acute wasteload allocation (WLA_A) determination.

Due to the shallow depth and confined morphometry of the Quantico Creek embayment and the volume of water being discharged by the Dominion – Possum Point Power Station, it is staff's best professional judgement that a dilution factor of 2:1 is more appropriate than the 50:1 dilution factor recommended in agency guidance for the chronic wasteload allocation (WLA_C). The factor of two has been used on similar

embayments and has been demonstrated to be a reasonable estimate. As such, a 2:1 mix ratio will be applied in determining the chronic WLA.

The dilution ratio's discussed above will also be applied to limit derivation for Internal Outfall 503 when it discharges through either Outfall 001/002.

2) Outfalls 005 and 010

Outfall 005 is an existing outfall, previously associated as the discharge from Ash Pond E. It discharges to an UT, Quantico Creek. 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 historically been applied to all acute and chronic discharges from the power station to Quantico Creek and the Unnamed Tributary (UT) to Quantico Creek. DEQ 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. Additionally, the drainage area of the UT is approximately 1.7 square miles, which is insufficient to provide substantial flow volume for dilution under critical flow conditions. Based on staff observations, no dilution will be applied to the discharge from Outfall 005 in establishing either the acute wasteload allocation or the chronic wasteload allocation.

It should be noted that when Internal Outfall 503 is routed through Outfall 005 for discharge, no dilution is applied in establishing the acute and chronic wasteload allocations.

Outfall 010 is newly identified and authorized in the proposed permit. 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. Accordingly, there is no dilution applied in the computation of the acute and chronic wasteload allocations for Outfall 010.

3) Outfalls 004, 007, 008 and 009

Due to the fact Outfall 004 discharges into tidal estuary waters in close proximity to the main stem of the Potomac River, and Outfalls 007, 008, and 009 discharge directly to the main stem of the Potomac River, the dilution factor of 2:1 recommended in agency guidance shall be used to calculate the acute wasteload allocation (WLA_A) for these outfalls. The dilution factor of 50:1 recommended in agency guidance shall be used for the determining the chronic wasteload allocation (WLA_C) for these outfalls. Note that the dilution factor applied for development of effluent limits for Internal Outfall 503 when discharging to Outfall 004 applies a conservative mix ratio of 2:1 for the WLA_C in order to be consistent with limits development for this internal outfall.

c) Effluent Limitations and Monitoring

This section discusses the development of effluent limitations and monitoring for all parameters except those specifically associated as pollutants of concern with coal combustion residuals. The establishment of effluent limit and monitoring requirements for these parameters is discussed in Section 18 of the Fact Sheet. The following Federal Effluent Guideline abbreviations are used within the discussions in Section 17.c and Sections 21.a through 21.n of the Fact Sheet:

Best Available Technology – BAT
Best Practicable Technology – BPT
New Source Performance Standards – NSPS

1) Outfall 001/002

Heat Rejection:

Heat Rejection is defined as the rate of heat transfer from a unit's condenser to its circulating water system. It is calculated directly by conservation of mass and energy either across the circulating water system (condenser tube side) or from the turbine exhaust to the hotwell (condenser shell side). Heat Rejection is measured in BTU/Hour.

Because there have been no operational changes at the Possum Point Power Station which could impact the thermal component of the discharge from this outfall, no change to the heat rejection limit is proposed with this reissuance. As such, the previously established heat rejection limit of 5.58×10^8 BTU/hr shall be carried forward with this reissuance. The continuous monitoring frequency shall be carried forward.

Intake Temperature:

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring at the intake structure. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that intake temperature monitoring continue with this reissuance. The monitoring frequency of once per day (1/D) shall be carried forward.

Discharge Temperature:

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring of the effluent. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that effluent temperature monitoring should continue with this reissuance. The monitoring frequency of once per day (1/D) shall be carried forward.

pH:

pH limitations are set at the water quality criteria. As such, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per month (1/M) shall be carried forward.

Total Residual Chlorine (TRC):

Federal Effluent Guidelines (40 CFR 423.13(b)(1) – Best Available Technology) state that for any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water times the maximum concentration of 0.2 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(b)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L to the discharge is appropriate and will allow comparison to the Virginia WQS for TRC which are established in concentration units.

In accordance with current DEQ guidance (Memo 00-2011), staff used a default data point of 0.2 mg/L and the most limiting allocations to derive the water quality based limits which were compared against the Federal Effluent Guidelines. The resulting water quality based derivation indicated a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L is needed (Attachment 13a). The water quality based limits are more stringent than the Federal Effluent Guidelines and as such, the water quality based limits shall be applied. These limits are consistent with the previous reissuance which also included a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L. The daily maximum TRC limit of 0.032 mg/L and monthly average TRC limit of 0.022 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

Free Available Chlorine:

In accordance with the Federal Effluent Guidelines found in 40 CFR 423.12(b)(6) and 40 CFR 423.12(b)(7) – Best Practicable Technology and 40 CFR 423.13(d)(1) – Best Available Technology, free available chlorine limitations are applicable to discharges that contain once through cooling water and cooling tower blowdown. The discharge from Outfall 001/002 contains both once through cooling water and cooling tower blowdown flow. Because free available chlorine limits are applied at internal Outfalls 201 and 202 for the cooling tower blowdown, limits only need to be considered for the once through cooling water component of the discharge.

The sum of free available chlorine and combined available chlorine form total residual chlorine. If established total residual chlorine limits are met, it is assumed free available chlorine will be equivalent to or less than the total residual chlorine. As discussed above, total residual chlorine limitations (daily maximum of 0.032 mg/L and monthly average of 0.022 mg/L) were developed based on the once through cooling water component of the discharge from Outfall 001/002. Free available chlorine associated with the once through cooling water component would be expected to be equivalent to or less than the established total residual chlorine limitations and therefore, comply with the Federal Effluent Guideline (40 CFR 423.12(b)(6)) limitations (daily maximum of 0.5 mg/L and a monthly average of 0.2 mg/L). Therefore, it is staff's best professional judgement that free available chlorine limitations are not warranted given the total residual chlorine limitation is more stringent.

2) Outfall 003

Heat Rejection:

Because there have been no operational changes at the Possum Point Power Station which could impact the thermal component of the discharge from this outfall, no change to the heat rejection limit is proposed with this reissuance. As such, the previously established heat rejection limit of 1.14×10^9 BTU/hr shall be carried forward with this reissuance. The continuous monitoring frequency shall be carried forward.

Discharge Temperature:

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring of the effluent. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that effluent temperature monitoring continue with this reissuance. The monitoring frequency of once per day (1/W) shall be carried forward.

pH:

pH limitations are set at the water quality criteria. As such, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per month (1/M) shall be carried forward.

Total Residual Chlorine (TRC):

Federal Effluent Guidelines (40 CFR 423.13(b)(1)) state that the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water times the maximum concentration of 0.2 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(b)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L to the discharge is appropriate and will allow comparison to the Virginia WQS for TRC which are established in concentration units.

In accordance with current DEQ guidance (Memo 00-2011), staff used a default data point of 0.2 mg/L and the most limiting allocations to derive the water quality based limits which were compared against the Federal Effluent Guidelines. The resulting water quality based derivation indicated a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L is needed (Attachment 13a). The water quality based limits are more stringent than the Federal Effluent Guidelines and as such, the water quality based limits shall be applied. These limits are consistent with the previous reissuance which also included a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L. As such, the daily maximum TRC limit of 0.032 mg/L and monthly average TRC limit of 0.022 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

Free Available Chlorine:

The previous reissuance of this permit did not include free available chlorine limitations. In accordance with the Federal Effluent Guidelines found in 40 CFR 423.12(b)(6) – Best Practicable Technology, free available chlorine limitations are applicable to discharges that contain once through cooling water. The discharge from Outfall 003 contains once through cooling water.

The sum of free available chlorine and combined available chlorine form total residual chlorine. If established total residual chlorine limits are met, it is assumed free available chlorine will be equivalent to or less than the total residual chlorine. As discussed above, total residual chlorine limitations (daily maximum of 0.032 mg/L and monthly average of 0.022 mg/L) were developed based on the once through cooling water component of the discharge from Outfall 003. Free available chlorine associated with the once through cooling water component would be expected to be equivalent to or less than the established total residual chlorine limitations and therefore, comply with the Federal Effluent Guideline (40 CFR 423.12(b)(6)) limitations (daily maximum of 0.5 mg/L and a monthly average of 0.2 mg/L). As such, it is staff's best professional judgement that free available chlorine limitations are not warranted given the total residual chlorine limitation is more stringent.

Dissolved Copper:

During the previous reissuance of the permit, data analysis indicated the need for a copper limit of 16 µg/L. This limit was derived based on one datum point and it was staff's best professional judgement to implement a copper monitoring program in lieu of a limit. The monitoring program was instituted to compile additional data to assist in a later determination of whether a copper limit was warranted.

A review of copper effluent data from April 2009 – June 2012 (Attachment 13b) and data submitted with the permit application indicates all data were below the QL and as such no effluent limitation is warranted. It is staff's best professional judgement that copper monitoring at Outfall 003 is no longer necessary and the requirement for monitoring shall be removed with this reissuance.

3) Outfall 004

Heat Rejection:

Because there have been no operational changes at the Possum Point Power Station which could impact the thermal component of the discharge from this outfall, no change to the heat rejection limit is proposed with this reissuance. As such, the previously established heat rejection limit of 1.9×10^8 BTU/hr shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall be carried forward.

Discharge Temperature:

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring of the effluent. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that effluent temperature monitoring continue with this reissuance. The monitoring frequency of once per day (1/W) shall be carried forward.

pH:

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall be carried forward.

Total Residual Chlorine (TRC):

The Federal Effluent Guidelines for TRC found in 40 CFR 423.13(b)(1) are only applicable to the quantity of pollutants discharged in once through cooling water from each discharge point. The effluent from Outfall 004 does not have a once through cooling water component. As such, the reference to the Federal Effluent Guidelines in the previous permit as a basis for TRC limits for Outfall 004 is not included with this reissuance.

It is staff's best professional judgement that there is reasonable potential for TRC to be present in the discharge from Outfall 004 and that both daily maximum and monthly average TRC limits be continued with this reissuance. In accordance with current DEQ guidance (Memo 00-2011), staff used a default data point of 0.2 mg/L and the most limiting allocations to derive the water quality based limit. The resulting water quality based derivation indicated a daily maximum limit of 0.038 mg/L and a monthly average limit of 0.026 mg/L is needed (Attachment 13a).

During the drafting of this permit it was discovered that the TRC limits derived for the 2007 reissuance, while technically correct, were incorrectly transferred from the Fact Sheet to the permit. The permit lists a daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L rather than the daily maximum limit of 0.038 mg/L and the monthly average limit of 0.026 mg/L as derived (Attachment 13a). This reissuance corrects the typographical error associated with the TRC limits at Outfall 004, and as such a daily maximum TRC limit of 0.038 mg/L and a monthly average TRC limit of 0.026 mg/L shall be included with this reissuance. These limitations are also consistent with those derived for the 2012 reissuance of the permit. It is staff's best professional judgement that this revised limit will not create any instream excursion of any applicable State narrative or numerical Water Quality Standard. See Section 18 of the Fact Sheet for further discussion on backsliding.

The monitoring frequency of once per week (1/W) shall be carried forward. Monitoring is only required when the facility is chlorinating.

Oil and Grease (O&G):

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) state that that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 20 mg/L and the average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previous established and as such the daily maximum O&G limit of 20 mg/L and the monthly average O&G limit of 15 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward.

Total Suspended Solids (TSS):

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) state that that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 100 mg/L and the average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previous established and as such the daily maximum TSS limit of 100 mg/L and the monthly average TSS limit of 30 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward.

Nutrients (Total Nitrogen, Total Kjeldahl Nitrogen, Nitrate+Nitrite, Ammonia as N, Total Phosphorus):

Due to the use of chemicals containing both ammonia and phosphorus and continued initiatives to reduce nutrients to the Chesapeake Bay, it is staff's best professional judgement that nutrient monitoring at Outfall 004 continue with this reissuance. Given the discharge is industrial in nature and data thus far demonstrates the discharge is not causing instream issues, the monitoring frequency shall be reduced from quarterly to semi-annually (1/6M).

Attachment A:

It is staff's opinion that there is reasonable potential for toxic pollutants to be discharged from Outfall 004. As such, Attachment A monitoring shall be carried forward with this reissuance. Given the compliance history of the facility, the monitoring frequency shall be reduced from an annual basis (1/YR) to once every five years (1/5YR). Monitoring shall be initiated after the start of the third year from the permit's effective date. Using Attachment A as the reporting form, the data shall be submitted with the next application for reissuance, which is due at least 180 days prior to the expiration date of this permit.

4) Outfall 005 (Interim Configuration)

As noted in Section 18 of the Fact Sheet, in order to begin closure of the existing ash ponds, all comingled process water that has been pumped to Ash Pond D, as well as stormwater, must be removed. The discharge from Ash Pond D is to be managed through the use of a treatment system designed to address the monitoring and effluent limitations described in this Fact Sheet. The routing of the treated wastewater from Internal Outfall 503 may be released through any one of the following outfalls for discharge to surface waters: Outfall 001/002, Outfall 004, or Outfall 005. This allows the permittee flexibility to possibly route the discharge through different outfalls while ensuring protection of the receiving waters. See Section 17.d.5 of this fact sheet for additional details.

Additionally, it is recognized that during the interim configuration there may be an operational need to store the treated water within a newly constructed unlined holding basin located within the footprint of former Ash Pond E. This holding basin would then discharge through Outfall 005.

As discussed in Section 17.b of this fact sheet, there are different dilution factors applied at Outfall 005 into the UT, Quantico Creek as compared to the other outfalls discharging directly into the tidal embayment. There is no dilution applied in the derivation of effluent limits for Outfall 005.

pH:

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward. The monitoring frequency of three times per week is established with this permit modification.

Oil and Grease (O&G):

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 20 mg/L and the average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previous established and as such the daily maximum O&G limit of 20 mg/L and the monthly average O&G limit of 15 mg/L shall be carried forward with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

Total Suspended Solids (TSS):

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 100 mg/L and the average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum

concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum TSS limit of 100 mg/L and a monthly average TSS limit of 30 mg/L shall be implemented with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

See Section 18 for the Fact Sheet for the discussion of effluent limit development for constituents associated with coal combustion residuals.

5) Outfall 007

Historically, this outfall was permitted under a NPDES permit issued by the State of Maryland (MD0066427). With the 2007 reissuance, the outfall was incorporated in the facility's VPDES permit carrying forward Maryland's permit requirement for flow monitoring on a quarterly basis. Monitoring for flow shall be carried forward with this reissuance. The quarterly monitoring frequency (1/3M) shall also be carried forward.

6) Outfall 008

Historically, this outfall was permitted under a NPDES permit issued by the State of Maryland (MD0066427). With the 2007 reissuance, the outfall was incorporated in the facility's VPDES permit carrying forward Maryland's permit requirement for flow monitoring on a quarterly basis. Monitoring for flow shall be carried forward with this reissuance. The quarterly monitoring frequency (1/3M) shall also be carried forward.

7) Outfall 009

This outfall has been added with this reissuance. The discharge from this outfall is identical to that of Outfall 007. As such, it's staff's best professional judgement that monitoring for flow on a quarterly basis (1/3M) be implemented with this reissuance. Please see Section 26 of the Fact Sheet for discussion on this new outfall.

8) Outfall 010 (Dominion S107)

Outfall S107 is currently addressed in the facility's permit as a stormwater outfall not associated with industrial activity. In the December 24, 2014, and October 21, 2015, addendums to the modification request, Dominion has requested to change the permit language associated with stormwater Outfall S107 from a stormwater outfall not associated with industrial activity to a stormwater outfall associated with industrial activity.

The applications submitted with the addendums also state that this outfall is designed to collect groundwater infiltration from Ash Pond D's berm for stabilization. Additionally, DEQ staff observed this outfall discharging in November 2014 absent a storm event. It is staff's best professional judgment that the discharge from this outfall also consists of non-stormwater contributions consisting of groundwater and possibly drainage through the dam, and, therefore, be viewed as a non-stormwater outfall. For this reason Outfall S107 shall be referred to as Outfall 010.

Disposal of coal combustion residuals (CCR) at this facility has historically been accomplished in impoundments located on site, including Ash Pond D. These impoundments include surface waters originating from precipitation, storm water runoff into the impoundments, comingled process wastewaters, and waters used to hydraulically dredge ash from one pond to another. Interstitial, or pore waters, also exist within the bottom residual mass of the impoundment. Due to the potential for contact and exposure to the coal ash material, it is staff's best professional judgement that monitoring and effluent limitations be developed for this outfall.

In addition, 40 CFR Part 423 - Steam Electric Power Generating Point Source, identifies combustion residual leachate as leachate from landfills or surface impoundments containing combustion residuals. Combustion residual leachate includes seepage and/or leakage from a combustion residual landfill or impoundment unit. As such, it is staff's best professional judgement that monitoring and limitations for those parameters associated with combustion residual leachate also be applied to the discharge from Outfall 010. A monitoring frequency of once per month (1/M) shall be implemented.

pH:

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, a minimum limit of 6.0 S.U. and a maximum limit of 9.0 S.U. shall be applied. A monitoring frequency of once per month (1/M) shall be implemented.

Oil and Grease (O&G):

Federal Effluent Guidelines (40 CFR 423.12(b)(11) - Best Practicable Technology) state that that the quantity of pollutants discharged in flue gas desulfurization wastewater (FGD), flue gas mercury control wastewater, combustion residual leachate, or gasification wastewater shall not exceed the quantity determined by multiplying the flow of the applicable wastewater times the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(11). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. A monitoring frequency of once per month (1/M) shall be implemented.

Total Suspended Solids (TSS):

Federal Effluent Guidelines (40 CFR 423.12(b)(11) - Best Practicable Technology) state that that the quantity of pollutants discharged in flue gas desulfurization wastewater (FGD), flue gas mercury control wastewater, combustion residual leachate, or gasification wastewater shall not exceed the quantity determined by multiplying the flow of the applicable wastewater times the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(11). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. A monitoring frequency of once per month (1/M) shall be implemented.

See Section 18 for the Fact Sheet for the discussion of effluent limit development for constituents associated with coal combustion residuals as well as the potential to remove the process water discharges from Outfall 010 thereby eliminating the applicability of the Federal Effluent Limit guidelines discussed above.

d) Effluent Limitations and Monitoring, Internal Outfalls 201, 202, 501, 502, and 503

1) Internal Outfall 201

pH:

Federal Effluent Guidelines (40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. The previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward.

Free Available Chlorine:

Federal Effluent Guidelines found in 40 CFR 423.12(b)(7) – Best Practicable Technology and 40 CFR 423.13(d)(1) – Best Available Technology, state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.12(b)(11) and 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation

instead of the mass based limitations specified in paragraphs 423.12(b)(7) and 423.13(d)(1). It is staff's best professional judgement that applying the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum free chlorine limit of 0.5 mg/L and a monthly average free chlorine limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

Total Chromium:

Federal Effluent Guidelines (40 CFR 423.13(d)(1) – Best Available Technology) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(d)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total chromium limit of 0.2 mg/L and a monthly average total chromium limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

Total Zinc:

Federal Effluent Guidelines (40 CFR 423.13(d)(1) – Best Available Technology) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(d)(1). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total zinc limit of 1.0 mg/L and a monthly average total zinc limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

126 Priority Pollutants:

Federal Effluent Guidelines (40 CFR 423.13(d)(1) – Best Available Technology) state that the quantity of pollutants in cooling tower blowdown discharges (Appendix A to Part 423) shall be in non-detectable amounts. As such, the daily maximum and monthly average non-detectable limits shall be carried forward. The monitoring frequency of once per year in which there is a discharge (1/D-Y) shall also be carried forward.

At the permitting authority's discretion (40 CFR 423.13(d)(3)), compliance with the limitations for the 126 priority pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

2) Internal Outfall 202

This outfall falls under the Federal Effluent Guidelines for New Source Performance Standards (40 CFR 423.15) which are applied below.

pH:

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.15(a)) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. The previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward.

Free Available Chlorine:

Federal Effluent Guidelines found in 40 CFR 423.15(j)(1) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.15(m)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraph 423.15(j)(1). It is staff's best professional judgement that applying the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum free chlorine limit of 0.5 mg/L and a monthly average free chlorine limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

Total Chromium:

Federal Effluent Guidelines (40 CFR 423.15(j)(1)) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.15(m)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.15(j)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total chromium limit of 0.2 mg/L and a monthly average total chromium limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

Total Zinc:

Federal Effluent Guidelines (40 CFR 423.15(j)(1)) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.15(m)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.15(j)(1). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total zinc limit of 1.0 mg/L and a monthly average total zinc limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

126 Priority Pollutants:

Federal Effluent Guidelines (40 CFR 423.15(j)(1)) state that the quantity of pollutants in cooling tower blowdown discharges (Appendix A to Part 423) shall be in non-detectable amounts. As such, the daily maximum and monthly average non-detectable limits shall be carried forward. The monitoring frequency of once per year in which there is a discharge (1/D-Y) shall also be carried forward.

At the permitting authority's discretion (40 CFR 423.15(j)(3)), compliance with the limitations for the 126 priority pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

3) Internal Outfall 501

Oil and Grease (O&G):

Federal Effluent Guidelines (40 CFR 423.12(b)(5) - Best Practicable Technology) state that the quantity of pollutants discharged from metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(5). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum O&G limit of 20 mg/L and the monthly average O&G limit of 15 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

Total Suspended Solids (TSS):

Federal Effluent Guidelines (40 CFR 423.12(b)(5) - Best Practicable Technology) state that the quantity of pollutants discharged from metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(5). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum TSS limit of 100 mg/L and the monthly average TSS limit of 30 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

Total Iron:

Federal Effluent Guidelines (40 CFR 423.12(b)(5) – Best Practicable Technology and 40 CFR 423.13(e) – Best Available Technology) state that the quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.12(b)(11) and 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs 423.12(b)(5) and 423.13(e). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum total iron limit of 1.0 mg/L and the monthly average total iron limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

Total Copper:

Federal Effluent Guidelines (40 CFR 423.12(b)(5) – Best Practicable Technology and 40 CFR 423.13(e) – Best Available Technology) state that the quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.12(b)(11) and 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs 423.12(b)(5) and 423.13(e). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0

mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum total copper limit of 1.0 mg/L and the monthly average total copper limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

4) Internal Outfall 502

Oil and Grease (O&G):

The previous reissuance of this permit included Total Petroleum Hydrocarbon (TPH) limitations based upon the assumption the Oily Waste Treatment Basin functions as an oil-water separator. The limits placed in the permit, a maximum of 60 mg/L and a monthly average of 30 mg/L, were consistent with those typically applied to oil-water separator discharges at the time of the 2007 reissuance. In accordance with the Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology), Oil and Grease limitations are applicable to the quantity of pollutants discharged from low volume waste sources. Components of the discharge from Outfall 502 contain auxiliary boiler blowdown and drains, both of which are specifically included in the definition of low volume waste sources. Therefore, it is staff's best professional judgement that oil and grease limitations be implemented with this reissuance and the previously established TPH limitations be removed (see further discussion below in this section pertaining to TPH analysis).

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) also state that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum O&G limit of 20 mg/L and a monthly average O&G limit of 15 mg/L shall be implemented with this reissuance. The monitoring frequency of twice per month (2/M) shall be carried forward.

Total Petroleum Hydrocarbons (TPH):

As discussed within Section 20 of the Fact Sheet, DEQ staff recommended the continued analysis of groundwater associated with the Oily Waste Treatment Basin for TPH. Given the constituent fraction of TPH groups, both Diesel Range Organics and, with this reissuance, Oil Range Organics are to be analyzed. As such, it is staff's best professional judgement that TPH monitoring of the surface water discharge associated with the Oily Waste Treatment Basin continue with this reissuance. A monitoring frequency of twice per month (2/M), without effluent limitation, is proposed for this reissuance.

To provide consistency with groundwater monitoring requirements, monitoring for TPH – Oil Range Organics is also proposed with this reissuance. A monitoring frequency of twice per month (2/M), without effluent limitation, shall be implemented with this reissuance. The permittee shall sample and submit TPH-ORO results at the frequency of twice per month for one year. If all reported results for TPH-ORO do not exceed the QL for TPH (0.50 mg/L), the permittee may submit a written request to DEQ-NRO for a reduction in sampling frequency to one per quarter (1/3M). Please see Section 19.k of the Fact Sheet for additional information.

Total Suspended Solids (TSS):

The previous reissuance of this permit did not include Total Suspended Solids limitations. In accordance with the Federal Effluent Guidelines found in 40 CFR 423.12(b)(3) - Best Practicable Technology, TSS limitations are applicable to the quantity of pollutants discharged from low volume waste sources. Components of the discharge from Outfall 502 contain auxiliary boiler blowdown and drains, both of which are specifically included in the definition of low volume waste sources. Therefore, it is staff's best professional judgement that TSS limitations be implemented with this reissuance.

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) state that that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum TSS limit of 100 mg/L and a monthly average TSS limit of 30 mg/L shall be implemented with this reissuance. A monitoring frequency of twice per month (2/M) shall be implemented.

5) Internal Outfall 503 (Interim)

pH:

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, a minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be established with this permit modification. The monitoring frequency of three times per week is established with this permit modification.

Oil and Grease (O&G):

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 20 mg/L and the average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum O&G limit of 20 mg/L and a monthly average O&G limit of 15 mg/L shall be implemented with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

Total Suspended Solids (TSS):

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 100 mg/L and the average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum TSS limit of 100 mg/L and a monthly average TSS limit of 30 mg/L shall be implemented with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

See Section 18 for the Fact Sheet for the discussion of effluent limit development for constituents associated with coal combustion residuals.

e) Effluent Limitations, 004, 005, 010, 201, 202, 501, 502, and 503– Federal Effluent Guidelines.

The quantity of pollutants discharged from the outfalls listed above, are also limited by Federal Effluent Guidelines established in 40 CFR – Part 423. Effluent guidelines are technology-based regulations that have been developed by the Environmental Protection Agency (EPA) for a specific category of discharger. These regulations are based on the performance of control and treatment technologies. The effluent limitations for this category of discharger, Steam Electric Power Generating Point Source, have been established using Best Available Technology (BAT), Best Practicable Control Technology (BPT), and New Source Performance Standards (NSPS) guidelines for this type of industry.

When applicable, both water quality based limits and Federal Effluent Guideline requirements were compared for these outfalls. The most stringent limitation was used as the basis for the final limit.

f) Limitations and Monitoring Summary – Effluent and Groundwater

Effluent limitations and monitoring requirements for the facility's outfalls are presented in Section 21a. – Section 20.o of the Fact Sheet. When applicable, both water quality based limits and Federal Effluent Guideline requirements were compared for these outfalls. The most stringent limitation was used as the basis for the final limit.

Groundwater monitoring requirements for the facility's observation wells are presented in Section 20.p – Section 20.r of the Fact Sheet. Any existing groundwater monitoring, corrective action and/or risk assessment plans currently in effect under the facility's permit shall remain in effect until such time as they are superseded by a solid waste permit in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.) See Section 23 of the Fact Sheet for further discussion.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

Effluent limitations are expressed in the form of two significant figures in accordance with DEQ Guidance Memo 06-2016.

18. Effluent Limits and Monitoring Requirements for Parameters Associated with Coal Combustion Residuals: Outfall 005, Outfall 010 and Internal Outfall 503 (Interim and Final):Outfall 005 (Interim) and Internal Outfall 503 (Interim)

In order to begin closure of the existing Ash Pond D, all comingled process water that has been pumped to Ash Pond D, as well as stormwater, must be removed. The modification application submitted by Dominion on August 20, 2015, noted that flexibility in the management of process water generated throughout the closure process would be necessary. As a result, the modification application provided a number of options for the handling and discharge of all comingled process water, as well as stormwater. Comingled process water includes ash dewatering water and stormwater in contact with ash, i.e., contact water, from the closure of Ash Ponds A, B, C, D, and E, as well as Internal Outfall 501.

Staff has designated Internal Outfall 503 as the discharge from the treatment system for the dewatering necessary for closure of the coal ash ponds. The period of time associated with the dewatering activities discussed below is considered the interim configuration. The treatment system was discussed in the Conceptual Engineering Report (CER) that was submitted as supporting documentation with the August 20, 2015, permit modification request. Treatment options were outlined by the permittee in the CER as well as the December 2, 2015, memorandum in response to a DEQ request for additional information. Treatment options identified in the CER include settling, filtration and chemical treatment, ion exchange/absorption and/or packed bed biofilters. However, until final effluent limits are established, the permittee is not able to select a final treatment system designed to meet all applicable permit requirements. The permittee will be required to submit a final CER describing the final selection of treatment technology to be employed to meet effluent limits.

There are two phases associated with the dewatering activities supporting closure of the coal ash ponds. The first phase is the initial draw-down of the impounded water currently held in Ash Pond D. This initial dewatering of approximately 150 million gallons is expected to occur over 45-60 days. A maximum daily flow limit of the treatment system is established

at 2.88 millions of gallons per day (MGD), with an average daily flow identified as 2.53 MGD. The second phase of dewatering will occur over the duration of the closure activities expected to be completed in spring 2018. The second phase will provide for treatment and discharge of dewatering water as well as water generated from precipitation events. This is expected to occur at lower flow rates than the initial dewatering activities.

Additionally, the permittee has noted that a cleaned area of Pond E may be used to provide storage and treatment prior to discharge to Outfall 503 during the interim configuration.

Lastly, it should also be noted that an alternate interim configuration for Internal Outfall 503 is also being considered by Dominion. This alternate configuration includes pretreatment, where required, and discharge to the Prince William County Service Authority's (PWCSA) H.L. Mooney Advanced Water Reclamation Facility (VA0025101). This alternate final configuration would be addressed by the PWCSA through the pretreatment program associated with the H.L. Mooney Advanced Water Reclamation Facility.

The conceptual approach to establishing effluent limits and monitoring requirements from the discharge from Internal Outfall 503 allows the permittee to route the treated wastewater to one of the following outfalls for discharge to surface waters: Outfall 001/002, Outfall 004, or Outfall 005. This allows the permittee flexibility to possibly route the discharge through different outfalls while ensuring protection of the receiving waters (see Attachment 2 for diagrams depicting the interim configuration). The basis for the effluent limits, including the dilution ratio's applied to each outfall, are discussed earlier in this fact sheet. In summary, the effluent limits established for the discharge to Outfall 001/002 or Outfall 004 apply a 2:1 dilution ratio as these outfalls discharge to the tidal Quantico Creek embayment. The effluent limits established for the discharge to Outfall 005 into the UT, Quantico Creek do not allow for any dilution. Meeting effluent limits at Internal Outfall 503 will protect and maintain water quality at any of the outfalls identified as discharge options, while providing Dominion with the flexibility needed to pursue closure of the ash ponds. Documentation for derivation of effluent limits is provided in Attachments 10a and 14.

Effluent limits, including a Whole Effluent Toxicity (WET) limits, are included in the proposed permit for all constituents associated with coal combustion residuals for which water quality criteria exist. Monitoring has also been proposed for the suite of parameters associated with coal combustion residuals for which there are no water quality criteria, and accordingly, no proposed effluent limits. While the WET 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. Monitoring for parameters with proposed effluent limits is to be conducted at a frequency of three times per week (3/W). Monitoring for other parameters, including the WET testing, is once per month. Composite sampling for the additional pollutants is to be conducted during the composite period for the WET testing.

Internal Outfall 503 (Final Configuration)

During the closing and capping of Ash Pond D, a subsurface dewatering system (i.e., underdrains) will be installed to remove excess water below the impermeable liner of Ash Pond D. The underdrains will be managed through the use of a treatment system designed to address the established monitoring and effluent limitations as discussed above. In addition to the underdrain, the application submitted by Dominion indicates Internal Outfall 501 will also be routed through the treatment system in the final configuration. For permitting purposes, the Internal Outfall 503 (final) designation will be applied to this treatment system. The treatment system will discharge via existing Outfall 005 to an unnamed tributary to Quantico Creek. See Attachment 2 for schematic diagrams of the final configuration. Meeting effluent limits at Internal Outfall 503 (final) will protect and maintain the water quality at Outfall 005. Because closure is not expected to be concluded prior to the reissuance of this permit in April 2018, final effluent limits for Outfall 005 will be established at that time reflecting the final configuration of site activities. Limits will be based on monitoring data and the reasonable potential analysis of the wastewater that will exist upon final configuration.

It should also be noted that an alternate final configuration for the Ash Pond D underdrain system is also being considered by Dominion. This alternate configuration includes pretreatment, where required, and discharge to the Prince William County Service Authority's (PWCSA) H.L. Mooney Advanced Water Reclamation Facility (VA0025101). This alternate final configuration would be addressed by the PWCSA through the pretreatment program associated with the H.L. Mooney Advanced Water Reclamation Facility.

Outfall 010

As noted above, no dilution is applied to the development of effluent limits for Outfall 010. The UT, Quantico Creek is a marsh area; the receiving stream may be tidally influenced under certain conditions, and is likely inundated during storm events. However, there shall be no dilution applied to the Outfall 010 in consideration of critical flow conditions. Documentation for derivation of effluent limits is provided in Attachments 10a and 14.

Effluent limits, including a Whole Effluent Toxicity (WET) limit, are included in the proposed permit for all constituents associated with coal combustion residuals for which water quality criteria exist. The effluent limits become effective 30 days after the major modification date. All monitoring requirements are effective upon the major modification date. Monitoring has also been proposed for the suite of parameters associated with coal combustion residuals for which there are no water quality criteria, and accordingly, no proposed effluent limits. While the WET 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. Monitoring for all parameters, including WET testing, is included at a frequency of once per month.

The selection of parameters for which effluent limits and/or monitoring requirements have been established is discussed below.

Discharges Associated With Coal Combustion Residual (CCR) Impoundment Closure: Effluent Screening and Limitation Development

Effective October 2015, the U.S. Environmental Protection Agency (EPA) adopted a final Rule that will regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act. Coal combustion residuals (otherwise known as coal ash) may include fly ash, bottom ash, boiler slag, and other low volume waste materials and are generated from burning coal for the purposes of generating electrical power. Disposal of the CCRs at this facility has historically been accomplished in impoundments located on site. These impoundments include surface waters originating from precipitation, storm water runoff into the impoundments, comingled process wastewaters, and waters used to hydraulically dredge ash from one pond to another. Interstitial, or pore, waters, also exist within the bottom residual mass of the impoundment. Due to its direct contact and exposure to the coal ash materials, the pollutant concentrations of the coal ash interstitial waters may pose a reasonable potential to exceed established water quality criteria. In response to EPA's 2015 CCR Rule, the owner plans to remove and discharge the accumulated waters to dry the ash and residuals that have settled to the bottom of the impoundment. This process is expected to involve the disturbance, movement, or re-suspension of the bottom residuals. Drying the ash and bottom residuals will facilitate their subsequent removal or construction of a closure cap of the impoundment system.

To identify and evaluate constituents of potential concern (COPC) associated with the removal of waters from the coal ash ponds, DEQ relied upon work previously performed by the EPA and documented in the following: 1) 40CFR Part 423 federal effluent limitation guidelines (ELGs) for the "Steam Electric Power Generating Point Source Category;" 2) a June 7, 2010 EPA memorandum titled, "National Pollutant Discharge Elimination System (NPDES) Permitting of Wastewater Discharges from Flue Gas Desulfurization (FGD) and Coal Combustion Residual (CCR) Impoundments at Steam Electric Power Plants;" and 3) a 2015 final Rule (commonly referred to as the "CCR Rule") that amended 40 CFR §§257.50 – 257.107, "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments." In its June 2010 memo¹, EPA identified 37 chemical parameters that had the potential to exist in relatively high concentrations in CCR effluent. Several years later, in the preamble to the 2015 CCR Rule, EPA identified 35 "Table 1"² chemical parameters that represented a hazard potential because they were characteristic of releases from coal combustion impoundments and may pose a toxicity risk potential. EPA performed further probabilistic analyses of the potential risks to human health and ecological receptors from the 35 Table 1 constituents and narrowed the list down to 23 "Table 2"³

¹ United States Environmental Protection Agency, June 7, 2010 Memorandum from James A. Hanlon, Director, Office of Wastewater Management to Water Division Directors Regions 1 – 10; "National Pollutant Discharge Elimination System (NPDES) Permitting of Wastewater Discharges from Flue Gas Desulfurization (FGD) and Coal Combustion Residual (CCR) Impoundments at Steam Electric Power Plants," Attachment B, Water Quality-Based Effluent Limits, Coal Combustion Waste Impoundments; Appendix A, Steam Electric 2007/2008 Detailed Study Report, Ash Pond Effluent Concentrations.

² Federal Register, Vol. 80, No. 74, Friday, April 17, 2015, "Table 1 – List of Chemical Constituents Evaluated in the CCR Risk Assessment," page 21449.

³ Federal Register, Vol. 80, No. 74, Friday, April 17, 2015, "Table 2 – List of Chemical Constituents Retained for Probabilistic Analysis," page 21450.

parameters (List of Chemical Constituents Retained for Probabilistic Analysis). These parameters include Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chloride, Chromium, Cobalt, Copper, Fluoride, Iron, Lead, Lithium, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium and Zinc.

Although the parameters listed in the CCR Rule Table 2 represent potential risks from CCR leachate releases, a conservative assumption was made that the probabilistic risks associated with leachate releases would be comparable to concerns associated with the release of CCR pore water. These 23 Table 2 constituents and all other constituents were classified in one of 4 categories for consideration.

- **Category 1 - Table 2 constituents for which water quality criteria have been adopted in the Virginia Water Quality Standards regulation (9VAC25-260):** Water quality based effluent limitations were developed for these parameters regardless of whether or not the existing data for the facility demonstrated a reasonable potential to exceed the water quality criteria (Attachment 14). Effluent limitations were developed in this fashion for Antimony, Arsenic, Cadmium, Chloride, Chromium (III and VI), Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc. There are no water quality criteria that are applicable to the aquatic life designation for Antimony or Thallium. For these parameters, the effluent limitation is equal to the most limiting allocation for human health.
- **Category 2 – Table 2 constituents for which water quality criteria have not be adopted in the Virginia Water Quality Standards regulation (9VAC25-260):** A Whole Effluent Toxicity limitation was established in the absence of an applicable Virginia numeric water quality criterion. This approach is consistent with EPA’s Technical Support Document for Water Quality-based Toxics Control and the June 7, 2010 EPA memorandum. Parameters included in this category include Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium. Attachment 15 details the derivation of the calculated WET limitations that will be included with this permit action. In addition, once per month (1/M) monitoring of these parameters is to be done concurrently during the composite period with WET test monitoring. Data will then be available for analysis in the event that WET monitoring indicates toxicity.
- **Category 3 – Constituents not listed in Table 2 for which water quality criteria have been adopted in the Virginia Water Quality Standards regulation (9VAC25-260):** A reasonable potential analysis was performed to determine the need for water-quality based effluent limitations on a case-by-case basis. The reasonable potential analysis included in Attachment 14 resulted in no additional effluent limitations.
- **Category 4 – Federal Effluent Guidelines:** Technology-based effluent limits were assigned to applicable constituents addressed by the Federal Effluent Guidelines and not otherwise controlled by a more restrictive water quality-based effluent limitation. Constituents limited under this category include pH, Total Suspended Solids and Oil & Grease. These limitations are discussed in Section 17.c of this Fact Sheet.

Total Hardness:

The Water Quality Criteria for some metals are dependent on the effluent hardness (expressed as mg/L calcium carbonate). Because staff has proposed effluent limits and monitoring for metals, it is staff’s best professional judgment that hardness monitoring also be implemented with this modification.

The permittee has requested the option to remove the groundwater contributions to Outfall 010. As discussed, the groundwater contributions include both the infiltration through the earthen berm as well as groundwater diverted around the impoundment. 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. See Part 1.F.23 of the permit.

19. Ash Pond A, B, C Complex:

On April 9, 2014, Dominion notified the Northern Regional Office of a discharge from an ash pond complex (Ash Ponds A, B, and C) located on a parcel of land between Possum Point Road and Quantico Creek. The Ash Pond A, B, and C complex was actively utilized from 1955 through the early 1960s. The drainage area containing the inactive ash pond

complex had been accounted for within the facility's VPDES permit in the 1990s as a stormwater outfall not associated with industrial activity (S104). However, after 1999 the outfall was no longer included in Dominion's reapplication packages due to its designation of not being associated with industrial activity.

DEQ staff observed the Ash Pond A, B, C complex on April 11, 2014 (Attachment 16). At the time, a discharge weir and discharge pipe remained in place at Ash Pond C which had a direct discharge to Quantico Creek. The modification request received on June 30, 2014, requested coverage for the discharge from the aforementioned weir. However, since the submission of that modification request Dominion has decided to clean-close the Ash Pond A, B, C complex. As part of the closure process, the discharge weir was sealed. A discharge has not occurred from this structure since May 2015. This permitting action does not authorize discharge from this weir structure. This permit allows discharge of Ash Pond A, B, and C waters to Internal Outfall 503.

Any ambient monitoring and/or groundwater monitoring required as a condition of closure will be regulated under the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.) and a solid waste permit for closure and post-closure issued pursuant to those regulations.

20. **Antibacksliding:**

1) Outfall 004

The Total Residual Chlorine (TRC) limits derived for the 2007 reissuance, while technically correct, were incorrectly transferred from the Fact Sheet to the permit. The permit lists a maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L rather than the maximum limit of 0.038 mg/L and the monthly average limit of 0.026 mg/L as derived (Attachment 15a). This reissuance corrects the typographical error associated with the TRC limits at Outfall 004, and as such a daily maximum TRC limit of 0.038 mg/L and a monthly average TRC limit of 0.026 mg/L shall be included with this reissuance.

It is staff's opinion that this change is appropriate given the limits that were derived for this reissuance are consistent with those previously derived (2007), and that they are based on the Water Quality Standard for TRC. Staff believes there is no reasonable potential for this revised limit to create any instream excursion of any applicable State narrative or numerical Water Quality Standard.

2) Outfall 502

The Total Petroleum Hydrocarbon (TPH) limits placed in the previous permit, a maximum of 60 mg/L and a monthly average of 30 mg/L, were consistent with those typically applied to oil-water separator discharges at the time of the 2007 reissuance. Components of the discharge from Outfall 502 contain auxiliary boiler blowdown and drains, both of which are specifically included in the definition of low volume waste sources. It is staff's best professional judgement that with this reissuance the previously established TPH limitations be removed and oil and grease limitations be implemented to provide consistency with Federal Effluent Guidelines CFR 423.12(b)(3). A daily maximum of 20 mg/L and a monthly average of 15 mg/L are proposed. It is staff's opinion that this change is appropriate given there is no state Water Quality Standard for TPH and as such, the Federal Effluent Guideline is the most stringent limitation. Staff believes there is no reasonable potential for this revised limit to create any instream excursion of any applicable State narrative or numerical Water Quality Standard.

21a. Effluent Limitations/Monitoring Requirements: Outfall 001/002 (Unit 3 Condenser Cooling Water, Unit 5 Cooling Tower Blowdown, Unit 6 Cooling Tower Blowdown, Internal Outfall 503 (Interim), and Stormwater.

Average flow is 86.38 MGD (does not include flows that may be contributed by Internal Outfall 503).

Effective Dates: During the period beginning with the permit's major modification date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	1,2	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Heat Rejection (Unit 3)	1,2	NA	NA	NA	5.58 x 10 ⁸ BTU/hr	Continuous	Calculated
Total Residual Chlorine (TRC)*	1,2	0.022 mg/L	0.032 mg/L	NA	NA	2/M	Grab
Total Nitrogen, Intake*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Nitrogen*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus, Intake*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Phosphorus*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Temperature, Intake	1,2	NL (°C)	NA	NA	NL (°C)	1/D	IS
Temperature	1,2	NL (°C)	NA	NA	NL (°C)	1/D	IS
Dissolved Copper, Intake*	1	NL (µg/L)	NA	NA	NA	1/6M	Grab
Dissolved Copper*	1	NL (µg/L)	NA	NA	NA	1/6M	Grab
Total Hardness, Intake (as CaCO ₃)*	1	NL (mg/L)	NA	NA	NA	1/6M	Grab
Total Hardness (as CaCO ₃)*	1	NL (mg/L)	NA	NA	NA	1/6M	Grab
Chronic Toxicity – <i>C. dubia</i> (TU _c)	1	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU _c)	1	NA	NA	NA	NL	1/YR	Grab

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards

MGD = Million gallons per day.
 NA = Not applicable.
 NL = No limit; monitor and report.
 S.U. = Standard units.
 IS = Immersion stabilization.

1/D = Once every day.
 1/M = Once every month.
 2/M = Twice every month.
 1/3M = Once every three months.
 1/6M = Once every six months.
 1/YR = Once every year.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/6M = The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (July 10 and January 10, respectively).

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

21a. Effluent Limitations/Monitoring Requirements: Outfall 001/002 (Unit 3 Condenser Cooling Water, Unit 5 Cooling Tower Blowdown, Unit 6 Cooling Tower Blowdown, Internal Outfall 503 (Interim), and Stormwater – Continued

Chlorine Requirements:

- * Monitoring for Total Residual Chlorine is only required when the facility is chlorinating.

Total Nitrogen and Total Phosphorus Requirements:

- * Intake and discharge sampling for the parameter (Total Phosphorus or Total Nitrogen) shall be conducted on the same date. To the maximum extent practicable, discharge samples shall be collected in such a manner to account for pass through time of the system to allow for evaluation of nutrient additions from station operations.

Dissolved Copper and Total Hardness Requirements:

- * Dissolved copper and hardness samples shall be collected concurrently. Intake and discharge samples collected to comply with Dissolved Copper and Hardness requirements shall be collected on the same date. To the maximum extent practicable, discharge samples shall be collected in such a manner to account for pass through time of the system to allow for evaluation of dissolved copper additions from station operations.

21b. Effluent Limitations/Monitoring Requirements: Outfall 003 (Unit 4 Condenser Cooling Water)

Average flow is 82.55 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	2	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Heat Rejection (Unit 4)	1,2	NA	NA	NA	1.14 x 10 ⁹ BTU/hr	Continuous	Calculated
Total Residual Chlorine (TRC)*	1,2	0.022 mg/L	0.032 mg/L	NA	NA	2/M	Grab
Temperature	1,2	NL (°C)	NA	NA	NL (°C)	1/W	IS
Chronic Toxicity – <i>C. dubia</i> (TU _c)	1	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU _c)	1	NA	NA	NA	NL	1/YR	Grab

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards

MGD = Million gallons per day.
 NA = Not applicable.
 NL = No limit; monitor and report.
 S.U. = Standard units.
 IS = Immersion stabilization.

1/W = Once every week.
 1/M = Once every month.
 2/M = Twice every month.
 1/YR = Once every year.

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Chlorine Requirements:

* Monitoring for Total Residual Chlorine is only required when the facility is chlorinating.

21c. Effluent Limitations/Monitoring Requirements: Outfall 004 (Low Volume Waste Settling Pond, Internal Outfall 502, and Internal Outfall 503 (Interim))

Average flow is 2.59 MGD (does not include flows that may be contributed by Internal Outfall 503).

Effective Dates: During the period beginning with the permit's major modification date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	2/M	Estimate
pH	1a,3	NA	NA	6.0 S.U.	9.0 S.U.	2/M	Grab
Heat Rejection (Unit 6)	2,3	NA	NA	NA	1.9 x 10 ⁸ BTU/hr	2/M	Calculated
Total Residual Chlorine (TRC)*	2,3	0.026 mg/L	NA	NA	0.038 mg/L	1/W	Grab
Temperature	2,3	NL (°C)	NA	NA	NL (°C)	1/W	IS
Oil & Grease (O&G)	1b,1c	15 mg/L	NA	NA	20 mg/L	2/M	Grab
Total Suspended Solids (TSS)	1b,1c	30 mg/L	NA	NA	100 mg/L	2/M	Grab
Total Nitrogen	2	NL (mg/L)	NA	NA	NA	1/6M	Calculated
Total Kjeldahl Nitrogen (TKN)	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Nitrate+Nitrite (NO ₃ + NO ₂), as N	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Ammonia, as N	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Total Phosphorus	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Chronic Toxicity – <i>C. dubia</i> (TU _c)	2	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU _c)	2	NA	NA	NA	NL	1/YR	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
 - a) 40 CFR 423.12(b)(1)
 - b) 40 CFR 423.12(b)(3)
 - c) 40 CFR 423.12(b)(11)

MGD = Million gallons per day.
NA = Not applicable.

1/W = Once every week.
2/M = Twice every month.

2. Best Professional Judgement
3. Water Quality Standards

NL = No limit; monitor and report.
S.U. = Standard units.
IS = Immersion stabilization.

1/6M = Once every six months.
1/YR = Once every year.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

1/6M = The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (July 10 and January 10, respectively).

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Chlorine Requirements:

* Monitoring for Total Residual Chlorine is only required when the facility is chlorinating.

21d. Effluent Limitations/Monitoring Requirements: Outfall 005 (Interim Configuration – Internal Outfall 503 and Discharge from Holding Basin)

Average flow is 2.53 MGD; Maximum flow is 2.88 MGD

Effective Dates: During the period beginning with the commencement of facility dewatering activities and lasting until the expiration date. Internal Outfall 503 is authorized to discharge through Outfall 005. 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. The effluent and monitoring requirements below apply to Outfall 005 discharges from the holding basin. Such discharges shall be limited and monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NA	NA	NA	2.88	3/W	Estimate
pH	1,3a	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS)	1,3a,3b,3c	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	1,3a,3b,3c	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	640 µg/L	640 µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable	1,2	120 µg/L	220 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	0.88 µg/L	1.6 µg/L	NA	NA	3/W	4H-C
Chloride	1,2	180,000 µg/L	340,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable	1,2	59 µg/L	110 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable	1,2	8.7 µg/L	16 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	7.1 µg/L	13 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	11 µg/L	20 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable	1,2	0.61 µg/L	1.1 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	16 µg/L	29 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable	1,2	4.0 µg/L	7.3 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable	1,2	1.8 µg/L	3.4 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable	1	0.47 µg/L	0.47 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	65 µg/L	120 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO ₃)	1	NL (mg/L)	NL (mg/L)	NA	NA	3/W	4H-C
Total Nitrogen	1	NL (mg/L)	NA	NA	NA	1/M	Calculation
Total Kjeldahl Nitrogen (TKN)	1	NL (mg/L)	NA	NA	NA	1/M	4H-C
Nitrate+Nitrite (NO ₂ +NO ₃), as N	1	NL (mg/L)	NA	NA	NA	1/M	4H-C
Ammonia, as N	1	NL (mg/L)	NA	NA	NA	1/M	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c)	1	NA	NA	NA	1.44 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c)	1	NA	NA	NA	1.44 TU _c	1/M	24H-C

21d. Effluent Limitations/Monitoring Requirements: Outfall 005 (Interim Configuration – Internal Outfall 503 and Discharge from Holding Basin) – Continued

- The basis for the limitations codes are:
- | | | |
|----------------------------------|------------------------------------|----------------------------|
| | MGD = Million gallons per day. | 3/W = Three days per week. |
| 1. Best Professional Judgement | NL = No limit; monitor and report. | 1/M = Once every month. |
| 2. Water Quality Standards | NA = Not applicable. | |
| 3. Federal Effluent Requirements | S.U. = Standard units. | |
| a) 40 CFR 423.12(b)(1) | | |
| b) 40 CFR 423.12(b)(3) | | |
| c) 40 CFR 423.12(b)(12) | | |

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and $\text{NO}_2 + \text{NO}_3$ and shall be calculated from the results of those tests.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(12) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Special Monitoring Requirements:

- a) Sampling for the parameters identified with a monitoring frequency of “3/W” for Outfall 005 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report.
- b) The composite period for all metals identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring.
- c) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

21e. Effluent Limitations/Monitoring Requirements: Outfall 007 (Intake Screen Backwash Water – Units 3, 4, 5 and 6)

Average flow is 0.19 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Measured

- The basis for the limitations codes are:
- 1. Federal Effluent Requirements
 - 2. Best Professional Judgement
 - 3. Water Quality Standards
- MGD = Million gallons per day.
 NA = Not applicable.
 NL = No limit; monitor and report.
 1/3M = Once every three months.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

- Measured = In lieu of providing measured flow at Outfall 007, the permittee may estimate flow and submit the following information with the DMR:
1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
 2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
 3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

21f. Effluent Limitations/Monitoring Requirements: Outfall 008 (Intake Screenwell Freeze Protection Water)

Average flow is 0.00 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Measured

- The basis for the limitations codes are:
- 1. Federal Effluent Requirements
 - 2. Best Professional Judgement
 - 3. Water Quality Standards
- MGD = Million gallons per day.
 NA = Not applicable.
 NL = No limit; monitor and report.
 1/3M = Once every three months.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

- Measured = In lieu of providing measured flow at Outfall 008, the permittee may estimate flow and submit the following information with the DMR:
1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
 2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
 3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

21g. Effluent Limitations/Monitoring Requirements: Outfall 009 (Intake Screen Backwash Water – Units 3 and 4)

Average flow is 0.19 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Measured

- The basis for the limitations codes are:
- 1. Federal Effluent Requirements
 - 2. Best Professional Judgement
 - 3. Water Quality Standards
- MGD = Million gallons per day.
 NA = Not applicable.
 NL = No limit; monitor and report.
 1/3M = Once every three months.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Measured = In lieu of providing measured flow at Outfall 009, the permittee may estimate flow and submit the following information with the DMR:

1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

21h. Effluent Limitations/Monitoring Requirements: Outfall 010 (Ash Pond D Toe Drain, Groundwater and Stormwater)

Effective Dates: During the period beginning with the permit’s major modification date and lasting until the expiration date. The effluent limitations specified below become effective thirty (30) days after the major modification date of the permit. The monitoring requirements shall commence upon the major modification date of the permit.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	1,2,3a	NA	NA	6.0 (S.U.)	9.0 (S.U.)	1/M	Grab
Total Suspended Solids (TSS)	1,3b,3c	30 mg/L	100 mg/L	NA	NA	1/M	4H-C
Oil and Grease (O&G)	1,3b,3c	15 mg/L	20 mg/L	NA	NA	1/M	4H-C
Specific Conductivity	1	NA	NA	NA	NL (µhoms/cm)	1/M	4H-C
Aluminum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	640 µg/L	640 µg/L	NA	NA	1/M	4H-C
Arsenic, Total Recoverable	1,2	220 µg/L	220 µg/L	NA	NA	1/M	4H-C
Barium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	1.1 µg/L	1.1 µg/L	NA	NA	1/M	4H-C
Chloride	1,2	340,000 µg/L	340,000 µg/L	NA	NA	1/M	4H-C
Chromium III, Total Recoverable	1,2	73 µg/L	73 µg/L	NA	NA	1/M	4H-C
Chromium VI, Total Recoverable	1,2	16 µg/L	16 µg/L	NA	NA	1/M	4H-C
Cobalt, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	8.4 µg/L	8.4 µg/L	NA	NA	1/M	4H-C
Iron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	11 µg/L	11 µg/L	NA	NA	1/M	4H-C
Mercury, Total Recoverable	1,2	1.1 µg/L	1.1 µg/L	NA	NA	1/M	4H-C
Molybdenum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	19 µg/L	19 µg/L	NA	NA	1/M	4H-C
Selenium, Total Recoverable	1,2	7.3 µg/L	7.3 µg/L	NA	NA	1/M	4H-C
Silver, Total Recoverable	1,2	1.5 µg/L	1.5 µg/L	NA	NA	1/M	4H-C
Thallium, Total Recoverable	1	0.47 µg/L	0.47 µg/L	NA	NA	1/M	4H-C
Vanadium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	77 µg/L	77 µg/L	NA	NA	1/M	4H-C
Hardness, Total (as CaCO ₃)	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c)	1	NA	NA	NA	1.44 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c)	1	NA	NA	NA	1.44 TU _c	1/M	24H-C

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards
3. Federal Effluent Guidelines
 - a) 40 CFR 423.12(b)(1)
 - b) 40 CFR 423.12(b)(11)
 - c) 40 CFR 423.12(b)(12)

MGD = Million gallons per day.

NL = No limit; monitor and report.

NA = Not applicable.

S.U. = Standard units.

1/M = Once every month.

21h. Effluent Limitations/Monitoring Requirements: Outfall 010 (Ash Pond D Toe Drain) - Continued

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR Part 423.12(b)(11) – BPT quantity of pollutants discharged in combustion residual leachate establishing daily maximum and monthly average limitations for Total Suspended Solids and Oil and Grease.
- c) 40 CFR Part 423.12(b)(12) - BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Metals and Whole Effluent Toxicity Testing Requirements:

The composite period for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium shall occur within the composite period for the Whole Effluent Toxicity monitoring.

Metals and Total Hardness Requirements:

The metals and total hardness samples shall be collected concurrently.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

21i. Effluent Limitations/Monitoring Requirements: Outfall 201 (Unit 5 Cooling Tower Blowdown)

Average flow is 1.48 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D-M	Estimate
pH	1a	NA	NA	6.0 S.U.	9.0 S.U.	1/D-W	Grab
Free Available Chlorine*	1b,1c,1d,1f	0.2 mg/L	0.5 mg/L	NA	NA	1/D-W	Grab
Total Nitrogen*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Chromium	1d,1f	0.2 mg/L	0.2 mg/L	NA	NA	1/D-M	Grab
Total Zinc	1d,1f	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab
126 Priority Pollutants (Appendix A of 40 CFR 423)	1d,1e	Non-detectable	NA	NA	Non-detectable	1/D-Y	Grab

The basis for the limitations codes are: MGD = Million gallons per day.

1. Federal Effluent Requirements
 - a) 40 CFR 423.12(b)(1)
 - b) 40 CFR 423.12(b)(7)
 - c) 40 CFR 423.12(b)(11)
 - d) 40 CFR 423.13(d)(1)
 - e) 40 CFR 423.13(d)(3)
 - f) 40 CFR 423.13(g)

NA = Not applicable.

NL = No limit; monitor and report.
S.U. = Standard units.

1/D-W = Once per week in which there is a discharge.

1/D-M = Once per month in which there is a discharge.

1/3M = Once every three months.

1/D-Y = Once per year in which there is a discharge.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/D-Y = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(7) – BPT cooling tower blowdown establishing daily maximum and monthly average limitations for Free Available Chlorine.
- c) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.
- d) 40 CFR 423.13(d)(1) – BAT cooling tower blowdown establishing daily maximum and monthly average limitations for Total Chromium, Total Zinc, and the 126 Priority Pollutants.
- e) 40 CFR 423.13(d)(3) – BAT cooling tower blowdown establishing that compliance with limitations for the 126 Priority Pollutants may be determined by engineering calculations.
- f) 40 CFR 423.13(g) – BAT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Chlorine Requirements:

- * Monitoring for Free Available Chlorine is only required when the facility is chlorinating.

Total Nitrogen and Total Phosphorus Requirements:

- * Sampling of the parameter (either Total Nitrogen or Total Phosphorus) shall be conducted on the same date as sampling for the parameter at the intake and Outfall 001/002 locations.

21j. Effluent Limitations/Monitoring Requirements: Outfall 202 (Unit 6 Cooling Tower Blowdown)

Average flow is 0.91 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D-M	Estimate
pH	1a	NA	NA	6.0 S.U.	9.0 S.U.	1/D-W	Grab
Free Available Chlorine*	1b,1d	0.2 mg/L	0.5 mg/L	NA	NA	1/D-W	Grab
Total Nitrogen*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Chromium	1b,1d	0.2 mg/L	0.2 mg/L	NA	NA	1/D-M	Grab
Total Zinc	1b,1d	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab
126 Priority Pollutants (Appendix A of 40 CFR 423)	1b,1c	Non-detectable	NA	NA	Non-detectable	1/D-Y	Grab

The basis for the limitations codes are: MGD = Million gallons per day.

1/D-W = Once per week in which there is a discharge.

1. Federal Effluent Requirements
 - a) 40 CFR 423.15(a)
 - b) 40 CFR 423.15(j)(1)
 - c) 40 CFR 423.15 (j)(3)
 - d) 40 CFR 423.13(m)

NA = Not applicable.

1/D-M = Once per month in which there is a discharge.

NL = No limit; monitor and report.

1/3M = Once every three months.

S.U. = Standard units.

1/D-Y = Once per year in which there is a discharge.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/D-Y = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.15(a)(1) – NSPS the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.15(j)(1) – NSPS cooling tower blowdown establishing daily maximum and monthly average limitations for Free Available Chlorine, Total Chromium, Total Zinc, and the 126 Priority Pollutants.
- c) 40 CFR 423.15(j)(3) – NSPS cooling tower blowdown establishing that compliance with limitations for the 126 Priority Pollutants may be determined by engineering calculations.
- g) 40 CFR 423.15(m) – NSPS quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Chlorine Requirements:

- * Monitoring for Free Available Chlorine is only required when the facility is chlorinating.

Total Nitrogen and Total Phosphorus Requirements:

- * Sampling of the parameter (either Total Nitrogen or Total Phosphorus) shall be conducted on the same date as sampling for the parameter at the intake and Outfall 001/002 locations.

21k. Effluent Limitations/Monitoring Requirements: Outfall 501 (Metals Cleaning Waste Treatment Basin)

Average flow is 1.04 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D-M	Estimate
Oil and Grease (O&G)	1a,1b	15 mg/L	20 mg/L	NA	NA	1/D-M	Grab
Total Suspended Solids (TSS)	1a,1b	30 mg/L	100 mg/L	NA	NA	1/D-M	Grab
Total Iron	1a,1b,1c,1d	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab
Total Copper	1a,1b,1c,1d	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab

The basis for the limitations codes are: MGD = Million gallons per day.

1/D-M = Once per month in which there is a discharge.

1. Federal Effluent Requirements

NA = Not applicable.

- a) 40 CFR 423.12(b)(5)
- b) 40 CFR 423.12 (b)(11)
- c) 40 CFR 423.13(e)
- d) 40 CFR 423.13(g)

NL = No limit; monitor and report.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(5) – BPT metal cleaning wastes establishing daily maximum and monthly average limitations for O&G, TSS, Total Iron and Total Copper.
- b) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.
- c) 40 CFR 423.13(e) – BAT metal cleaning wastes establishing daily maximum and monthly average limitations for Total Iron and Total Copper.
- d) 40 CFR 423.13(g) – BAT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

211. Effluent Limitations/Monitoring Requirements: Outfall 502 (Oily Waste Treatment Basin)

Average flow is 0.57 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	2/M	Estimate
Oil and Grease (O&G)	1a,1b	15 mg/L	20 mg/L	NA	NA	2/M	Grab
Total Suspended Solids (TSS)	1a,1b	30 mg/L	100 mg/L	NA	NA	2/M	Grab
Total Petroleum Hydrocarbons (TPH)*	2	NL (mg/L)	NL (mg/L)	NA	NA	2/M	Grab
Total Petroleum Hydrocarbons – Oil Range Organics (ORO)**	2	NL (mg/L)	NL (mg/L)	NA	NA	2/M	Grab

- The basis for the limitations codes are: MGD = Million gallons per day. 2/M = Twice every month.
1. Federal Effluent Requirements
 - a) 40 CFR 423.12(b)(3)
 - b) 40 CFR 423.12(b)(11)
 2. Best Professional Judgement
 - NL = No limit; monitor and report.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- b) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Total Petroleum Hydrocarbon Requirements:

* Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

**Total Petroleum Hydrocarbons – Oil Range Organics shall be measured by EPA SW 846 Method 8015B or any other Virginia Environmental Laboratory Accreditation Program (VELAP) approved method.

The permittee shall sample and submit TPH-ORO results at the frequency of twice per month for one year. If all reported results for TPH-ORO do not exceed the QL for TPH (0.50 mg/L), the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect one (1) sample during one month within each quarterly monitoring period. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The sample shall be analyzed for TPH-ORO and the results shall be submitted on the DMR no later than the 10th day of the month following the quarterly monitoring period.

Should any of the quarterly monitoring results for TPH-ORO exceed the QL for TPH (0.50 mg/L), the monitoring frequency shall revert to twice per month for the remainder of the permit term.

21m. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 001/002 or Outfall 004.

Average flow is 2.53 MGD; Maximum flow is 2.88 MGD

Effective Dates: During the period beginning with the commencement of facility dewatering activities and lasting until the completion of dewatering and/or installation of the underdrain, or the expiration date, whichever occurs first. The limitations below are applicable when the discharge from Internal Outfall 503 is routed to Outfall 001/002 or Outfall 004. Such discharges shall be limited and monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NA	NA	NA	2.88	3/W	Estimate
pH	1,3a	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS)	1,3a,3b,3c	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	1,3a,3b,3c	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	1300 µg/L	1300 µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable	1,2	240 µg/L	440 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	1.4 µg/L	2.6 µg/L	NA	NA	3/W	4H-C
Chloride	1,2	370,000 µg/L	670,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable	1,2	88 µg/L	160 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable	1,2	17 µg/L	32 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	9.6 µg/L	18 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	14 µg/L	26 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable	1,2	1.2 µg/L	2.2 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	24 µg/L	44 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable	1,2	8.0 µg/L	15 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable	1,2	2.2 µg/L	4.0 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable	1	0.94 µg/L	0.94 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	98 µg/L	180 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO ₃)	1	NL (mg/L)	NL (mg/L)	NA	NA	3/W	Grab
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c)	1	NA	NA	NA	2.85 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c)	1	NA	NA	NA	2.85 TU _c	1/M	24H-C

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards
3. Federal Effluent Requirements
 - a) 40 CFR423.12(b)(1)
 - b) 40 CFR 423.12(b)(3)
 - c) 40 CFR 423.12(b)(12)

MGD = Million gallons per day.

NL = No limit; monitor and report.

NA = Not applicable.

S.U. = Standard units.

3/W = Three days per week.

1/M = Once every month.

21m. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) - When Routed to Outfall 001/002 or Outfall 004 - Continued

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(12) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Special Monitoring Requirements:

- a) Sampling for the parameters identified with a monitoring frequency of “3/W” for Internal Outfall 503 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report.
- b) The composite period for the parameters identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring.
- c) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

21n. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 005

Average flow is 2.53 MGD; Maximum flow is 2.88 MGD

Effective Dates: During the period beginning with the commencement of facility dewatering activities and lasting until the completion of dewatering and/or installation of the underdrain, or the expiration date, whichever occurs first. The limitations below are applicable when the discharge from Internal Outfall 503 is routed to Outfall 005. Such discharges shall be limited and monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NA	NA	NA	2.88	3/W	Estimate
pH	1,3a	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS)	1,3a,3b,3c	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	1,3a,3b,3c	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	640 µg/L	640µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable	1,2	120 µg/L	220 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	0.88 µg/L	1.6 µg/L	NA	NA	3/W	4H-C
Chloride	1,2	180,000 µg/L	340,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable	1,2	59 µg/L	110 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable	1,2	8.7 µg/L	16 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	7.1 µg/L	13 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	11 µg/L	20 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable	1,2	0.61 µg/L	1.1 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	16 µg/L	29 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable	1,2	4.0 µg/L	7.3 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable	1,2	1.8 µg/L	3.4 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable	1	0.47 µg/L	0.47 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	65 µg/L	120 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO ₃)	1	NL (mg/L)	NL (mg/L)	NA	NA	3/W	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c)	1	NA	NA	NA	1.44 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c)	1	NA	NA	NA	1.44 TU _c	1/M	24H-C

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards
3. Federal Effluent Requirements
 - a) 40 CFR423.12(b)(1)
 - b) 40 CFR 423.12(b)(3)
 - c) 40 CFR 423.12(b)(12)

- MGD = Million gallons per day.
 NL = No limit; monitor and report.
 NA = Not applicable.
 S.U. = Standard units.

- 3/W = Three days per week.
 1/M = Once every month.

21n. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 005 - Continued

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(12) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Special Monitoring Requirements:

- a) Sampling for the parameters identified with a monitoring frequency of “3/W” for Internal Outfall 503 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report.
- b) The composite period for the parameters identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring.
- c) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

21o. Effluent Limitations/Monitoring Requirements: Outfall S107 (Stormwater from Base of Ash Pond D Impoundment)

Effective Dates: During the period beginning with written approval from DEQ that Outfall 010 is comprised only of stormwater discharges in accordance with Part I.F.23, and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number S107. Outfall S107 discharges shall be limited, monitored and managed by the permittee as specified and in accordance with Part I.E. and Part I.F.18 of this permit.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Estimate
pH	2	NA	NA	6.0 (S.U.)	9.0 (S.U.)	1/3M	Grab
Total Suspended Solids (TSS)	NA	NL (mg/L)	NL (mg/L)	NA	NA	1/3M	Grab
Oil and Grease (O&G)	NA	NL (mg/L)	NL (mg/L)	NA	NA	1/3M	Grab
Specific Conductivity	NA	NA	NA	NA	NL (µhoms/cm)	1/3M	Grab
Aluminum, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Antimony, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Arsenic, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Barium, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Beryllium, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Boron, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Cadmium, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Chloride	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Chromium III, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Chromium VI, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Cobalt, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Copper, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Iron, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Lead, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Mercury, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Molybdenum, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Nickel, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Selenium, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Silver, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Thallium, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Vanadium, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Zinc, Total Recoverable	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Hardness, Total (as CaCO ₃)	NA	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab

The basis for the limitations codes are:

- 1. Best Professional Judgement
- 2. Water Quality Standards

MGD = Million gallons per day.
 NL = No limit; monitor and report.
 NA = Not applicable.
 S.U. = Standard units.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
 Grab = An individual sample collected over a period of time not to exceed 15-minutes.
 1/3M = Once every 3 months in which there is a discharge. The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Metals and Total Hardness Requirements:
 The metals and total hardness samples shall be collected concurrently.

21p. Monitoring Requirements: Outfalls S5, S31, S35, S36, S37, S42, S49, S61, S77, S78, S79, S80, S86, S94, S95, and S108 (Stormwater)

Average flow is variable.

Effective Dates: During the period beginning with the permit's major modification date and lasting until the expiration date. Discharges shall be monitored and managed in accordance with Part 1.E of the permit.

There shall be no discharge of industrially influenced stormwater from these outfalls - S78, S79, S80, S86, and S94.

Industrially influenced stormwater may be discharged from these outfalls - S5, S31, S35, S36, S37, S42, S49, S61, S77, and S95.

The following industrially influenced stormwater outfalls have been deemed representative:

- Outfall S5 is deemed representative of Outfall S31 and S35.
- Outfall S42 is deemed representative of Outfalls S49 and S77.
- Outfall S61 is deemed representative of Outfalls S36 and S37.

In addition to the requirements established in Part I.E of the permit, Outfall S108 shall be monitored and managed in accordance with Part I.F.18 of the permit.

21q. Limitations and Monitoring Requirements: Groundwater Monitoring

Effective Dates: During the period beginning with the permit's major modification date, and lasting until the permit expiration date, the permittee is authorized to manage pollutants at Ash Pond D and Ash Pond E. The groundwater shall be monitored by the permittee as specified below except where groundwater monitoring is superseded pursuant to a solid waste permit issued in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.)

Ash Pond D Observation Wells	Stratum D	ED-1, ED-3, ED-9R, ED-15, ED-24R, ED-32
Ash Pond E Observation Wells	Stratum E	ES-1, ES-3a, ES-4

PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	Limitations	Units	Frequency	Sample Type
Static Water Level (mean sea level)	NL	Feet	Semi-Annual	Measurement
pH	NL	Standard Units	Semi-Annual	Grab
Specific Conductivity	NL	µmhos/cm	Semi-Annual	Grab
Hardness (as CaCO ₃)	NL	mg/L	Semi-Annual	Grab
Chlorides	NL	mg/L	Semi-Annual	Grab
Fluoride	NL	mg/L	Semi-Annual	Grab
Sodium	NL	mg/L	Semi-Annual	Grab
Potassium	NL	mg/L	Semi-Annual	Grab
Sulfate	NL	mg/L	Semi-Annual	Grab
Total Organic Carbon	NL	mg/L	Semi-Annual	Grab
Temperature	NL	°C	Semi-Annual	Grab
Dissolved Arsenic	NL	µg/L	Semi-Annual	Grab
Dissolved Barium	NL	µg/L	Semi-Annual	Grab
Dissolved Cadmium	NL	µg/L	Semi-Annual	Grab
Dissolved Copper	NL	µg/L	Semi-Annual	Grab
Dissolved Iron	NL	µg/L	Semi-Annual	Grab
Dissolved Mercury	NL	µg/L	Semi-Annual	Grab
Dissolved Lead	NL	µg/L	Semi-Annual	Grab
Dissolved Nickel	NL	µg/L	Semi-Annual	Grab
Dissolved Manganese	NL	µg/L	Semi-Annual	Grab
Dissolved Selenium	NL	µg/L	Semi-Annual	Grab
Dissolved Silver	NL	µg/L	Semi-Annual	Grab
Dissolved Vanadium	NL	µg/L	Semi-Annual	Grab
Dissolved Zinc	NL	µg/L	Semi-Annual	Grab
Phenol	NL	mg/L	Semi-Annual	Grab

NL = No Limit; monitor and report

Grab = An individual sample collected over a period of time not to exceed 15-minutes or the time needed to collect the proper sample amount.

Semi-Annual = The semi-annual monitoring periods shall be defined as January 1 – June 30 and July 1 – December 31. The results shall be submitted annually as part of the Groundwater Annual Report as described in Section 21.C.1 of the Fact Sheet.

21r. Limitations and Monitoring Requirements: Groundwater Monitoring

Effective Dates: During the period beginning with the permit's major modification date, and lasting until the permit expiration date, the permittee is authorized to manage pollutants at Ash Pond D and Ash Pond E. The groundwater shall be monitored by the permittee as specified below except where groundwater monitoring is superseded pursuant to a solid waste permit issued in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.)

	Stratum D	ED-4, ED-5, ED-17
Ash Pond D and E Observation Wells	Stratum E	ED-31
	Stratum F	ED-26, ED-33

PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	Limitations	Units	Frequency	Sample Type
Static Water Level (mean sea level)	NL	Feet	Annual	Measurement
pH	NL	Standard Units	Annual	Grab
Specific Conductivity	NL	µmhos/cm	Annual	Grab
Hardness (as CaCO ₃)	NL	mg/L	Annual	Grab
Chlorides	NL	mg/L	Annual	Grab
Fluoride	NL	mg/L	Annual	Grab
Sodium	NL	mg/L	Annual	Grab
Potassium	NL	mg/L	Annual	Grab
Sulfate	NL	mg/L	Annual	Grab
Total Organic Carbon	NL	mg/L	Annual	Grab
Temperature	NL	°C	Annual	Grab
Dissolved Arsenic	NL	µg/L	Annual	Grab
Dissolved Barium	NL	µg/L	Annual	Grab
Dissolved Cadmium	NL	µg/L	Annual	Grab
Dissolved Copper	NL	µg/L	Annual	Grab
Dissolved Iron	NL	µg/L	Annual	Grab
Dissolved Mercury	NL	µg/L	Annual	Grab
Dissolved Lead	NL	µg/L	Annual	Grab
Dissolved Nickel	NL	µg/L	Annual	Grab
Dissolved Manganese	NL	µg/L	Annual	Grab
Dissolved Selenium	NL	µg/L	Annual	Grab
Dissolved Silver	NL	µg/L	Annual	Grab
Dissolved Vanadium	NL	µg/L	Annual	Grab
Dissolved Zinc	NL	µg/L	Annual	Grab
Phenol	NL	mg/L	Annual	Grab

NL = No Limit; monitor and report

Grab = An individual sample collected over a period of time not to exceed 15-minutes or the time needed to collect the proper sample amount.

Annual = The annual monitoring period shall be defined as January 1 – December 31. The results shall be submitted annually as part of the Groundwater Annual Report as described in Section 21.C.1 of the Fact Sheet.

21s. Limitations and Monitoring Requirements: Groundwater Monitoring

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date, the permittee is authorized to manage pollutants at the Oily Waste Treatment Basin. The groundwater shall be limited and monitored at the observation wells by the permittee as specified below.

Observation Wells Oily Waste Treatment Basin OWB-1, OWB-2, OWB-3, OWB-4, OWB-5

PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	Limitations	Units	Frequency	Sample Type
Static Water Level (mean sea level)	NL	Feet	Semi-Annual	Measurement
pH	NL	Standard Units	Semi-Annual	Grab
Specific Conductivity	NL	µmhos/cm	Semi-Annual	Grab
Hardness (as CaCO ₃)	NL	mg/L	Semi-Annual	Grab
Chlorides	NL	mg/L	Semi-Annual	Grab
Fluoride	NL	mg/L	Semi-Annual	Grab
Sodium	NL	mg/L	Semi-Annual	Grab
Potassium	NL	mg/L	Semi-Annual	Grab
Sulfate	NL	mg/L	Semi-Annual	Grab
Total Organic Carbon	NL	mg/L	Semi-Annual	Grab
Temperature	NL	°C	Semi-Annual	Grab
Dissolved Arsenic	NL	µg/L	Semi-Annual	Grab
Dissolved Barium	NL	µg/L	Semi-Annual	Grab
Dissolved Cadmium	NL	µg/L	Semi-Annual	Grab
Dissolved Copper	NL	µg/L	Semi-Annual	Grab
Dissolved Iron	NL	µg/L	Semi-Annual	Grab
Dissolved Mercury	NL	µg/L	Semi-Annual	Grab
Dissolved Lead	NL	µg/L	Semi-Annual	Grab
Dissolved Nickel	NL	µg/L	Semi-Annual	Grab
Dissolved Manganese	NL	µg/L	Semi-Annual	Grab
Dissolved Selenium	NL	µg/L	Semi-Annual	Grab
Dissolved Silver	NL	µg/L	Semi-Annual	Grab
Dissolved Vanadium	NL	µg/L	Semi-Annual	Grab
Dissolved Zinc	NL	µg/L	Semi-Annual	Grab
Phenol	NL	mg/L	Semi-Annual	Grab
Total Petroleum Hydrocarbons – Diesel Range Organics*	NL	mg/L	Semi-Annual	Grab
Total Petroleum Hydrocarbons – Oil Range Organics**	NL	mg/L	Semi-Annual	Grab
Benzene	NL	mg/L	Semi-Annual	Grab
Ethylbenzene	NL	mg/L	Semi-Annual	Grab
Toluene	NL	mg/L	Semi-Annual	Grab
Total Xylenes	NL	mg/L	Semi-Annual	Grab

NL = No Limit; monitor and report

*TPH = Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

**TPH = Total Petroleum Hydrocarbons – Oil Range Organics (ORO) shall be measured by EPA SW 846 Method 8015B or any other Virginia Environmental Laboratory Accreditation Program (VELAP) approved method.

Grab = An individual sample collected over a period of time not to exceed 15-minutes or the time needed to collect the proper sample amount.

Semi-Annual = The semi-annual monitoring periods shall be defined as January 1 – June 30 and July 1 – December 31. The results shall be submitted annually as part of the Groundwater Annual Report as described in Section 21.C.1 of the Fact Sheet.

22. Groundwater Monitoring – Existing Permit:Background

9VAC25-280-10 et seq. became effective February 12, 2004. This regulation establishes statewide groundwater standards (9VAC25-280-40) as well as groundwater standards applicable by physiographic province (9VAC25-280-50) and groundwater criteria applicable by physiographic province (9VAC25-280-70).

Groundwater monitoring has been ongoing at the Dominion – Possum Point Power Station since 1985, focusing on potential impacts from the operation of Ash Pond D, Ash Pond E, and the Oily Waste Treatment Basin. The facility currently monitors fifteen wells associated with Ash Pond D and Ash Pond E, as well as five wells associated with the Oily Waste Treatment Basin. The parameters and monitoring frequencies are defined above in 21.p through 21.r of the Fact Sheet.

Both ash ponds received coal combustion by-products prior to the facility's two coal fire units being converted to natural gas. Ash Pond D was rehabilitated and reconstructed into a long-term ash repository pond that receives ash dredged from Ash Pond E, as well as dredge spoil material that is not related to operations at the Station provided the material originated from the Potomac River, Quantico Creek or public water bodies in the Quantico Creek watershed meeting the definition of State waters in Virginia. Ash Pond E receives discharges from Outfall 501, Outfall 502, decanted water from Ash Pond D, untreated Potomac River water, and stormwater. The Oily Waste Treatment Basin receives process water discharges from various plant operations and stormwater runoff. These contributions are detailed in Section 10, Tables 2 and 3 of the Fact Sheet.

In March 2012, the facility submitted an approval request for a revision to their Groundwater Monitoring Plan. The revision included the removal of a specified order of sample collection within Section 5.4 of the plan previously approved on February 25, 2008. Specifically, the removal of the wording that samples be collected from the background well first and then progressing from the wells with the lowest known constituent levels to highest known constituent levels. The request was reviewed by DEQ staff who determined that there were no adverse consequences of the facility's proposal. The revised Groundwater Monitoring Plan was approved by letter dated April 9, 2012.

Data Evaluation and Recommendations – Existing Permit

In support of the permit reissuance, DEQ staff reviewed the 2010 annual groundwater monitoring report with the following comments and recommendations provided:

1. Based upon the groundwater data submitted, the 2010 data indicates exceedances of the Virginia Groundwater Quality Standards for dissolved cadmium, dissolved zinc, phenol, and pH. However, significant changes in the groundwater quality beneath the Station do not appear to have occurred.
2. The 2010 report indicates that monitoring well ED-15 is damaged. Because this well is utilized to monitor background groundwater concentrations it was recommended that the damaged well be properly abandoned and replaced. Based on the 2011 annual groundwater monitoring report, monitoring well ED-15 was repaired in July 2011 and no further action is warranted.
3. The 2010 report indicates that monitoring well ED-4 has not had sufficient water to be sampled the last two monitoring events. It is staff's recommendation that this well be reinstalled so that the groundwater in the vicinity of the well is properly monitored. A special condition has been added to the permit with this reissuance to evaluate Stratum B monitoring network and propose any necessary changes for characterization of Stratum B water quality and to make any well modifications, replacements or abandonments deemed necessary. See Section 25.m of the Fact Sheet for this requirement.

4. It is staff’s recommendation that the analysis for TPH-Oil Range Organics (TPH-ORO) be added to the list of required analytes for the monitoring wells surrounding the Oily Waste Treatment Basin (OWB-1, OWB-2, OWB-3, OWB-4, and OWB-5). This recommendation is based on the fact that the analyses for TPH-Diesel Range Organics (DRO) and TPH-Gasoline Range Organics (GRO) do not provide results for the heavier carbon chain constituents found in oil compounds, which may potentially be leaching from the Oily Waste Treatment Basin. Given the facility’s history of using heavy oils on site, the analysis of TPH-ORO is appropriate to capture the range of oils potentially present.

TABLE 9 – Constituent Fraction of TPH Groups*					
TPH - GRO		TPH-DRO		TPH-ORO	
Aliphatics	C6	Aliphatics	>C10 – C12	Aliphatics	Not Applicable
	>C6 – C8		>C12 – C16		
	>C8 – C-10		>C16 – C35		
Aromatics	>C7 – C8	Aromatics	>C10 – C12	Aromatics	>C21-C35
	>C8 – C10		>C12 – C16		
			>C16 – C21		

*As provided by the Missouri Department of Natural Resources

Based on the above recommendation, monitoring for TPH-Oil Range Organics has been added to the permit with this reissuance. This analysis is only required for monitoring wells OWB-1, OWB-2, OWB-3, OWB-4, and OWB-5. See Section 21.r of the Fact Sheet for this requirement.

The DEQ staff memo is found as Attachment 17.

23. Groundwater Monitoring – Post Operational Life Requirements:

EPA published a Final Rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities on April 17, 2015. The rule established technical requirements for CCR landfills and surface impoundments under Subtitle D of the Resource Conservation and Recovery Act RCRA. These regulations address the management and disposal of coal ash including stability, groundwater monitoring, and fugitive dust emissions. Adoption of the federal regulations into the Virginia Solid Waste Management Regulations is anticipated in late 2015.

CCR Surface Impoundments have been regulated under the VPDES program during their operational life. The Virginia Solid Waste Management Regulations (VSWMR) applies after their operational life and provides for closure requirements in 9 Virginia Administrative Code 20-81-370. Their long-term management which includes closure, post-closure, and groundwater monitoring will be addressed by the solid waste program in accordance with the VSWMR and requirements under the EPA rule as applicable. 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 in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.).

24. Quantico Creek Special Study:

Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment, sediment chemistry analysis (elevated nickel levels), and sediment bioassay for estuarine waters were all factors for this determination (see Attachment 18 for sediment chemistry results). Station 1aQUA001.09, approximately 0.75 rivermiles above the railroad bridge, was sampled in 2001 for the Coastal 2000 program (part of the estuarine probabilistic monitoring program).

On July 16, 2014, DEQ staff conducted sediment sampling at four DEQ monitoring stations located in Quantico Creek including Station 1aQUA001.09 noted above (Attachment 19). Selected sample locations had elevated metals concentrations with some values exceeding estuarine and/or freshwater screening values (Attachment 20). However, the data were variable and not sufficient to draw conclusions as to whether Ash Ponds A, B, C, D and/or E or operations in general at the Possum Point Power Station are impacting Quantico Creek. As the embayment is subject to tidal action, it is uncertain whether these higher concentrations are due to tidal fluctuations or whether there may be additional sources causing or contributing to the impairment.

DEQ has initiated a special study including sediment and water column sampling in both the tidal and free-flowing portions of Quantico Creek. This monitoring is proposed to further investigate the aquatic life use impairment identified for a portion of the tidal embayment and to better understand the potential sources of pollutants causing and/or contributing to the impairment. Quantico Creek is an approximate 39 square mile watershed. Historical activities in the watershed include pyrite mining in the Prince William Forest National Park located upstream in the free-flowing portion of the watershed. Additionally, the watershed has undergone significant development over the last 30 years as a suburb of the Washington D.C. metropolitan area.

25. Other Permit Requirements:

- a) Part I.B. of the permit contains additional quantification levels and compliance reporting instructions.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

- b) Permit Section Part I.C., details the requirements for Whole Effluent Toxicity (WET) Program.

The VPDES Permit Regulation at 9VAC25-31-210 requires monitoring and 9VAC25-31-220.I, requires limitations in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. A WET program is imposed for municipal facilities with a design rate >1.0 MGD, with an approved pretreatment program or required to develop a pretreatment program, or those determined by the Board based on effluent variability, compliance history, instream waste concentration, and receiving stream characteristics.

The Dominion - Possum Point Power Station's instream waste concentration and the activity at this facility warrant monitoring under the WET program. The test protocol utilizes bioassay-testing methods in measuring the potential for the effluent to cause chronic toxicity to aquatic organism in the receiving stream. Table 10 below provides a detailed description of the facility's existing permit requirements for toxicity testing.

TABLE 10 – Existing Permit Requirements for Whole Effluent Toxicity			
Outfall	Acute	Chronic	Frequency
001/002	<i>C. dubia</i>	<i>P. promelas</i>	Annual
003	<i>C. dubia</i>	<i>P. promelas</i>	Annual
004	<i>C. dubia</i> / <i>P. promelas</i>	<i>C. dubia</i> / <i>P. promelas</i>	Annual

With this reissuance, WET language shall require the permittee to perform annual chronic testing using both *C. dubia* and *P. promelas* as the test species at Outfalls 001/002, 003, and 004 for the duration of the permit (Attachment 21). Table 11 below provides a detailed description of the facility's proposed permit requirements for toxicity testing.

TABLE 11 – Proposed Permit Requirements for Whole Effluent Toxicity		
Outfall	Chronic	Frequency
001/002	<i>C. dubia</i> / <i>P. promelas</i>	Annual
003	<i>C. dubia</i> / <i>P. promelas</i>	Annual
004	<i>C. dubia</i> / <i>P. promelas</i>	Annual

c) Permit Section Part I.D. details the requirements of a Groundwater Monitoring Plan.

The permittee shall continue groundwater sampling and reporting in accordance with Part I.A. of the permit and the groundwater monitoring plan approved on April 9, 2012. The purpose of this plan is to determine if the integrity of Ash Pond D, Ash Pond E, and the Oily Waste Treatment Basin is being maintained and to indicate if activities at the site are resulting in violations of the Board's Ground Water Standards. The permittee shall review the existing Groundwater Monitoring Plan and notify the DEQ Northern Regional Office, in writing, whether it is still accurate and complete by July 3, 2013. If the Groundwater Monitoring Plan is no longer accurate and complete, a revised Groundwater Monitoring Plan shall be submitted for approval to the DEQ Northern Regional Office by July 3, 2013. The approved plan is an enforceable part of the permit. Any future changes to the plan must be submitted for approval to the DEQ Northern Regional Office within 90 days of the changes.

- 1) The permittee shall submit a Groundwater Annual Report to the DEQ Northern Regional Office by April 30th of each year. The Annual Report shall include the annual and semi-annual sampling results for that year. The Annual Report shall include a review of the groundwater quality on the basis of background quality, Water Quality Standards, and statistical deviation thereof, as applicable with the Anti-degradation Policy for Groundwater.
- 2) Should data warrant, DEQ may require a Site Characterization Report for the Oily Waste Treatment Basin. The report shall include, at a minimum, an assessment of the following: the spatial extent and severity of the contamination with concentration depicted by isoconcentration maps, the cause of the contamination, identification of both human health and environmental receptors, assessment of risk to each receptors, and an analysis of remediation alternatives. The permittee shall submit the Site Characterization Report no later than three years after being notified by the regional office.
- 3) Following review and approval of a Site Characterization Report, a Corrective Action Plan may be required by DEQ-NRO. The plan shall be due within 180 days of being notified by the regional office. The plan shall set forth the steps to be taken by the permittee to ensure that the contamination source is eliminated or that the contaminant plume is contained on the permittee's property. In addition, based on the extent of contamination, a risk analysis may be required. Once approved, this plan and/or analysis shall be incorporated into the permit

by reference and become an enforceable part of the permit. The permittee shall put into practice the corrective action plan within 180 days after it has been approved by the regional office.

d) Permit Section Part I.E. details the requirements of a Stormwater Management Plan.

Industrial stormwater discharges may contain pollutants in quantities that could adversely affect water quality. Stormwater discharges which are discharged through a conveyance or outfall are considered point sources and require coverage by a VPDES permit. The primary method to reduce or eliminate pollutants in stormwater discharges from an industrial facility is through the use of best management practices (BMPs). Stormwater Management Plan requirements are derived from the VPDES General Permit for Stormwater Discharges Associated with Industrial Activity, 9VAC25-151 et seq.

26. Other Special Conditions:

- a) O&M Manual Requirement. The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the facility that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31. The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the facility in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ Northern Regional Office for review and approval.
- b) Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:
- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter;
 - (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
 - (3) Five times the maximum concentration value reported for that pollutant in the permit application;
or
 - (4) The level established by the Board.
 - b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) Five hundred micrograms per liter;
 - (2) One milligram per liter for antimony;
 - (3) Ten times the maximum concentration value reported for that pollutant in the permit application;
or
 - (4) The level established by the Board.
- c) Materials Handling/Storage. 9VAC25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.
- d) Prohibition of Chemical Additives. Chemical additives may not be used in non-contact cooling water without prior notification to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). The chemical additives may be toxic and/or otherwise violate the receiving stream water quality standards. Upon notification, the Regional Office can determine if this activity will warrant a modification to the permit.
- e) Polychlorinated Biphenyl. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid. Compliance with this requirement shall be determined using EPA Method 608 (as referenced in 40 CFR Part 136).
- f) Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively

revoked and reissued to incorporate appropriate limitations.

- g) Water Quality Criteria Monitoring. State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility's effluent at Outfall 004 and Outfall 005 once every five years for the substances noted in Attachment A of this VPDES permit.
- h) 126 Priority Pollutants. Federal Effluent Guidelines (40 CFR 423.13(d)(1)) state that the quantity of pollutants in cooling tower blowdown discharges (Appendix A to Part 423) shall be in non-detectable amounts. Sampling for these pollutants (except total chromium and total zinc) at the discharge point for Outfalls 201 and 202 shall be conducted annually when there is a discharge. At the permitting authority's discretion (40 CFR 423.13(d)(3)), compliance with the limitations for the 126 Priority Pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.
- i) In-stream Monitoring. Monitoring of the thermal mixing zone shall take place twice per year. The monitoring results shall be presented as a temperature plot with 3-degree Celcius isotherms and shall be taken as near to full plant operating conditions as reasonably possible. Monitoring and reporting shall be conducted in accordance with the following schedule:

Permit Year	Monitoring Period	Report Submission Dates
First	February 2013	May 31, 2013
First	July 2013	October 31, 2013
Second	February 2014	May 31, 2014
Second	July 2014	October 31, 2014
Third	February 2015	May 31, 2015
Third	July 2015	October 31, 2015
Fourth	February 2016	May 31, 2016
Fourth	July 2016	October 31, 2016
Fifth	February 2017	May 31, 2017
Fifth	July 2017	October 31, 2017

- j) Debris Collection. Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters, or facility operations, including all debris collected on the intake trash racks, shall be disposed of in a manner to prevent any of the removed substances, or runoff from such substances, from entering waters of the State.

k) Solids in Ash Pond D.

- a. Ash Pond D may be used as a repository for dredge spoil material and residuals removed from facilities, areas, and systems related to operation and maintenance of Possum Point Power Station. These materials and residuals include :
- 1) Solids from VPDES treatment ponds and stormwater management facilities;
 - 2) Solids from old/closed VPDES treatment ponds (Ash Pond A, B and C);
 - 3) Solids from station floor drains, lift stations, and sumps;
 - 4) Water treatment plant filter cake and cooling tower basin sludge;
 - 5) Soil and fines from station beautification and land restoration projects, including the coal pile area, deicing grit, abrasives, and inert cleanup debris such as surplus soil, rock, and gravel; and
 - 6) Sand/silt/sediment in the Potomac River and Quantico Creek within and adjacent to cooling water intake structures, outfall structures, oil barge berths, shoreline revetments, boat ramp, transportation structures, and navigation-related channels and structures.
- b. Ash Pond D may be used as a repository for dredge spoil material that is not related to operations at Possum Point Power Station provided the material originated from the Potomac River, Quantico Creek or public bodies of water in the Quantico Creek watershed meeting the definition of state waters in Virginia. The following guideline shall be followed:
- 1) Dominion shall provide written notice to the Department of Environmental Quality-Northern Regional Office (DEQ-NRO) at least 30 days prior to the placement of any dredge spoil material in Ash Pond D. This notice shall include as a minimum the following information:
 - a) Sampling tests and laboratory results (See 3 below);
 - b) Copies of all permits or regulatory authorizations required for the project;
 - c) Project schedule dates;
 - d) Method of placement;
 - e) Original location of material;
 - f) Type and volume of material; and
 - g) Name, address, and telephone number of dredging contractor (for placement of dredge spoil material) or station contact (for placement of station residuals).
 - 2) Specific approval by the DEQ-NRO is not required for a placement project but the DEQ-NRO shall have the right to request additional information or halt any noticed activity. If the placement project is not halted by the DEQ-NRO within 30 days of receipt of the above notice, the project is deemed authorized.
- c. Sampling Requirements.
- 1) A "sample" is defined as a Core Dredge sample, which will be a composite of dredge material from the river, stream or lake bottom to the depth of the intended dredge.
 - 2) Number of Samples taken
 - a) >300,000 Cubic Yards of Material
For every 100,000 cubic yards of material a representative sample shall be collected. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
 - b) <300,000 Cubic Yards, but >50,000 Cubic Yards of Material
There shall be three representative samples of dredge area. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
 - c) <50,000 Cubic Yards, but >1,000 Cubic Yards of Material
There shall be two representative samples of dredge area. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
 - d) <1,000 Cubic Yards of Material
No sampling requirement shall apply to projects involving the placement of material less than 1,000 cubic yards with approval from Dominion (Virginia Power).

- 3) All parameters limited in Attachment B shall be sampled. The permittee shall use Attachment B as a reporting form which will be submitted to DEQ-NRO at least 30 days prior to placement in Ash Pond D. If the measured constituents in the sample exceed any respective threshold levels listed in Attachment B, the material shall not be placed in Ash Pond D.
 - 4) Materials and residuals related to routine station operations and dredge materials identified in Part I.F.11.a and Part I.F.11.b of the permit (Sections 22.k.a and 22.k.b of the Fact Sheet) shall be tested prior to initial placement under this protocol and if station processes have not materially changed, further testing is not required.
 - 5) The above sampling requirements for any placement activity may be waived in the event of declared public emergency conditions or by consent of the DEQ-NRO.
- d. The placement of any material in Ash Pond D shall not be incompatible with the Ash Pond D liner system or cause a violation of the VPDES permit requirements applicable to Outfall 005 at Ash Pond E.
 - e. Dominion shall retain records relating to the placement event for a minimum of three years and comply with the requirements of Part II.B.2 of the subject permit.
 - f. Dredging shall be performed in accordance with all Federal and Virginia laws and regulations.
- l) 316(b) Special Condition. The facility includes a cooling water intake structure governed by §316(b) of the Clean Water Act which requires that the location, design, construction and capacity of the cooling water intake structures reflect the "best technology available for minimizing adverse environmental impact". The Possum Point – December, 1976 environmental report on impingement and entrainment studies conducted at the facility indicated minimal or no adverse environmental impact. The special condition requires continued compliance with §316(b) and submittal of new data that was recently collected in response to EPA's Phase II requirements. Collected data and any changes to the intake structures or conditions will be reevaluated at each reissuance to monitor continued compliance with the requirement. The condition also includes a reopener, should further 316(b) related conditions become necessary once the EPA Phase II rule is finalized or a new BPJ determination is required.
 - m) Re-Evaluation of Stratum B. Within 180 days of the permit reissuance (April 3, 2013), the permittee shall submit to the DEQ- Northern Regional Office for review and approval, a work plan to evaluate Stratum B monitoring network and propose any necessary changes for characterization of Stratum B water quality. Any well modifications, replacements or abandonments proposed in the approved plan must be completed within 180 days of the plan approval.
 - n) PCB Monitoring. The permittee shall conduct PCB monitoring using low-level PCB analysis to support the PCB TMDL for the fish consumption use impairment in the Tidal Potomac River.

- o) TMDL Reopener. This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.
- p) Ash Pond Dewatering Special Condition. 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.
- q) Ash Pond Closure Stormwater Management Special Condition. Best management practices (BMPs), structural and/or non-structural, shall be utilized by the permittee to minimize the impact of ash pond closure activities on stormwater quality. Ash pond closure activities may include, but are not limited to, the process of ash movement for off-site disposal, ash loading and unloading areas, any area(s) associated with the storage of ash prior to transport off-site, and vehicle tracking associated with the movement of ash.

The facility's Stormwater Pollution Prevention Plan (SWPPP) shall include a description of the BMPs being implemented and a regular schedule for preventive maintenance of all BMPs where appropriate. All structural BMPs identified in the SWPPP shall be maintained in effective operating condition and shall be inspected for structural integrity and operational efficiency once per week during ash pond closure activities. Results of the weekly inspections and actions needed and performed in response to the weekly inspections shall be documented per the SWPPP.

- r) Ash Handling Area Outfall Inspections. Inspections of Outfall 010 and Stormwater Outfall S108 shall be conducted at a frequency of once every five business days and no later than forty-eight (48) hours following a measurable storm event. Corrective actions identified as a result of these inspections shall be implemented as soon as possible, but no later than seven (7) days after discovery. Results of these inspections and actions needed and performed in response to these inspections shall be documented per the SWPPP. Ash handling area outfall inspections shall be conducted as noted above until such time as the ash pond closure project is completed.
- s) Weir Structure Discharge Prohibition. Discharge from the weir structure associated with the Ash Pond A, B, and C complex is not authorized by this permit.
- t) Limitation Exceedance for Internal Outfall 503 and Outfall 005. The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503 or Outfall 005 (Interim Configuration Discharge from Holding Basin). The permittee shall promptly notify DEQ, in no case later than 24 hours, after 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(s) shall not occur until such time as an evaluation report is provided to DEQ and written authorization to resume the discharge is granted.
- u) Drawdown Rate Requirement. The drawdown rate of any pond or basin shall 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.
- v) Conceptual Engineering Report (CER) Requirement (Internal Outfall 503). Prior to constructing any wastewater treatment works, the permittee shall submit a final CER to the DEQ-Northern Regional Office. DEQ approval shall be secured prior to constructing any wastewater treatment works. The permittee shall construct the wastewater treatment works in accordance with the approved CER. No later than 14 days following completion of construction of any project for which a CER has been approved, written notification shall be submitted to the DEQ-Northern Regional Office certifying that, based on an inspection of the project, construction was completed in accordance with the approved CER. The written notification shall be certified by a professional engineer licensed in the Commonwealth of Virginia or signed in accordance with Part II.K of this permit. The installed wastewater treatment works shall be operated to achieve design treatment and effluent concentrations. Approval by DEQ does not relieve the owner of the responsibility for the correction of design and/or operational deficiencies. Noncompliance with the CER shall be deemed a violation of this permit.

w) Outfall 010 Groundwater (Toe Drain) Removal and Re-designation to S107

Upon successful demonstration to and written approval from DEQ confirming that all groundwater contributions to the Outfall 010 discharge have been removed, the requirements of Part I.A.15 of this permit shall become effective and supersede the requirements of Part I.A.8. The groundwater contributions include both the infiltration through the earthen berm as well as groundwater diverted around the impoundment. Should the permittee separate and remove all groundwater contributions to the discharge, then the discharge would be comprised of only stormwater. Stormwater-only discharges from this outfall would be designated as Outfall S107 and governed by the requirements of Part I.A.15, Part I.E, and Part I.F.18. Should the permittee pursue separation of the groundwater contributions to the discharge, a demonstration plan shall be submitted to DEQ for review and approval. This demonstration plan shall consider, at a minimum: observations of the outfall during dry-weather with variable antecedent precipitation conditions to confirm no discharge; seasonal wet-weather conditions to include potential inflow and infiltration contributions; other information as appropriate, such as design schematics, to support a conclusion that groundwater contributions have been removed from the discharge.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

27. Changes to the Permit from the Previously Issued Permit:

a) Special Conditions:

1. An Ash Pond Dewatering Special Condition was added to the permit to ensure the discharge does not cause or contribute to an excursion of an applicable water quality standard.
2. An Ash Pond Closure Stormwater Management Special Condition was added to the draft permit to ensure adequate stormwater management related to ash pond closure activities.
3. An Ash Handling Area Outfall Inspection Special Condition was added to the draft permit to ensure adequate stormwater management related to ash pond closure activities.
4. A Weir Structure Discharge Prohibition Special Condition was added to the draft permit as a discharge from the weir structure is not authorized.

b) Monitoring and Effluent Limitations:

1. Additional monitoring and limitations have been added to the draft permit for Outfall 005 (Interim Configuration) with this modification.
2. Monitoring has been added to the draft permit for Outfall 010 with this modification.
3. Monitoring and limitations have been added to the draft permit for Internal Outfall 503 with this modification.
4. The existing groundwater monitoring, corrective action and/or risk assessment plans currently in effect under the facility's permit shall remain in effect until such time as they are superseded by a solid waste permit in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.). The construction drawings, specifications, and solid waste permitting application package for the Possum Point Power Station will be submitted to DEQ under separate cover.

c) Other:

1. The discharge of Internal Outfall 503 (interim) is authorized through Outfall 001/002, Outfall 004, and/or Outfall 005.
2. Internal Outfall 503 (interim) has been identified as a source to Outfall 001/001, Outfall 004, and/or Outfall 005 based on operational needs.
3. Outfall S35 and S108 (stormwater) were added to the permit with this modification.
4. The discharge from the Unit 6 Reverse Osmosis (RO) trailers was added to Outfall 004 as a permanent source to the outfall.
5. Uncontaminated river water was added to the list of allowable non-stormwater discharges.
6. Outfall S107 was re-identified as Outfall 010.
7. As a result of closure activities, Internal Outfall 502 will be permanently re-routed to Outfall 004 rather than Ash Pond E.

8. As a result of closure activities, the subsurface dewatering system has been added as a discharge source to the final configuration of Outfall 005.
9. Once per month (1/M) monitoring for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium, to be done concurrently with WET test monitoring, has been added to Outfall 005 (Interim Configuration), Outfall 010, and Internal Outfall 503.

28. Changes to the Draft Permit Published for Public Comment: The Fact Sheet has been updated to reflect the changes incorporated into the proposed permit as noted below.

- A special condition has been added requiring a final Conceptual Engineering Report to be submitted for Internal 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 effective date 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 effluent limited pollutants, 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.

29. Variances/Alternate Limits or Conditions: None

30. Public Notice Information:

First Public Notice Date: October 29, 2015 Second Public Notice Date: November 5, 2015

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3853, susan.mackert@deq.virginia.gov. See Attachment 22 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

31. Modification Requests Not Related to Ash Pond Closure:

As a result of the August 20, 2015 modification request a number of items requested in the previous modification requests were no longer necessary (Attachment 23). The discussion below details those modifications that are still requested.

1. The permit modification request received on June 30, 2014, requested uncontaminated river water be added to the list of allowable non-stormwater discharges. Staff has no objection to this request. Uncontaminated river water shall be added to Part I.E.1.b.1 of the facility's VPDES permit.
2. The permit modification request received on June 30, 2014, requested approval for the use of water from the Seal Pit as a back-up raw water supply for Unit 6. Staff has no objection to this request.
3. The permit modification request received on June 30, 2014, requested acknowledgement that the Unit 6 reverse osmosis trailers be recognized as a permanent discharge.
4. The permit modification request received on June 30, 2014, requested that sources contributing to Outfall 007 be reworded. The language was revised to reflect the discharge of Intake Screen Backwash Water is from Units 3, 4, 5, and 6 and to remove the authorization to discharge Intake Screen Backwash Water from Units 3 and 4 through Outfall 007 until such time that Outfall 009 is operational recognizing that Outfall 007 and Outfall 009 are separate. This is reflected in Table 2 and Section 21.e of the fact sheet and Part I.A.5 of the facility's VPDES permit.
5. The permit modification request received on June 30, 2014, requested clarification that Outfall 009 is an intermittent discharge and would only be used if the bridge and trough connecting the intakes fails. This is reflected in Table 3 and Section 21.g of the fact sheet and Part I.A.7 of the facility's VPDES permit.
6. The permit addendum request received on December 24, 2014, requested the addition of stormwater Outfall S35. This is reflected in Table 3 and Section 21.l of the fact sheet and Part I.A.15 of the facility's VPDES permit.
7. The permit addendum request received on December 24, 2014, requested that permit language associated with stormwater Outfall S107 from a stormwater outfall not associated with industrial activity to a stormwater outfall associated with industrial activity. Please see Section 17.c.8 of the fact sheet for discussion.

32. Additional Comments:Previous Board Action(s):

None

2013 Reissuance:

Based on comments received from the public during the reissuance of the permit in 2013, the following changes were made to the draft permit after the close of the comment period:

- Monitoring for Total Nitrogen and Total Phosphorus at both the intake and Outfall 001/002 was added to the draft permit.
- Monitoring for Dissolved Copper at both the intake and Outfall 001/002 was added to the draft permit.
- Monitoring for Total Hardness at both the intake and Outfall 001/002 was added to the draft permit.
- Monitoring for Total Nitrogen and Total Phosphorus was added to Internal Outfall 201.
- Monitoring for Total Nitrogen and Total Phosphorus was added to Internal Outfall 202.

2016 Modification:

Public Comments:

During the public comment period, DEQ-NRO received comments from 465 citizens and/or organizations via mail, email, and fax.

Comments received during the public notice, and staff responses, are provided in a Response to Comments Document which is located within the permit modification file.

The Agency Director authorized the convening of a public hearing for the proposed permit modification. A majority of State Water Control Board Members did not request a meeting to review the agency decision. As such, staff proceeded with an informal fact-finding public hearing in accordance with Procedural Rule No. 1 and Section 62.1-44.15:02, the results of which will be presented for Board consideration at their regularly scheduled meeting on January 14, 2016.

Staff Comments:

At the request of several members of the General Assembly, DEQ hosted an informational meeting on November 18, 2015, concerning the closure of the ash ponds at the Possum Point Power Station. The informational meeting was intended to supplement the public participation process and allow the public an opportunity to ask DEQ questions.

Fact Sheet Attachments – Table of Contents

Dominion – Possum Point Power Station VA0002071

2016 Modification

Attachment 1	NPDES Permit Rating Worksheet
Attachment 2	Facility Flow Diagram
Attachment 3	Industrial Process Wastewater Outfall Location Map
Attachment 4	Bulk Chemical List
Attachment 5	Bulk Chemical Storage Locations
Attachment 6	Site Visit Memorandum (May 2012)
Attachment 7	Planning Statement
Attachment 8	Dissolved Oxygen Criteria
Attachment 9a	Wasteload Allocation Analysis (Existing Permit)
Attachment 9b	90% pH and Temperature Derivation (Existing Permit)
Attachment 10a	Wasteload Allocation Analysis (Outfall 005, Outfall 010, Internal Outfall 503)
Attachment 10b	90% pH Derivation (Outfall 005 and Internal Outfall 503)
Attachment 11	Mixing Zone Study Final Report - 2011
Attachment 12	Correspondence - DGIF
Attachment 13a	Limit Derivation (Existing Permit)
Attachment 13b	Effluent Data (Existing Permit)
Attachment 14	Limit Derivation (Outfall 005, Outfall 010, Internal Outfall 503)
Attachment 15	Whole Effluent Toxicity Endpoint Determination (Outfall 005, Outfall 010, Internal Outfall 503)
Attachment 16	Site Visit Memorandum (April 2014) / Clarifying Correspondence – Dominion
Attachment 17	Groundwater Data Review Memorandum

Fact Sheet Attachments – Table of Contents (Continued)

Dominion – Possum Point Power Station
VA0002071

2016 Modification

- Attachment 18 Sediment Sampling Data (2001)
- Attachment 19 Quantico Creek Monitoring Station Locations
- Attachment 20 Sediment Sampling Data (2014)
- Attachment 21 Whole Effluent Toxicity Endpoint Determination (Existing Permit)
- Attachment 22 Public Notice
- Attachment 23 Permit Modification Request Letters - Clarification

Attachment F
VPDES Permit No. VA0002071
Dominion – Possum Point Power Station
Proposed, Revised Permit

Introduction

This attachment contains staff's proposed, revised permit for the Dominion – Possum Point Power Station. A summary of permit changes are found within the Fact Sheet found within Attachment D.

Permit No. **VA0002071**
Effective Date: **April 3, 2013**
Minor Modification Date: **May 30, 2013**
Major Modification Date: **DRAFT - TBD**
Expiration Date: **April 2, 2018**

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I – Effluent Limitations and Monitoring Requirements, and Part II – Conditions Applicable To All VPDES Permits, as set forth herein.

Owner Name: Virginia Electric and Power Company d/b/a Dominion Virginia Power
Facility Name: Dominion – Possum Point Power Station
County: Prince William
Facility Location: 19000 Possum Point Road, Dumfries, VA 22026

The owner is authorized to discharge to the following receiving streams:

Outfalls:	<u>001/002, 003, 004</u>	<u>005, 010</u>	<u>007, 008, 009</u>
Stream Name:	Quantico Creek	Quantico Creek, UTs	Potomac River
River Basin:	Potomac River	Potomac River	Potomac River
River Subbasin:	Lower Potomac	Lower Potomac	Lower Potomac
Section:	6	6	Maryland Section 02140102
Class:	II	II	Maryland Designated II
Special Standards:	b (Not Applicable)	b (Not Applicable)	Maryland Designated Use II

Thomas A. Faha
Director, Northern Regional Office
Department of Environmental Quality

Date

A. Effluent Limitations and Monitoring Requirements

1. Outfall 001/002 – Unit 3 Condenser Cooling Water, Unit 5 Cooling Tower Blowdown, Unit 6 Cooling Tower Blowdown, Internal Outfall 503 (Interim), and Stormwater

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit's major modification date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 001/002. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average ⁽¹⁾	Daily Maximum ⁽¹⁾	Minimum	Maximum ⁽¹⁾	Frequency	Sample Type
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/M	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Heat Rejection (Unit 3) ⁽³⁾	NA	NA	NA	5.58x10 ⁸ BTU/hr	Continuous	Calculated
Total Residual Chlorine (TRC) ^(4,9)	0.022 mg/L	NA	NA	0.032 mg/L	2/M	Grab
Total Nitrogen, Intake ^(5,6)	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Nitrogen ^(5,6)	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus, Intake ⁽⁶⁾	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Phosphorus ⁽⁶⁾	NL (mg/L)	NA	NA	NA	1/3M	Grab
Temperature, Intake	NL (°C)	NA	NA	NL (°C)	1/D	IS
Temperature	NL (°C)	NA	NA	NL (°C)	1/D	IS
Dissolved Copper, Intake ^(7,9)	NL (µg/L)	NA	NA	NA	1/6M	Grab
Dissolved Copper ^(7,9)	NL (µg/L)	NA	NA	NA	1/6M	Grab
Total Hardness, Intake (as CaCO ₃) ⁽⁷⁾	NL (mg/L)	NA	NA	NA	1/6M	Grab
Total Hardness (as CaCO ₃) ⁽⁷⁾	NL (mg/L)	NA	NA	NA	1/6M	Grab
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽⁸⁾	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽⁸⁾	NA	NA	NA	NL	1/YR	Grab

⁽¹⁾ See Part I.B.

MGD = Million gallons per day.

1/D = Once every day.

⁽²⁾ Average flow is 86.38 MGD (does not include flows that may be contributed by Internal Outfall 503).

NA = Not applicable.

1/M = Once every month.

⁽³⁾ Measured at the respective condenser units prior to discharge to the Seal Basin.

NL = No limit; monitor and report.

2/M = Twice every month.

⁽⁴⁾ While chlorinating unit condensers. See Part I.B.1 for additional requirements.

S.U. = Standard units.

1/3M = Once every three months.

⁽⁵⁾ Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

IS = Immersion stabilization.

1/6M = Once every six months.

⁽⁶⁾ Intake and discharge sampling for the parameter (Total Phosphorus or Total Nitrogen) shall be conducted on the same date. To the maximum extent practicable, discharge samples shall be collected in such a manner to account for pass through time of the system to allow for evaluation of nutrient additions from station operations.

1/YR = Once every year.

⁽⁷⁾ Dissolved copper and hardness samples shall be collected concurrently. Intake and discharge samples collected to comply with Dissolved Copper and Hardness requirements shall be collected on the same date. To the maximum extent practicable, discharge samples shall be collected in such a manner to account for pass through time of the system to allow for evaluation of dissolved copper additions from station operations.

⁽⁸⁾ See Part I.C for whole effluent toxicity requirements.

⁽⁹⁾ The following Quantification Levels (QLs) are applicable: TRC – 0.10 mg/L; Copper - 5.4 µg/L.

1/3M=The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/6M=The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (July 10 and January 10, respectively).

1/YR=The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Grab=An individual sample collected over a period of time not to exceed 15-minutes.

Estimate=Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

A. Effluent Limitations and Monitoring Requirements

2. Outfall 003 – Unit 4 Condenser Cooling Water

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit’s effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 003. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/M	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Heat Rejection (Unit 4) ⁽³⁾	NA	NA	NA	1.14x10 ⁹ BTU/hr	Continuous	Calculated
Total Residual Chlorine (TRC) ^(4,6)	0.022 mg/L	NA	NA	0.032 mg/L	2/M	Grab
Temperature	NL (°C)	NA	NA	NL (°C)	1/W	IS
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽⁵⁾	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽⁵⁾	NA	NA	NA	NL	1/YR	Grab

⁽¹⁾ See Part I.B.

⁽²⁾ Average flow is 82.55 MGD.

⁽³⁾ Measured at the respective condenser unit.

⁽⁴⁾ While chlorinating unit condensers. See Part I.B.1 for additional requirements.

⁽⁵⁾ See Part I.C for whole effluent toxicity requirements.

⁽⁶⁾ The following Quantification Level (QLs) is applicable: TRC – 0.10 mg/L.

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

IS = Immersion stabilization.

1/W = Once every week.

1/M = Once every month.

2/M = Twice every month.

1/YR = Once every year.

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

A. Effluent Limitations and Monitoring Requirements

3. Outfall 004 – Low Volume Waste Settling Pond, Internal Outfall 502, and Internal Outfall 503 (Interim)

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit’s major modification date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 004. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average ⁽¹⁾	Daily Maximum ⁽¹⁾	Minimum	Maximum ⁽¹⁾	Frequency	Sample Type
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	2/M	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	2/M	Grab
Heat Rejection (Unit 6) ⁽³⁾	NA	NA	NA	1.9x10 ⁸ BTU/hr	2/M	Calculated
Total Residual Chlorine (TRC) ^(4,7)	0.026 mg/L	NA	NA	0.038 mg/L	1/W	Grab
Temperature	NL (°C)	NA	NA	NL (°C)	1/W	IS
Oil and Grease (O&G)	15 mg/L	NA	NA	20 mg/L	2/M	Grab
Total Suspended Solids (TSS) ⁽⁷⁾	30 mg/L	NA	NA	100 mg/L	2/M	Grab
Total Nitrogen ⁽⁵⁾	NL (mg/L)	NA	NA	NA	1/6M	Calculated
Total Kjeldahl Nitrogen (TKN)	NL (mg/L)	NA	NA	NA	1/6M	Grab
Nitrate+Nitrite (NO ₃ + NO ₂), as N	NL (mg/L)	NA	NA	NA	1/6M	Grab
Ammonia, as N ⁽⁷⁾	NL (mg/L)	NA	NA	NA	1/6M	Grab
Total Phosphorus	NL (mg/L)	NA	NA	NA	1/6M	Grab
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽⁶⁾	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽⁶⁾	NA	NA	NA	NL	1/YR	Grab

⁽¹⁾ See Part I.B.

MGD = Million gallons per day.

1/W = Once every week.

⁽²⁾ Average flow is 2.59 MGD (does not include flows that may be contributed by Internal Outfall 503).

NA = Not applicable.

1/M = Once every month.

⁽³⁾ Calculated for the effluent at Outfall 004.

NL = No limit; monitor and report.

2/M = Twice every month.

⁽⁴⁾ While chlorinating unit condensers. See Part I.B.1 for additional requirements.

S.U. = Standard units.

1/6M = Once every six months.

⁽⁵⁾ Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

IS = Immersion stabilization.

1/YR = Once every year.

⁽⁶⁾ See Part I.C for whole effluent toxicity requirements.

⁽⁷⁾ The following Quantification Levels (QLs) are applicable: TRC – 0.10 mg/L; TSS – 1.0 mg/L; Ammonia (as N) – 0.2 mg/L.

1/6M = The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (July 10 and January 10, respectively).

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

A. Effluent Limitations and Monitoring Requirements

4. Outfall 005 – Ash Pond D Dewatering (Interim Configuration – Internal Outfall 503 and Discharge from Holding Basin)

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the commencement of facility dewatering activities and lasting until the expiration date the permittee is authorized to discharge from Outfall Number 005. Internal Outfall 503 is authorized to discharge through Outfall 005. 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 the respective parameters noted below. The effluent and monitoring requirements below apply to Outfall 005 discharges from the holding basin. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements ^(5,6)	
	Monthly Average ^(1,7)	Daily Maximum ^(1,7)	Minimum ⁽⁷⁾	Maximum ^(1,7)	Frequency	Sample Type
Flow ⁽²⁾ (MGD)	NA	NA	NA	2.88	3/W	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS) ⁽⁴⁾	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable ⁽⁴⁾	640 µg/L	640 µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable ⁽⁴⁾	120 µg/L	220 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable ⁽⁴⁾	0.88 µg/L	1.6 µg/L	NA	NA	3/W	4H-C
Chloride	180,000 µg/L	340,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable ⁽⁴⁾	59 µg/L	110 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable ⁽⁴⁾	8.7 µg/L	16 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable ⁽⁴⁾	7.1 µg/L	13 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable ⁽⁴⁾	11 µg/L	20 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable ⁽⁴⁾	0.61 µg/L	1.1 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable ⁽⁴⁾	16 µg/L	29 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable ⁽⁴⁾	4.0 µg/L	7.3 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable ⁽⁴⁾	1.8 µg/L	3.4 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable ⁽⁴⁾	0.47 µg/L	0.47 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable ⁽⁴⁾	65 µg/L	120 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO ₃)	NL (mg/L)	NL (mg/L)	NA	NA	3/W	4H-C
Total Nitrogen ⁽⁸⁾	NL (mg/L)	NA	NA	NA	1/M	Calculation
Total Kjeldahl Nitrogen (TKN)	NL (mg/L)	NA	NA	NA	1/M	4H-C
Nitrate+Nitrite (NO ₃ +NO ₂), as N	NL (mg/L)	NA	NA	NA	1/M	4H-C
Ammonia, as N ⁽⁴⁾	NL (mg/L)	NA	NA	NA	1/M	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽³⁾	NA	NA	NA	1.44 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽³⁾	NA	NA	NA	1.44 TU _c	1/M	24H-C

A. Effluent Limitations and Monitoring Requirements

4. Outfall 005 – Ash Pond E (Interim Configuration – Internal Outfall 503 and Discharge from Holding Basin) – Continued

- | | | |
|---|------------------------------------|----------------------------|
| (1) See Part I.B. | MGD = Million gallons per day. | 3/W = Three days per week. |
| (2) Average flow is 2.53 MGD; Maximum flow is 2.88 MGD | NA = Not applicable. | 1/M = Once every month. |
| (3) See Part I.C for whole effluent toxicity requirements. | NL = No limit; monitor and report. | |
| (4) The following Quantification Levels (QLs) are applicable: TSS – 1.0 mg/L; Antimony – 5.0 µg/L; Arsenic – 5.0 µg/L; Cadmium – 0.88 µg/L; Chromium III – 5.0 µg/L; Chromium VI – 5.0 µg/L; Copper – 5.0 µg/L; Lead – 5.0 µg/L; Mercury – 0.1 µg/L; Nickel – 5.0 µg/L; Selenium – 5.0 µg/L; Silver – 0.4 µg/L; Thallium – 0.47 µg/L; Zinc – 25 µg/L. The permittee may provide documentation that demonstrates the QLs listed for Cadmium and Thallium are not achievable. Based upon review of this documentation the Department may establish higher QLs for Cadmium and Thallium in accordance with 40 CFR 122.44(i)(1)(iv). | S.U. = Standard units. | |
| (5) Sampling for the parameters identified with a monitoring frequency of “3/W” for Outfall 005 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall contract to receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report. | | |
| (6) The composite period for all metals identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring. | | |
| (7) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Outfall 005. See Part I.F.20 for additional requirements. | | |
| (8) Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO ₂ +NO ₃ and shall be calculated from the results of those tests. | | |

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Metals and Total Hardness Requirements:

Samples for all metals and total hardness shall be collected concurrently.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

A. Effluent Limitations and Monitoring Requirements

5. Outfall 007 – Intake Screen Backwash Water (Units 3, 4, 5, and 6)

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit’s effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 007. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/3M	Measured

⁽¹⁾ See Part I.B.

⁽²⁾ Average flow is 0.19 MGD.

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

1/3M = Once every three months.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Measured = In lieu of providing measured flow at Outfall 007, the permittee may estimate flow and submit the following information with the DMR:

1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

A. Effluent Limitations and Monitoring Requirements

6. Outfall 008 – Intake Screenwell Freeze Protection Water

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit’s effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 008. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/3M	Measured

⁽¹⁾ See Part I.B.

⁽²⁾ Average flow is 0.00 MGD.

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

1/3M = Once every three months.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Measured = In lieu of providing measured flow at Outfall 008, the permittee may estimate flow and submit the following information with the DMR:

1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

A. Effluent Limitations and Monitoring Requirements

7. Outfall 009 – Intake Screen Backwash Water (Units 3 and 4)

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit’s major modification date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 009. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/3M	Measured

⁽¹⁾ See Part I.B.

⁽²⁾ Average flow is variable.

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

1/3M = Once every three months.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Measured = In lieu of providing measured flow at Outfall 009, the permittee may estimate flow and submit the following information with the DMR:

1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

A. Effluent Limitations and Monitoring Requirements

8. Outfall 010 – Ash Pond D Toe Drain, Groundwater and Stormwater

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit’s major modification date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 010. Such discharges shall be limited and monitored by the permittee as specified below.
- c. The effluent limitations specified below become effective thirty (30) days after the major modification date of the permit. The monitoring requirements shall commence upon the major modification date of the permit.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average ⁽¹⁾	Daily Maximum ⁽¹⁾	Minimum	Maximum ⁽¹⁾	Frequency	Sample Type
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/M	Estimate
pH	NA	NA	6.0 (S.U.)	9.0 (S.U.)	1/M	Grab
Total Suspended Solids (TSS) ⁽⁴⁾	30 mg/L	100 mg/L	NA	NA	1/M	4H-C
Oil and Grease (O&G)	15 mg/L	20 mg/L	NA	NA	1/M	4H-C
Specific Conductivity	NA	NA	NA	NL (µhoms/cm)	1/M	Grab
Aluminum, Total Recoverable ⁽⁵⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable ⁽⁴⁾	640 µg/L	640 µg/L	NA	NA	1/M	4H-C
Arsenic, Total Recoverable ⁽⁴⁾	220 µg/L	220 µg/L	NA	NA	1/M	4H-C
Barium, Total Recoverable ⁽⁴⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable ⁽⁵⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable ⁽⁵⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable ⁽⁴⁾	1.1 µg/L	1.1 µg/L	NA	NA	1/M	4H-C
Chloride	340,000 µg/L	340,000 µg/L	NA	NA	1/M	4H-C
Chromium III, Total Recoverable ⁽⁴⁾	73 µg/L	73 µg/L	NA	NA	1/M	4H-C
Chromium VI, Total Recoverable ⁽⁴⁾	16 µg/L	16 µg/L	NA	NA	1/M	4H-C
Cobalt, Total Recoverable ⁽⁵⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable ⁽⁴⁾	8.4 µg/L	8.4 µg/L	NA	NA	1/M	4H-C
Iron, Total Recoverable ⁽⁵⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable ⁽⁴⁾	11 µg/L	11 µg/L	NA	NA	1/M	4H-C
Mercury, Total Recoverable ⁽⁴⁾	1.1 µg/L	1.1 µg/L	NA	NA	1/M	4H-C
Molybdenum, Total Recoverable ⁽⁵⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable ⁽⁴⁾	19 µg/L	19 µg/L	NA	NA	1/M	4H-C
Selenium, Total Recoverable ⁽⁴⁾	7.3 µg/L	7.3 µg/L	NA	NA	1/M	4H-C
Silver, Total Recoverable ⁽³⁾	1.5 µg/L	1.5 µg/L	NA	NA	1/M	4H-C
Thallium, Total Recoverable ⁽⁴⁾	0.47 µg/L	0.47 µg/L	NA	NA	1/M	4H-C
Vanadium, Total Recoverable ⁽⁵⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable ⁽⁴⁾	77 µg/L	77 µg/L	NA	NA	1/M	4H-C
Hardness, Total (as CaCO ₃)	NL (mg/L)	NL (mg/L)	NA	NA	1/M	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽³⁾	NA	NA	NA	1.44 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽³⁾	NA	NA	NA	1.44 TU _c	1/M	24H-C

A. Effluent Limitations and Monitoring Requirements

8. Outfall 010 – Ash Pond D Toe Drain – Continued

- (1) See Part I.B. MGD = Million gallons per day. 1/M = Once every month.
(2) Average flow is variable. NA = Not applicable.
(3) See Part I.C for whole effluent toxicity requirements.
(4) The following Quantification Levels (QLs) are applicable: TSS – 1.0 mg/L;
Antimony – 5.0 µg/L; Arsenic – 5.0 µg/L; Cadmium – 0.88 µg/L; Chromium III – 5.0 µg/L;
Chromium VI – 5.0 µg/L; Copper – 5.0 µg/L; Lead – 5.0 µg/L; Mercury – 0.1 µg/L;
Nickel – 5.0 µg/L; Selenium – 5.0 µg/L; Silver – 0.4 µg/L; Thallium – 0.47 µg/L;
Zinc – 25 µg/L. The permittee may provide documentation that demonstrates the QLs listed for
Cadmium and Thallium are not achievable. Based upon review of this documentation the
Department may establish higher QLs for Cadmium and Thallium in accordance with 40 CFR
122.44(i)(1)(iv).
(5) The composite period for the identified metals shall occur within the composite period for the Whole Effluent Toxicity monitoring.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Metals and Total Hardness Requirements:

Samples for all metals and total hardness shall be collected concurrently.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

A. Effluent Limitations and Monitoring Requirements

9. Outfall 201 – Unit 5 Cooling Tower Blowdown

- a. During the period beginning with the permit’s effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 201. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/D-M	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D-W	Grab
Free Available Chlorine ⁽³⁾	0.2 mg/L	NA	NA	0.5 mg/L	1/D-W	Grab
Total Nitrogen ^(4,5)	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus ⁽⁵⁾	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Chromium ⁽⁷⁾	0.2 mg/L	NA	NA	0.2 mg/L	1/D-M	Grab
Total Zinc ⁽⁷⁾	1.0 mg/L	NA	NA	1.0 mg/L	1/D-M	Grab
126 Priority Pollutants ⁽⁶⁾ (Appendix A of 40 CFR Part 423)	Non-Detectable	NA	NA	Non-Detectable	1/D-Y	Grab

⁽¹⁾ See Part I.B.

MGD = Million gallons per day.

1/D-W = Once per week in which there is a discharge.

⁽²⁾ Average flow is 1.48 MGD.

NA = Not applicable.

1/D-M = Once per month in which there is a discharge.

⁽³⁾ While chlorinating the Unit 5 cooling tower. See Part I.B.1 for additional requirements.

NL = No limit; monitor and report.

1/D-Y = Once per year in which there is a discharge.

⁽⁴⁾ Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

S.U. = Standard units.

1/3M = Once every three months in which there is a discharge.

⁽⁵⁾ Sampling of the parameter (either Total Nitrogen or Total Phosphorus) shall be conducted on the same date as sampling for the parameter at the intake and Outfall 001/002 locations.

⁽⁶⁾ See Part I.F.8.

⁽⁷⁾ The following Quantification Levels (QLs) are applicable: Chromium – 13 µg/L; Zinc - 50 µg/L.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/D-Y = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

A. Effluent Limitations and Monitoring Requirements

10. Outfall 202 – Unit 6 Cooling Tower Blowdown

- a. During the period beginning with the permit’s effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 202. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/D-M	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D-W	Grab
Free Available Chlorine ⁽³⁾	0.2 mg/L	NA	NA	0.5 mg/L	1/D-W	Grab
Total Nitrogen ^(4,5)	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus ⁽⁵⁾	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Chromium ⁽⁷⁾	0.2 mg/L	NA	NA	0.2 mg/L	1/D-M	Grab
Total Zinc ⁽⁷⁾	1.0 mg/L	NA	NA	1.0 mg/L	1/D-M	Grab
126 Priority Pollutants ⁽⁶⁾ (Appendix A of 40 CFR Part 423)	Non-Detectable	NA	NA	Non-Detectable	1/D-Y	Grab

⁽¹⁾ See Part I.B.

MGD = Million gallons per day.

1/D-W = Once per week in which there is a discharge.

⁽²⁾ Average flow is 0.91 MGD.

NA = Not applicable.

1/D-M = Once per month in which there is a discharge.

⁽³⁾ While chlorinating the Unit 6 cooling tower. See Part I.B.1 for additional requirements.

NL = No limit; monitor and report.

1/D-Y = Once per year in which there is a discharge.

⁽⁴⁾ Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO₂+NO₃ and shall be calculated from the results of those tests.

S.U. = Standard units.

1/3M = Once every three months in which there is a discharge.

⁽⁵⁾ Sampling of the parameter (either Total Nitrogen or Total Phosphorus) shall be conducted on the same date as sampling for the parameter at the intake and Outfall 001/002 locations.

⁽⁶⁾ See Part I.F.8.

⁽⁷⁾ The following Quantification Levels (QLs) are applicable: Chromium – 13 µg/L; Zinc - 50 µg/L.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/D-Y = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (January 10).

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

A. Effluent Limitations and Monitoring Requirements

11. Outfall 501 – Metals Cleaning Waste Treatment Basin

- a. During the period beginning with the permit’s effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 501. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/D-M	Estimate
Oil and Grease (O&G)	15 mg/L	NA	NA	20 mg/L	1/D-M	Grab
Total Suspended Solids (TSS) ⁽³⁾	30 mg/L	NA	NA	100 mg/L	1/D-M	Grab
Total Iron ⁽³⁾	1.0 mg/L	NA	NA	1.0 mg/L	1/D-M	Grab
Total Copper ⁽³⁾	1.0 mg/L	NA	NA	1.0 mg/L	1/D-M	Grab

⁽¹⁾ See Part I.B.

⁽²⁾ Average flow is 1.04 MGD.

⁽³⁾ The following Quantification Levels (QLs) are applicable:
TSS – 1.0 mg/L; Iron – 1.0 µg/L; Copper – 5.4 µg/L.

MGD = Million gallons per day.

1/D-M = Once per month in which there is a discharge.

NA = Not applicable.

NL = No limit; monitor and report.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

A. Effluent Limitations and Monitoring Requirements

12. Outfall 502 – Oily Waste Treatment Basin

- a. During the period beginning with the permit’s effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 502. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	2/M	Estimate
Oil and Grease (O&G)	15 mg/L	NA	NA	20 mg/L	2/M	Grab
Total Suspended Solids (TSS) ⁽⁶⁾	30 mg/L	NA	NA	100 mg/L	2/M	Grab
Total Petroleum Hydrocarbons (TPH) ⁽³⁾	NL (mg/L)	NA	NA	NL (mg/L)	2/M	Grab
Total Petroleum Hydrocarbons – Oil Range Organics (ORO) ^(4,5)	NL (mg/L)	NA	NA	NL (mg/L)	2/M	Grab

⁽¹⁾ See Part I.B. MGD = Million gallons per day. 2/M = Twice every month.

⁽²⁾ Average flow is 0.57 MGD. NA = Not applicable.

⁽³⁾ TPH is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended. NL = No limit; monitor and report.

⁽⁴⁾ Total Petroleum Hydrocarbons – Oil Range Organics (ORO) shall be measured by EPA SW 846 Method 8015B or any other Virginia Environmental Laboratory Accreditation Program (VELAP) approved method.

⁽⁵⁾ The permittee shall sample and submit TPH-ORO results at the frequency of twice per month for one year. If all reported results for TPH-ORO do not exceed the QL for TPH (0.50 mg/L), the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect one (1) sample during one month within each quarterly monitoring period. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The sample shall be analyzed for TPH-ORO and the results shall be submitted on the DMR no later than the 10th day of the month following the quarterly monitoring period.

Should any of the quarterly monitoring results for TPH-ORO exceed the QL for TPH (0.50 mg/L), the monitoring frequency shall revert to twice per month for the remainder of the permit term.

⁽⁶⁾ The following Quantification Level (QLs) is applicable: TSS – 1.0 mg/L.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

A. Effluent Limitations and Monitoring Requirements

13. Internal Outfall 503 – (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 001/002 or Outfall 004

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the commencement of facility dewatering activities and lasting until the completion of dewatering and/or installation of the underdrain, or the expiration date, whichever occurs first, the permittee is authorized to discharge from Internal Outfall Number 503. The limitations below are applicable when the discharge from Internal Outfall 503 is routed to Outfall 001/002 or Outfall 004. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements ^(5,6)	
	<u>Monthly Average</u> ^(1,7)	<u>Daily Maximum</u> ^(1,7)	<u>Minimum</u> ⁽⁷⁾	<u>Maximum</u> ^(1,7)	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NA	NA	NA	2.88	3/W	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS) ⁽⁴⁾	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Dissolved	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable ⁽⁴⁾	1300 µg/L	1300 µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable ⁽⁴⁾	240 µg/L	440 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Dissolved	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable ⁽⁴⁾	1.4 µg/L	2.6 µg/L	NA	NA	3/W	4H-C
Chloride	370,000 µg/L	670,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable ⁽⁴⁾	88 µg/L	160 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable ⁽⁴⁾	17 µg/L	32 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable ⁽⁴⁾	9.6 µg/L	18 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable ⁽⁴⁾	14 µg/L	26 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable ⁽⁴⁾	1.2 µg/L	2.2 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable ⁽⁴⁾	24 µg/L	44 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable ⁽⁴⁾	8.0 µg/L	15 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable ⁽⁴⁾	2.2 µg/L	4.0 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable ⁽⁴⁾	0.94 µg/L	0.94 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable ⁽⁴⁾	98 µg/L	180 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO ₃)	NL (mg/L)	NL (mg/L)	NA	NA	3/W	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽³⁾	NA	NA	NA	2.85 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽³⁾	NA	NA	NA	2.85 TU _c	1/M	24H-C

A. Effluent Limitations and Monitoring Requirements

13. Internal Outfall 503 – (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 001/002 or Outfall 004 – Continued

- (1) See Part I.B. MGD = Million gallons per day. 3/W = Three days per week.
- (2) Average flow is 2.53 MGD; Maximum flow is 2.88 MGD NA = Not applicable. 1/M = Once every month.
- (3) See Part I.C for whole effluent toxicity requirements. NL = No limit; monitor and report.
- (4) The following Quantification Levels (QLs) are applicable: TSS – 1.0 mg/L; Antimony – 5.0 µg/L; Arsenic – 5.0 µg/L; Cadmium – 0.88 µg/L; Chromium III – 5.0 µg/L; Chromium VI – 5.0 µg/L; Copper – 5.0 µg/L; Lead – 5.0 µg/L; Mercury – 0.1 µg/L; Nickel – 5.0 µg/L; Selenium – 5.0 µg/L; Silver – 0.4 µg/L; Thallium – 0.47 µg/L; Zinc – 25 µg/L. The permittee may provide documentation that demonstrates the QLs listed for Cadmium and Thallium are not achievable. Based upon review of this documentation the Department may establish higher QLs for Cadmium and Thallium in accordance with 40 CFR 122.44(i)(1)(iv). S.U. = Standard units.
- (5) Sampling for the parameters identified with a monitoring frequency of “3/W” for Internal Outfall 503 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall contract to receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report.
- (6) The composite period for the parameters identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring.
- (7) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Metals and Total Hardness Requirements:

Samples for all metals and total hardness shall be collected concurrently.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

A. Effluent Limitations and Monitoring Requirements

14. Internal Outfall 503 – (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 005

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the commencement of facility dewatering activities and lasting until the completion of dewatering and/or installation of the underdrain, or the expiration date, whichever occurs first, the permittee is authorized to discharge from Internal Outfall Number 503. The limitations below are applicable when the discharge from Internal Outfall 503 is routed to Outfall 005. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements ^(5,6)	
	<u>Monthly Average</u> ^(1,7)	<u>Daily Maximum</u> ^(1,7)	<u>Minimum</u> ⁽⁷⁾	<u>Maximum</u> ^(1,7)	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NA	NA	NA	2.88	3/W	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS) ⁽⁴⁾	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable ⁽⁴⁾	640 µg/L	640µg/L ⁽⁴⁾	NA	NA	3/W	4H-C
Arsenic, Total Recoverable ⁽⁴⁾	120 µg/L	220 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable ⁽⁴⁾	0.88 µg/L	1.6 µg/L	NA	NA	3/W	4H-C
Chloride	180,000 µg/L	340,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable ⁽⁴⁾	59 µg/L	110 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable ⁽⁴⁾	8.7 µg/L	16 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable ⁽⁴⁾	7.1 µg/L	13 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable ⁽⁴⁾	11 µg/L	20 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable ⁽⁴⁾	0.61 µg/L	1.1 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable ⁽⁴⁾	16 µg/L	29 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable ⁽⁴⁾	4.0 µg/L	7.3 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable ⁽⁴⁾	1.8 µg/L	3.4 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable ⁽⁴⁾	0.47 µg/L	0.47 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable ⁽⁴⁾	65 µg/L	120 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO ₃)	NL (mg/L)	NL (mg/L)	NA	NA	3/W	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC) ⁽³⁾	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽³⁾	NA	NA	NA	1.44 TU _c	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽³⁾	NA	NA	NA	1.44 TU _c	1/M	24H-C

A. Effluent Limitations and Monitoring Requirements

14. Internal Outfall 503 – (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 005 - Continued

- | | | | |
|-----|--|------------------------------------|----------------------------|
| (1) | See Part I.B. | MGD = Million gallons per day. | 3/W = Three days per week. |
| (2) | Average flow is 2.53 MGD; Maximum flow is 2.88 MGD | NA = Not applicable. | 1/M = Once every month. |
| (3) | See Part I.C for whole effluent toxicity requirements. | NL = No limit; monitor and report. | |
| (4) | The following Quantification Levels (QLs) are applicable: TSS – 1.0 mg/L; Antimony – 5.0 µg/L; Arsenic – 5.0 µg/L; Cadmium – 0.88 µg/L; Chromium III – 5.0 µg/L; Chromium VI – 5.0 µg/L; Copper – 5.0 µg/L; Lead – 5.0 µg/L; Mercury – 0.1 µg/L; Nickel – 5.0 µg/L; Selenium – 5.0 µg/L; Silver – 0.4 µg/L; Thallium – 0.47 µg/L; Zinc – 25 µg/L. The permittee may provide documentation that demonstrates the QLs listed for Cadmium and Thallium are not achievable. Based upon review of this documentation the Department may establish higher QLs for Cadmium and Thallium in accordance with 40 CFR 122.44(i)(1)(iv). | S.U. = Standard units. | |
| (5) | Sampling for the parameters identified with a monitoring frequency of “3/W” for Internal Outfall 503 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall contract to receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report. | | |
| (6) | The composite period for the parameters identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring. | | |
| (7) | The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements. | | |

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Metals and Total Hardness Requirements:

Samples for all metals and total hardness shall be collected concurrently.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by $\geq 10\%$ or more during the monitored discharge.

A. Effluent Limitations and Monitoring Requirements

15. Outfall S107 –Stormwater from Base of Ash Pond D Impoundment

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with written approval from DEQ that Outfall 010 is comprised only of stormwater discharges in accordance with Part I.F.23, and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number S107.
- c. Outfall S107 discharges shall be limited, monitored and managed by the permittee as specified below, and in accordance with Part I.E. and Part I.F.18 of this permit.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/3M	Estimate
pH	NA	NA	6.0 (S.U.)	9.0 (S.U.)	1/3M	Grab
Total Suspended Solids (TSS) ⁽³⁾	NL	NL (mg/L)	NA	NA	1/3M	Grab
Oil and Grease (O&G)	NL	NL (mg/L)	NA	NA	1/3M	Grab
Specific Conductivity	NA	NA	NA	NL (µhoms/cm)	1/3M	Grab
Aluminum, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Antimony, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Arsenic, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Barium, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Beryllium, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Boron, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Cadmium, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Chloride	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Chromium III, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Chromium VI, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Cobalt, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Copper, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Iron, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Lead, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Mercury, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Molybdenum, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Nickel, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Selenium, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Silver, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Thallium, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Vanadium, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Zinc, Total Recoverable ⁽³⁾	NL (µg/L)	NL (µg/L)	NA	NA	1/3M	Grab
Hardness, Total (as CaCO ₃)	NL (mg/L)	NL (mg/L)	NA	NA	1/3M	Grab

A. Effluent Limitations and Monitoring Requirements

15. Outfall S107 –Stormwater from Base of Ash Pond D – Continued

- (1) See Part I.B. MGD = Million gallons per day.
NA = Not applicable.

(2) Average flow is variable.

(3) The following Quantification Levels (QLs) are applicable: TSS – 1.0 mg/L;
Antimony – 5.0 µg/L; Arsenic – 5.0 µg/L; Cadmium – 0.88 µg/L; Chromium III – 5.0 µg/L;
Chromium VI – 5.0 µg/L; Copper – 5.0 µg/L; Lead – 5.0 µg/L; Mercury – 0.1 µg/L;
Nickel – 5.0 µg/L; Selenium – 5.0 µg/L; Silver – 0.4 µg/L; Thallium – 0.47 µg/L;
Zinc – 25 µg/L. The permittee may provide documentation that demonstrates the QLs listed for
Cadmium and Thallium are not achievable. Based upon review of this documentation the
Department may establish higher QLs for Cadmium and Thallium in accordance with 40 CFR
122.44(i)(1)(iv).

1/3M = Once every 3 months in which there is a discharge. The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and
October 1 – December 31. The DMR shall be submitted no later than the 10th day of the month following the monitoring period (April 10, July 10, October 10 and
January 10, respectively).

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Metals and Total Hardness Requirements:

Samples for all metals and total hardness shall be collected concurrently.

A. Stormwater Monitoring Requirements

16. Outfalls S5, S31, S35, S36, S37, S42, S49, S61, S77, S78, S79, S80, S86, S94, S95, and S108 - Storm Water

- a. During the period beginning with the permit's major modification date and lasting until the expiration date, the permittee is authorized to discharge storm water from Outfalls S5, S31, S35, S36, S37, S42, S49, S61, S77, S78, S79, S80, S86, S94, S95, and S108. Such discharges shall be monitored and managed in accordance with Part I.E.
- b. In addition to the requirements established in Part I.E of the permit, Outfall S108 shall be monitored and managed in accordance with Part I.F.18 of the permit.

Outfalls S78, S79, S80, S86, and S94 shall only contain stormwater not exposed to industrial activity.

Outfalls S5, S31, S35, S36, S37, S42, S49, S61, S77, S95, and S108 shall only contain stormwater influenced by industrial activity.

The following industrially influenced storm water outfalls have been deemed representative:

- Outfall S5 is deemed representative of Outfall S31 Outfall S35.
 - Outfall S42 is deemed representative of Outfalls S49 and S77.
 - Outfall S61 is deemed representative of Outfalls S36 and S37.
-

A. Effluent Limitations and Monitoring Requirements

17. Groundwater Monitoring (Monitoring Wells ED-1, ED-3, ED-9R, ED-15, ED-24R, ED-32, ES-1, ES-3a, ES-4)

- a. During the period beginning with the permit's major modification date, and lasting until the permit expiration date, the permittee is authorized to manage pollutants at Ash Pond D and Ash Pond E. The groundwater shall be monitored by the permittee as specified below except where groundwater monitoring is superseded pursuant to Part I.D. 5 of the permit.

Observation Wells				
Ash Pond D Stratum D ED-1, ED-3, ED-9R, ED-15, ED-24R, ED-32			Ash Pond E Stratum E ES-1, ES-3a, ES-4	
PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	Limitations	Units	Frequency ⁽¹⁾	Sample Type
Static Water Level (mean sea level)	NL	Feet	Semi-Annual	Measurement
pH	NL	Standard Units	Semi-Annual	Grab
Conductivity	NL	µmhos/cm	Semi-Annual	Grab
Hardness (as CaCO ₃)	NL	mg/L	Semi-Annual	Grab
Chlorides	NL	mg/L	Semi-Annual	Grab
Fluoride	NL	mg/L	Semi-Annual	Grab
Sodium	NL	mg/L	Semi-Annual	Grab
Potassium	NL	mg/L	Semi-Annual	Grab
Sulfate	NL	mg/L	Semi-Annual	Grab
Total Organic Carbon	NL	mg/L	Semi-Annual	Grab
Temperature	NL	°C	Semi-Annual	Grab
Dissolved Arsenic	NL	µg/L	Semi-Annual	Grab
Dissolved Barium	NL	µg/L	Semi-Annual	Grab
Dissolved Cadmium	NL	µg/L	Semi-Annual	Grab
Dissolved Copper	NL	µg/L	Semi-Annual	Grab
Dissolved Iron	NL	µg/L	Semi-Annual	Grab
Dissolved Lead	NL	µg/L	Semi-Annual	Grab
Dissolved Manganese	NL	µg/L	Semi-Annual	Grab
Dissolved Mercury	NL	µg/L	Semi-Annual	Grab
Dissolved Nickel	NL	µg/L	Semi-Annual	Grab
Dissolved Selenium	NL	µg/L	Semi-Annual	Grab
Dissolved Silver	NL	µg/L	Semi-Annual	Grab
Dissolved Vanadium	NL	µg/L	Semi-Annual	Grab
Dissolved Zinc	NL	µg/L	Semi-Annual	Grab
Phenol	NL	mg/L	Semi-Annual	Grab

⁽¹⁾ The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31.

NL = No limit; monitor and report.

Grab = An individual sample collected over a period of time not to exceed 15-minutes or time needed to collect proper sample amount.

A. Effluent Limitations and Monitoring Requirements

18. Groundwater Monitoring (Monitoring Wells ED-4, ED-5, ED-17, ED-26, ED-31, ED-33)

- a. During the period beginning with the permit's major modification date, and lasting until the permit expiration date, the permittee is authorized to manage pollutants at Ash Pond D and Ash Pond E. The groundwater shall be monitored by the permittee as specified below except where groundwater monitoring is superseded pursuant to Part I.D. 5 of the permit.

Observation Wells		
Ash Pond D and Ash Pond E	Stratum B	ED-4, ED-5, ED-17
	Stratum E	ED-31
	Stratum F	ED-26, ED-33

PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	Limitations	Units	Frequency ⁽¹⁾	Sample Type
Static Water Level (mean sea level)	NL	Feet	Annual	Measurement
pH	NL	Standard Units	Annual	Grab
Conductivity	NL	µmhos/cm	Annual	Grab
Hardness (as CaCO ₃)	NL	mg/L	Annual	Grab
Chlorides	NL	mg/L	Annual	Grab
Fluoride	NL	mg/L	Annual	Grab
Sodium	NL	mg/L	Annual	Grab
Potassium	NL	mg/L	Annual	Grab
Sulfate	NL	mg/L	Annual	Grab
Total Organic Carbon	NL	mg/L	Annual	Grab
Temperature	NL	°C	Annual	Grab
Dissolved Arsenic	NL	µg/L	Annual	Grab
Dissolved Barium	NL	µg/L	Annual	Grab
Dissolved Cadmium	NL	µg/L	Annual	Grab
Dissolved Copper	NL	µg/L	Annual	Grab
Dissolved Iron	NL	µg/L	Annual	Grab
Dissolved Lead	NL	µg/L	Annual	Grab
Dissolved Manganese	NL	µg/L	Annual	Grab
Dissolved Mercury	NL	µg/L	Annual	Grab
Dissolved Nickel	NL	µg/L	Annual	Grab
Dissolved Selenium	NL	µg/L	Annual	Grab
Dissolved Silver	NL	µg/L	Annual	Grab
Dissolved Vanadium	NL	µg/L	Annual	Grab
Dissolved Zinc	NL	µg/L	Annual	Grab
Phenol	NL	mg/L	Annual	Grab

⁽¹⁾ The annual monitoring period shall be January 1 – December 31.

NL = No limit; monitor and report.

Grab = An individual sample collected over a period of time not to exceed 15-minutes or time needed to collect proper sample amount.

A. Effluent Limitations and Monitoring Requirements

19. Groundwater Monitoring (Monitoring Wells OWB-1, OWB-2, OWB-3, OWB-4, and OWB-5)

a. During the period beginning with the permit's effective date and lasting until the permit expiration date, the permittee is authorized to manage pollutants at the Oily Waste Treatment Basin. The groundwater shall be monitored by the permittee as specified below.

Observation Wells				
Oily Waste Treatment Basin OWB-1, OWB-2, OWB-3, OWB-4, and OWB-5				
PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	Limitations	Units	Frequency ⁽¹⁾	Sample Type
Static Water Level (mean sea level)	NL	Feet	Semi-Annual	Measurement
pH	NL	Standard Units	Semi-Annual	Grab
Conductivity	NL	µmhos/cm	Semi-Annual	Grab
Hardness (as CaCO ₃)	NL	mg/L	Semi-Annual	Grab
Chlorides	NL	mg/L	Semi-Annual	Grab
Fluoride	NL	mg/L	Semi-Annual	Grab
Sodium	NL	mg/L	Semi-Annual	Grab
Potassium	NL	mg/L	Semi-Annual	Grab
Sulfate	NL	mg/L	Semi-Annual	Grab
Total Organic Carbon	NL	mg/L	Semi-Annual	Grab
Temperature	NL	°C	Semi-Annual	Grab
Dissolved Arsenic	NL	µg/L	Semi-Annual	Grab
Dissolved Barium	NL	µg/L	Semi-Annual	Grab
Dissolved Cadmium	NL	µg/L	Semi-Annual	Grab
Dissolved Copper	NL	µg/L	Semi-Annual	Grab
Dissolved Iron	NL	µg/L	Semi-Annual	Grab
Dissolved Lead	NL	µg/L	Semi-Annual	Grab
Dissolved Manganese	NL	µg/L	Semi-Annual	Grab
Dissolved Mercury	NL	µg/L	Semi-Annual	Grab
Dissolved Nickel	NL	µg/L	Semi-Annual	Grab
Dissolved Selenium	NL	µg/L	Semi-Annual	Grab
Dissolved Silver	NL	µg/L	Semi-Annual	Grab
Dissolved Vanadium	NL	µg/L	Semi-Annual	Grab
Dissolved Zinc	NL	µg/L	Semi-Annual	Grab
Phenol	NL	mg/L	Semi-Annual	Grab
Total Petroleum Hydrocarbons - Diesel Range Organics ⁽²⁾	NL	mg/L	Semi-Annual	Grab
Total Petroleum Hydrocarbons - Oil Range Organics ⁽³⁾	NL	mg/L	Semi-Annual	Grab
Benzene	NL	mg/L	Semi-Annual	Grab
Ethylbenzene	NL	mg/L	Semi-Annual	Grab
Toluene	NL	mg/L	Semi-Annual	Grab
Total Xylenes	NL	mg/L	Semi-Annual	Grab

⁽¹⁾ The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31.

NL = No limit; monitor and report.

⁽²⁾ Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

⁽³⁾ Total Petroleum Hydrocarbons – Oil Range Organics (ORO) shall be measured by EPA SW 846 Method 8015B or any other Virginia Environmental Laboratory Accreditation Program (VELAP) approved method.

Grab = An individual sample collected over a period of time not to exceed 15-minutes or time needed to collect proper sample amount.

B. Additional Monitoring Requirements, Quantification Levels and Compliance Reporting

1. Additional Total Residual Chlorine (TRC) Limitations and Monitoring Requirements

- a. Neither free available nor total residual chlorine may be discharged from Units 3, 4, 5, and 6 for more than two hours in any one day, unless the permittee demonstrates to the Department of Environmental Quality (DEQ) that discharge for more than two hours is required for macroinvertebrate control. If the permittee is dechlorinating, the two hour requirement is nullified.
- b. Simultaneous multi-unit chlorination is permitted.
- c. Monitoring for free available and/or total residual chlorine shall only be required when the permittee is chlorinating.

2. Quantification Levels

- a. The quantification levels (QL) shall be less than or equal to those concentrations noted in Part I.A.1 through Part I.A.14 of this permit, respectively. For those parameters where a specific QL is not listed, the QL is at the discretion of the permittee. The selected QL shall be able to demonstrate compliance with established limitations.
- b. The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. The permittee shall use any method in accordance with Part II. A of this permit.
- c. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained.

3. Compliance Reporting for parameters in Part I.A.

- a. Monthly Average – Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.B.2.a of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above) shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above), then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

- b. Daily Maximum - Compliance with the daily maximum limitations and/or reporting requirements for the parameters listed in Part I.B.2.a of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above) shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each day during the reporting month. The maximum value of these daily averages thus determined shall be reported on the DMR as the Daily Maximum. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above), then the maximum value of the daily averages shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported daily maximum is <QL, then report "<QL" for the quantity. Otherwise use the reported daily average concentrations (including the defined zeros) and corresponding daily flows to determine daily average quantities and report the maximum of the daily average quantities during the reporting month.
- c. Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used in the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above). Otherwise the numerical value shall be reported.
- d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used (i.e., 5 always rounding up or to the nearest even number) by the permittee, the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

C. Whole Effluent Toxicity Program Requirements

1. Biological Monitoring for Outfall 001/Outfall 002, Outfall 003, and Outfall 004

- a. In accordance with the schedule in Part I.C.1.h. below, the permittee shall conduct annual chronic toxicity tests for the duration of the permit. The permittee shall collect grab samples of effluent from Outfall 001/002, Outfall 003, and Outfall 004 at each outfall's respective designated point of compliance.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*

Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable and a retest shall be performed. The NOEC as determined by hypothesis testing shall be converted to TU_c (Chronic Toxic Units) for DMR reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

- b. The permittee may provide additional samples to address data variability. These data shall be reported. Test procedures and reporting shall be in accordance with the Whole Effluent Toxicity (WET) testing methods cited in 40 CFR 136.3.

- c. The test dilutions shall bracket and include the following endpoints:

Outfall 001/002, and Outfall 003: Chronic NOEC \geq 35%; equivalent to a $TU_c \leq 2.85$

Outfall 004: Chronic NOEC \geq 17%; equivalent to a $TU_c \leq 5.88$

- d. The test data will be evaluated statistically for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee or if toxicity has been noted. Should evaluation of the data indicate that a limit is warranted, a WET limit and compliance schedule will be required.
- e. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limitation shall control the toxicity of the effluent.
- f. Should the results of any test exceed the endpoint cited above, the permittee shall conduct a retest of the effluent within 30 days.
- g. Should the permittee conduct toxicity testing of the effluent prior to the compliance date listed in the schedule in Part I.C.1.h. below, the results of the test and the test report shall be reported with the DMR for the month following the receipt of the testing results. In no case shall this exceed 45 days from the completion of the test or the report submission date below, whichever may occur first.
- h. Reporting Schedule

The permittee shall monitor during the specified period, shall report the results on the DMR, and shall supply one copy of the toxicity test report specified in this Whole Effluent Toxicity Program in accordance with the following schedule:

Period	Sampling Period	DMR/Report Submission Dates
Annual 1	January 1, 2013 – December 31, 2013	January 10, 2014
Annual 2	January 1, 2014 – December 31, 2014	January 10, 2015
Annual 3	January 1, 2015 – December 31, 2015	January 10, 2016
Annual 4	January 1, 2016 – December 31, 2016	January 10, 2017

2. Biological Monitoring for Internal Outfall 503, Outfall 005 (Interim Configuration) and Outfall 010

- a. The Whole Effluent Toxicity (WET) limitations as set forth in Part I.A. and within this section shall be effective immediately upon initiation of the discharge at Internal Outfall 503 as in Part I.A.13 and Part I.A.14 and 30 days after the major modification date for Outfall 010 as in Part I.A.8.
- b. In accordance with the schedule in Part I.C.2.d., the permittee shall conduct monthly acute and chronic toxicity tests using 24-hour flow-proportioned composite samples of final effluent from Internal Outfall 503 and Outfall 010.

The acute tests to use are:

48 Hour Static Acute test using *Ceriodaphnia dubia*

48 Hour Static Acute test using *Pimephales promelas*

These single dilution acute tests are to be conducted using a minimum of 4 replicates, with 5 organisms each, for the control and 100% effluent. The NOAEC (No Observed Adverse Effect Concentration) shall be reported as either = 100% or < 100% (less than 100%). The effluent will be in compliance if the survival of the test organisms in both the control and 100% effluent exposures equals or exceeds 90%. If the survival in the effluent is less than 90% and this value is significantly different from the control survival, as determined by hypothesis testing, the NOAEC is less than 100% and the effluent is not in compliance. Tests in which control survival is less than 90% are not acceptable. A retest of a non-acceptable test shall be performed during the same compliance period as the test it is replacing. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*

Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable and a retest shall be performed. The NOEC, as determined by hypothesis testing, shall be converted to TU_c (Chronic Toxic Units) for DMR reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

- c. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limitation shall control the toxicity of the effluent.
- d. Reporting Schedule

The permittee shall report the results on the DMR and shall supply one (1) copy of the toxicity test report as specified in this Whole Effluent Toxicity program in accordance with the following schedule:

<u>Monitoring Period</u>	<u>Testing Period</u>	<u>Report Submittal Dates</u>
1 st month	The first calendar month following the applicability as in Part I.A.13, Part I.A.14 and Part I.A.8.	By the 10 th day of the month following the testing period.
Monthly thereafter until discharge ceases	Every calendar month following the previous month.	By the 10 th day of the month following the testing period.

D. Groundwater Monitoring

1. Groundwater Monitoring Requirements

- a. The permittee shall continue sampling and reporting in accordance with Part I.A.17 through Part I.A.19 of the modified permit and the groundwater monitoring plan approved on April 9, 2012, by the DEQ Northern Regional Office. The purpose of this plan is to determine if the integrity of Ash Pond D, Ash Pond E, and the Oily Waste Treatment Basin is being maintained and to indicate if activities at the site are resulting in apparent violations or exceedances of the Board's Ground Water Standards. The permittee shall review the existing Groundwater Monitoring Plan and notify the DEQ Northern Regional Office, in writing, whether it is still accurate and complete by July 3, 2013. If the Groundwater Monitoring Plan is no longer accurate and complete, a revised Groundwater Monitoring Plan shall be submitted for approval to the DEQ Northern Regional Office by July 3, 2013. The approved plan is an enforceable part of the permit. Any future changes to the plan must be submitted for approval to the DEQ Northern Regional Office within 90 days of the changes.
- b. The permittee shall use any method in accordance with Part II. A of this permit.

2. Groundwater Reporting

- a. The permittee shall submit a Groundwater Annual Report to the DEQ Northern Regional Office by April 30th of each year.
- b. The Annual Report shall include the annual and semi-annual sampling results for that year. The Annual Report shall also include a review of the groundwater quality on the basis of background quality, Water Quality Standards, and statistical deviation thereof, as applicable with the Anti-degradation Policy for Groundwater.

3. Site Characterization Report

- a. Should data warrant, DEQ may require a Site Characterization Report for Ash Pond D, Ash Pond E and the Oily Waste Treatment Basin.
- b. The permittee shall submit the Site Characterization Report no later than three years after being notified by the regional office.
- c. The report shall include, at a minimum, an assessment of the following:
 1. The spatial extent and severity of the contamination with concentration depicted by isoconcentration maps;
 2. The cause of the contamination;
 3. Identification of both human health and environmental receptors;
 4. An assessment of risk to each receptor; and
 5. An analysis of remediation alternatives.

4. Corrective Action Plan

- a. Following review and approval of a Site Characterization Report, a Corrective Action Plan may be required by DEQ-NRO. The plan shall be due within 180 days of being notified by the regional office. The plan shall set forth the steps to be taken by the permittee to ensure that the contamination source is eliminated or that the contaminant plume is contained on the permittee's property. In addition, based on the extent of contamination, a risk analysis may be required. Once approved, this plan and/or analysis shall be incorporated into the permit by reference and become an enforceable part of this permit. The

permittee shall put into practice the corrective action plan within 180 days after it has been approved by the regional office.

5. Groundwater Monitoring-Units Subject to the Virginia Solid Waste Management Regulations Upon Closure or Post-Closure

- a. Existing groundwater monitoring, corrective action and/or risk assessment plans currently in effect under this VPDES permit will remain in effect until such time that they are superseded by a groundwater monitoring program issued pursuant to the Virginia Solid Waste Management Regulations (VSWMR) (9VAC20-81-10 et seq.). The permittee shall be notified when groundwater monitoring in accordance with this provision has been superseded and within 90 days of such notification, shall submit an updated groundwater monitoring plan to reflect groundwater monitoring that will continue in accordance with the paragraph below.

Where a unit will continue to operate and is not subject to the VSWMR for closure or post-closure, groundwater monitoring shall continue in accordance with this Permit and the approved groundwater monitoring plan.

E. Storm Water Management

1. General Storm Water Special Conditions

a. Quarterly Visual Examination of Storm Water Quality

1. The permittee shall perform and document a quarterly visual examination of a storm water discharge associated with industrial activity from the industrially influenced outfalls listed in Part I.A.15 and Part A.1.16, except discharges exempted below. The examination(s) shall be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The visual examination shall be made during daylight hours (e.g., normal working hours). If no storm event resulted in runoff from the facility during a monitoring quarter, the permittee is excused from visual monitoring for that quarter provided that documentation is included with the monitoring records indicating that no runoff occurred. The documentation shall be signed and certified in accordance with Part II.K (Signatory Requirements) of this permit.
2. Visual examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging from the facility. The examination shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen and other obvious indicators of storm water pollution. The examination shall be conducted in a well-lit area. No analytical tests are required to be performed on the samples. All samples (except snowmelt samples) shall be collected from the discharge resulting from a storm event that results in an actual discharge from the site (defined as a "measurable storm event"), and that occurs at least 72 hours from the previously measurable storm event. The 72-hour storm interval is waived if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term. If no qualifying storm event resulted in runoff during daylight hours from the facility during a monitoring quarter, the permittee is excused from visual monitoring for that quarter provided that documentation is included with the monitoring records indicating that no qualifying storm event occurred during daylight hours that resulted in storm water runoff during that quarter. The documentation shall be signed and certified in accordance with Part II.K (Signatory Requirements) of this permit.

3. The visual examination reports shall be maintained on-site with the Storm Water Pollution Prevention Plan (SWPPP). The report shall include the outfall location, the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.
4. If the facility has two or more outfalls that discharge substantially identical effluents, based on similarities of the industrial activities, significant materials, size of drainage areas, and storm water management practices occurring within the drainage areas of the outfalls, the permittee may conduct visual monitoring on the effluent of just one of the outfalls and report that the observations also-apply to the substantially identical outfall(s), provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (i.e., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)) shall be provided in the plan.
5. When the permittee is unable to conduct the visual examination due to adverse climatic conditions, the permittee shall document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

b. Allowable Non-Storm Water Discharges

1. The following non-storm water discharges are authorized by this permit provided the non-storm water component of the discharge is in compliance with this VPDES permit:
 - a) Discharges from fire fighting activities;
 - b) Fire hydrant flushings;
 - c) Potable water including water line flushings;
 - d) Uncontaminated air conditioning or compressor condensate;
 - e) Irrigation drainage;
 - f) Landscape watering provided all pesticides, herbicides and fertilizers have been applied in accordance with manufacturer's instructions;
 - g) Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
 - h) Routine external building wash down which does not use detergents;
 - i) Uncontaminated ground water or spring water;
 - j) Foundation or footing drains where flows are not contaminated with process materials;
 - k) Demineralized water from storage tanks;

- l) Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but NOT intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains); and
 - m) Uncontaminated river water.
2. Except for flows from fire fighting activities, the Storm Water Pollution Prevention Plan shall include:
 - a) Identification of each allowable non-storm water source;
 - b) The location where the non-storm water is likely to be discharged; and
 - c) Descriptions of appropriate BMPs for each source.
 3. If mist blown from cooling towers is included as one of the allowable non-storm water discharges from the facility, the permittee shall specifically evaluate the discharge for the presence of chemicals used in the cooling tower. The evaluation shall be included in the SWPPP.

c. Releases of Hazardous Substances or Oil in Excess of Reportable Quantities

The discharge of hazardous substances or oil in the storm water discharge(s) from the facility shall be prevented or minimized in accordance with the storm water pollution prevention plan for the facility. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill. This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117 and 40 CFR 302 or § 62.1-44.34:19 of the Code of Virginia. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 40 CFR 117 or 40 CFR 302 occurs during a 24-hour period:

1. The permittee is required to notify the Department in accordance with the requirements of Part II.G (Reports of Unauthorized Discharges) of this permit as soon as he or she has knowledge of the discharge;
2. Where a release enters a municipal separate storm sewer system (MS4), the permittee shall also notify the owner of the MS4; and
3. The storm water pollution prevention plan required by this permit shall be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan shall be modified where appropriate.

d. Additional Requirements for Salt Storage

Storage piles of salt or piles containing salt used for deicing or other commercial or industrial purposes shall be enclosed or covered to prevent exposure to precipitation. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. All salt storage piles shall be located on an impervious surface. All runoff from the pile, and/or runoff that comes in contact with salt, including under drain systems, shall be collected and contained within a bermed basin lined with concrete or other impermeable materials., or within an underground storage tank(s), or within an above ground storage tank(s), or disposed of through a sanitary sewer (with the permission of the treatment facility). A

combination of any or all of these methods may be used. In no case shall salt contaminated storm water be allowed to discharge directly to the ground or to state waters.

2. Storm Water Pollution Prevention Plan

A storm water pollution prevention plan (SWPPP) for the facility was required to be developed and implemented under the previous permit. The existing storm water pollution prevention plan shall be reviewed and modified, as appropriate, to conform to the requirements of this section. Permittees shall implement the provisions of the storm water pollution prevention plan as a condition of this permit.

The storm water pollution prevention plan requirements of this permit may be fulfilled, in part, by incorporating by reference other plans or documents such as a spill prevention control and countermeasure (SPCC) plan developed for the facility under Section 311 of the Clean Water Act, or best management practices (BMP) programs otherwise required for the facility, provided that the incorporated plan meets or exceeds the plan requirements of Part I.E.2.b (Contents of the Plan). All plans incorporated by reference into the storm water pollution prevention plan become enforceable under this permit. If a plan incorporated by reference does not contain all of the required elements of the SWPPP of Part I.E.2.b the permittee shall develop the missing SWPPP elements and include them in the required plan.

a. Deadlines for Plan Preparation and Compliance

1. **Measures That Require Construction.** In cases where construction is necessary to implement measures required by the plan, the plan shall contain a schedule that provides compliance with the plan as expeditiously as practicable, but no later than 3 years after the effective date of this permit. Where a construction compliance schedule is included in the plan, the schedule shall include appropriate nonstructural and/or temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure.

b. Contents of the Plan

The contents of the SWPPP shall comply with the requirements listed below. The plan shall include, at a minimum, the following items:

1. **Pollution Prevention Team.** The plan shall identify the staff individuals by name or title that comprise the facility's storm water pollution prevention team. The pollution prevention team is responsible for assisting the facility or plant manager in developing, implementing, maintaining, revising, and ensuring compliance with the facility's SWPPP. Specific responsibilities of each staff individual on the team shall be identified and listed.
2. **Site Description.** The plan shall include the following:
 - a) **Activities at the Facility.** A description of the nature of the industrial activities at the facility.
 - b) **General Location Map.** A general location map (e.g., USGS quadrangle or other map) with enough detail to identify the location of the facility and the receiving waters within one mile of the facility.
 - c) **Site Map.** A site map identifying the following:
 - (i) The size of the property (in acres);
 - (ii) The location and extent of significant structures and impervious surfaces (roofs, paved areas and other impervious areas);

- (iii) Locations of all storm water conveyances including ditches, pipes, swales, and inlets, and the directions of storm water flow (use arrows to show which ways storm water will flow);
 - (iv) Locations of all existing structural and source control BMPs;
 - (v) Locations of all surface water bodies, including wetlands;
 - (vi) Locations of potential pollutant sources identified under Part I.E.2.b.3;
 - (vii) Locations where significant spills or leaks identified under Part I.E.2 b.4 have occurred;
 - (viii) Locations of the following activities where such activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading/unloading areas; locations used for the treatment, storage or disposal of wastes; liquid storage tanks; processing and storage areas; access roads, rail cars and tracks; transfer areas for substances in bulk; and machinery;
 - (ix) Locations of storm water outfalls and an approximate outline of the area draining to each outfall, and location of municipal storm sewer systems, if the storm water from the facility discharges to them;
 - (x) Location and description of all non-storm water discharges;
 - (xi) Location of any storage piles containing salt used for deicing or other commercial or industrial purposes;
 - (xii) Locations and sources of runoff to the site from adjacent property, where the runoff contains significant quantities of pollutants. The permittee shall include an evaluation with the SWPPP of how the quality of the storm water running onto the facility impacts the facility's storm water discharges; and
 - (xiii) Storage tanks, scrap yards, general refuse areas; short and long term storage of general materials (including, but not limited to: supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills; construction sites; and stock pile areas (such as coal or limestone piles).
- d) Receiving Waters and Wetlands. The name of all surface waters receiving discharges from the site, including intermittent streams, dry sloughs, and arroyos. Provide a description of wetland sites that may receive discharges from the facility. If the facility discharges through a municipal separate storm sewer system (MS4), identify the MS4 operator, and the receiving water to which the MS4 discharges.
3. Summary of Potential Pollutant Sources. The plan shall identify each separate area at the facility where industrial materials or activities are exposed to storm water. Industrial materials or activities include, but are not limited to: material handling equipment or activities, industrial machinery, raw materials, industrial production and processes, intermediate products, byproducts, final products, and waste products. Material handling activities include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product. For each separate area identified, the description shall include:

- a) Activities in Area. A list of the activities (e.g., material storage, equipment fueling and cleaning, cutting steel beams); and
 - b) Pollutants. A list of the associated pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, cleaning solvents, etc.) for each activity. The pollutant list shall include all significant materials handled, treated, stored or disposed that have been exposed to storm water in the three years prior to the date this SWPPP was prepared or amended. The list shall include any hazardous substances or oil at the facility.
4. Spills and Leaks. The SWPPP shall clearly identify areas where potential spills and leaks that can contribute pollutants to storm water discharges can occur and their corresponding outfalls. The plan shall include a list of significant spills and leaks of toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a storm water conveyance during the three-year period prior to the date this SWPPP was prepared or amended. The list shall be updated if significant spills or leaks occur in exposed areas of the facility during the term of the permit. Significant spills and leaks include releases of oil or hazardous substances in excess of reportable quantities, and may also include releases of oil or hazardous substances that are not in excess of reporting requirements.
 5. Sampling Data. The plan shall include a summary of existing storm water discharge sampling data taken at the facility. The summary shall include, at a minimum, any data collected during the previous permit term.
 6. Storm Water Controls.
 - a) BMPs shall be implemented for all the areas identified in Part I.E.2.b.3 (Summary of Potential Pollutant Sources) to prevent or control pollutants in storm water discharges from the facility. All reasonable steps shall be taken to control or address the quality of discharges from the site that may not originate at the facility. The SWPPP shall describe the type, location and implementation of all BMPs for each area where industrial materials or activities are exposed to storm water. Selection of BMPs shall take into consideration:
 - (i) That preventing storm water from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from storm water;
 - (ii) BMPs generally shall be used in combination with each other for most effective water quality protection;
 - (iii) Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures;
 - (iv) That minimizing impervious areas at the facility can reduce runoff and improve groundwater recharge and stream base flows in local streams (however, care shall be taken to avoid ground water contamination);
 - (v) Flow attenuation by use of open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;
 - (vi) Conservation or restoration of riparian buffers will help protect streams from storm water runoff and improve water quality; and

- (vii) Treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.
- b) Control Measures. The permittee shall implement the following types of BMPs to prevent and control pollutants in the storm water discharges from the facility, unless it can be demonstrated and documented that such controls are not relevant to the discharges (e.g., there are no storage piles containing salt).
 - (i) Good Housekeeping. The permittee shall keep clean all exposed areas of the facility that are potential sources of pollutants to storm water discharges. Typical problem areas include areas around trash containers, storage areas, loading docks, and vehicle fueling and maintenance areas. The plan shall include a schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers. The introduction of raw, final or waste materials to exposed areas of the facility shall be minimized to the maximum extent practicable. The generation of dust, along with off-site vehicle tracking of raw, final or waste materials, or sediments, shall be minimized to the maximum extent practicable.
 - (ii) Eliminating and Minimizing Exposure. To the extent practicable, industrial materials and activities shall be located inside, or protected by a storm-resistant covering to prevent exposure to rain, snow, snowmelt, and runoff. Note: Eliminating exposure at all industrial areas may make the facility eligible for the "Conditional Exclusion for No Exposure" provision of 9VAC25-31-120 E, thereby eliminating the need to have a permit.
 - (iii) Preventive Maintenance. The permittee shall have a preventive maintenance program that includes regular inspection, testing, maintenance and repairing of all industrial equipment and systems to avoid breakdowns or failures that could result in leaks, spill and other releases. This program is in addition to the specific BMP maintenance required under Part I.E.2.c (Maintenance of BMPs).
 - (iv) Spill Prevention and Response Procedures. The plan shall describe the procedures that will be followed for preventing and responding to spills and leaks.
 - (a) Preventive measures include barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
 - (b) Response procedures shall include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing and cleaning up spills. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265. Employees who may cause, detect or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals shall be a member of the Pollution Prevention Team.
 - (c) Contact information for individuals and agencies that shall be notified in the event of a spill shall be included in the SWPPP, and in other locations where it will be readily available.
 - (v) Routine Facility Inspections. Facility personnel who possess the knowledge and skills to assess conditions and activities that could impact storm water quality at the facility, and who can also evaluate the effectiveness of BMPs shall regularly inspect all areas of the facility where industrial materials or activities are exposed to storm water. These inspections are in addition to, or as part of, the comprehensive site evaluation required

under Part I.E.2.d. At least one member of the Pollution Prevention Team shall participate in the routine facility inspections.

The inspection frequency shall be specified in the plan based upon a consideration of the level of industrial activity at the facility, but shall be a minimum of quarterly unless more frequent intervals are specified elsewhere in the permit or written approval is received from the Department for less frequent intervals. At least once each calendar year, the routine facility inspection shall be conducted during a period when a storm water discharge is occurring.

Any deficiencies in the implementation of the SWPPP that are found shall be corrected as soon as practicable, but not later than within 30 days of the inspection, unless permission for a later date is granted in writing by the Director. The results of the inspections shall be documented in the SWPPP, along with the date(s) and description(s) of any corrective actions that were taken in response to any deficiencies or opportunities for improvement that were identified.

- (v) **Employee Training.** The permittee shall implement a storm water employee training program for the facility. The SWPPP shall include a schedule for all types of necessary training, and shall document all training sessions and the employees who received the training. Training shall be provided for all employees who work in areas where industrial materials or activities are exposed to storm water, and for employees who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel, etc.). The training shall cover the components and goals of the SWPPP, and include such topics as spill response, good housekeeping, material management practices, BMP operation and maintenance, etc. The SWPPP shall include a summary of any training performed.
- (vi) **Sediment and Erosion Control.** The plan shall identify areas at the facility that, due to topography, land disturbance (e.g., construction, landscaping, site grading), or other factors, have a potential for soil erosion. The permittee shall identify and implement structural, vegetative, and/or stabilization BMPs to prevent or control on-site and off-site erosion and sedimentation. Flow velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel if the flows would otherwise create erosive conditions.
- (vii) **Management of Runoff.** The plan shall describe the storm water runoff management practices (i.e., permanent structural BMPs) for the facility. These types of BMPs are typically used to divert, infiltrate, reuse, or otherwise reduce pollutants in storm water discharges from the site. Structural BMPs may require a separate permit under § 404 of the CWA and the Virginia Water Protection Permit Program Regulation (9VAC25-210) before installation begins.

7. Additional Storm Water Pollution Prevention Plan Requirements

In addition to the requirements found in Part I.E.2.b.1 through Part I.E.2.b.6, the SWPPP shall include the following items:

a. Good housekeeping measures.

- 1. **Delivery vehicles.** The plan shall describe measures that prevent or minimize contamination of storm water runoff from delivery vehicles arriving on the plant site. At a minimum the permittee shall consider the following:

- a) Develop procedures for the inspection of delivery vehicles arriving on the plant site, and ensure overall integrity of the body or container; and
- b) Develop procedures to deal with leakage/spillage from vehicles or containers.
2. Fuel oil unloading areas. The plan shall describe measures that prevent or minimize contamination of precipitation/surface runoff from fuel oil unloading areas. At a minimum the permittee shall consider using the following measures, or an equivalent:
 - a) Use of containment curbs in unloading areas;
 - b) During deliveries, having station personnel familiar with spill prevention and response procedures present to ensure that any leaks/spills are immediately contained and cleaned up; and
 - c) Use of spill and overflow protection (e.g., drip pans, drip diapers, and/or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).
3. Chemical loading/unloading areas. The permittee shall describe and implement measures that prevent or minimize the contamination of precipitation/surface runoff from chemical loading/unloading areas. At a minimum the permittee shall consider using the following measures (or their equivalents):
 - a) Use of containment curbs at chemical loading/unloading areas to contain spills;
 - b) During deliveries, having station personnel familiar with spill prevention and response procedures present to ensure that any leaks/spills are immediately contained and cleaned up; and
 - c) Covering chemical loading/unloading areas, and storing chemicals indoors.
4. Miscellaneous loading/unloading areas. The permittee shall describe and implement measures that prevent or minimize the contamination of storm water runoff from loading and unloading areas. The permittee shall consider the following, at a minimum (or their equivalents):
 - a) Covering the loading area;
 - b) Grading, berming, or curbing around the loading area to divert runoff; or
 - c) Locating the loading/unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems.
5. Liquid storage tanks. The permittee shall describe and implement measures that prevent or minimize contamination of storm water runoff from aboveground liquid storage tanks. At a minimum the permittee shall consider employing the following measures (or their equivalents):
 - a) Use of protective guards around tanks;
 - b) Use of containment curbs;
 - c) Use of spill and overflow protection; and
 - d) Use of dry cleanup methods.
6. Large bulk fuel storage tanks. The permittee shall describe and implement measures that prevent or minimize contamination of storm water runoff from large bulk fuel storage tanks. At a minimum the permittee shall consider employing containment berms (or its equivalent). The permittee shall also comply with applicable state and federal laws, including Spill Prevention Control and Countermeasures (SPCC).
7. Spill reduction measures. The permittee shall describe and implement measures to reduce the potential for an oil/chemical spill, or reference the appropriate section of their SPCC plan. At a minimum the structural integrity of all aboveground tanks, pipelines, pumps and other related equipment shall be visually inspected on a weekly basis. All repairs deemed necessary based on the findings of the inspections shall be completed immediately to reduce the incidence of spills and leaks occurring from such faulty equipment.

8. Oil bearing equipment in switchyards. The permittee shall describe and implement measures to prevent or minimize contamination of surface runoff from oil bearing equipment in switchyard areas. The permittee shall consider the use of level grades and gravel surfaces to retard flows and limit the spread of spills, and the collection of storm water runoff in perimeter ditches.
9. Residue hauling vehicles. All residue hauling vehicles shall be inspected for proper covering over the load, adequate gate sealing and overall integrity of the container body. Vehicles without load coverings or adequate gate sealing, or with leaking containers or beds shall be repaired as soon as practicable.
10. Ash loading areas. The permittee shall describe and implement procedures to reduce or control the tracking of ash/residue from ash loading areas where practicable, clear the ash building floor and immediately adjacent roadways of spillage, debris and excess water before departure of each loaded vehicle.
11. Areas adjacent to disposal ponds or landfills. The permittee shall describe and implement measures that prevent or minimize contamination of storm water runoff from areas adjacent to disposal ponds or landfills. The permittee shall develop procedures to:
 - a) Reduce ash residue which may be tracked on to access roads traveled by residue trucks or residue handling vehicles; and
 - b) Reduce ash residue on exit roads leading into and out of residue handling areas.
12. Landfills, scrapyards, surface impoundments, open dumps, general refuse sites. The plan shall address and include appropriate BMPs for landfills, scrapyards, surface impoundments, open dumps and general refuse sites.
13. Vehicle maintenance activities. For vehicle maintenance activities performed on the plant site, the permittee shall use applicable BMPs.
14. Material storage areas. The permittee shall describe and implement measures that prevent or minimize contamination of storm water runoff from material storage areas (including areas used for temporary storage of miscellaneous products, and construction materials stored in lay-down areas). The permittee shall consider the use of the following measures (or their equivalents): flat yard grades; runoff collection in graded swales or ditches; erosion protection measures at steep outfall sites (e.g., concrete chutes, riprap, stilling basins); covering lay-down areas; storing materials indoors; and covering materials temporarily with polyethylene, polyurethane, polypropylene, or hypalon. Storm water runoff may be minimized by constructing an enclosure or building a berm around the area.

c. Maintenance

All BMPs identified in the SWPPP shall be maintained in effective operating condition. Storm water BMPs identified in the SWPPP shall be observed during active operation (i.e., during a storm water runoff event) to ensure that they are functioning correctly. Where discharge locations are inaccessible, nearby downstream locations shall be observed. The observations shall be documented in the SWPPP.

The SWPPP shall include a description of procedures and a regular schedule for preventive maintenance of all BMPs, and shall include a description of the back-up practices that are in place should a runoff event occur while a BMP is off-line. The effectiveness of nonstructural BMPs shall also be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

If site inspections required by Part I.E.2.b.6.b(v) (Routine Facility Inspections) or Part I.E.2.d (Comprehensive Site Compliance Evaluation) identify BMPs that are not operating effectively, repairs or maintenance shall be performed before the next anticipated storm event. If maintenance prior to the next

anticipated storm event is not possible, maintenance shall be scheduled and accomplished as soon as practicable. In the interim, back-up measures shall be employed and documented in the SWPPP until repairs or maintenance is complete.

Documentation shall be kept with the SWPPP of maintenance and repairs of BMPs, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair or replacement, and for repairs, date(s) that the BMP(s) returned to full function, and the justification for any extended maintenance or repair schedules.

d. Comprehensive Site Compliance Evaluation

The permittee shall conduct comprehensive site compliance evaluations at least once a year. The evaluations shall be done by qualified personnel who possess the knowledge and skills to assess conditions and activities that could impact storm water quality at the facility, and who can also evaluate the effectiveness of BMPs. The personnel conducting the evaluations may be either facility employees or outside constituents hired by the facility.

1. Scope of the Compliance Evaluation. Evaluations shall include all areas where industrial materials or activities are exposed to storm water, as identified in Part I.E.2.b.3. The personnel shall evaluate:
 - a) Industrial materials, residue or trash that may have or could come into contact with storm water;
 - b) Leaks or spills from industrial equipment, drums, barrels, tanks or other containers that have occurred within the past three years;
 - c) Off-site tracking of industrial or waste materials or sediment where vehicles enter or exit the site;
 - d) Tracking or blowing of raw, final or waste materials from areas of no exposure to exposed areas;
 - e) Evidence of, or the potential for, pollutants entering the drainage system;
 - f) Evidence of pollutants discharging to surface waters at all facility outfalls, and the condition of and around the outfall, including flow dissipation measures to prevent scouring;
 - g) Review of training performed, inspections completed, maintenance performed, quarterly visual examinations, and effective operation of BMPs; and
 - h) Results of both visual and any analytical monitoring done during the past year shall be taken into consideration during the evaluation.
2. Based on the results of the evaluation, the SWPPP shall be modified as necessary (e.g., show additional controls on the map required by Part I.E.2.b.2.c; revise the description of controls required by Part I.E.2.b.6 to include additional or modified BMPs designed to correct problems identified). Revisions to the SWPPP shall be completed within 30 days following the evaluation, unless permission for a later date is granted in writing by the Director. If existing BMPs need to be modified or if additional BMPs are necessary, implementation shall be completed before the next anticipated storm event, if practicable, but not more than 60 days after completion of the comprehensive site evaluation, unless permission for a later date is granted in writing by the Department;
3. Compliance Evaluation Report. A report shall be written summarizing the scope of the evaluation, name(s) of personnel making the evaluation, the date of the evaluation, and all observations relating to the implementation of the SWPPP, including elements stipulated in Part I.E.2.d.1.a through Part I.E.2.d.1.f above. Observations shall include such things as: the location(s) of discharges of

pollutants from the site; location(s) of previously unidentified sources of pollutants; location(s) of BMPs that need to be maintained or repaired; location(s) of failed BMPs that need replacement; and location(s) where additional BMPs are needed. The report shall identify any incidents of noncompliance that were observed. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP and this permit. The report shall be signed in accordance with Part II. K (Signatory Requirements) of this permit and maintained with the SWPPP.

4. Where compliance evaluation schedules overlap with routine inspections required under Part I.E.2.b.6.b(v), the annual compliance evaluation may be used as one of the routine inspections.

e. Signature and Plan Review

1. **Signature/Location.** The SWPPP shall be signed in accordance with Part II.K (Signatory Requirements) of this permit, dated, and retained on-site at the facility covered by this permit in accordance with Part II.B.2 (Records) of this permit. All other changes to the SWPPP, and other permit compliance documentation, shall be signed and dated by the person preparing the change or documentation.
2. **Availability.** The permittee shall make the SWPPP, annual site compliance evaluation report, and other information available to the Department upon request.
3. **Required Modifications.** The Director may notify the permittee at any time that the SWPPP, BMPs, or other components of the facility's storm water program do not meet one or more of the requirements of this permit. The notification shall identify specific provisions of the permit that are not being met, and may include required modifications to the storm water program, additional monitoring requirements, and special reporting requirements. The permittee shall make any required changes to the SWPPP within 60 days of receipt of such notification, unless permission for a later date is granted in writing by the Director, and shall submit a written certification to the Director that the requested changes have been made.

f. Maintaining an Updated SWPPP

1. The permittee shall review and amend the SWPPP as appropriate whenever:
 - a) There is construction or a change in design, operation, or maintenance at the facility that has a significant effect on the discharge, or the potential for the discharge, of pollutants from the facility;
 - b) Routine inspections or compliance evaluations determine that there are deficiencies in the BMPs;
 - c) Inspections by local, state, or federal officials determine that modifications to the SWPPP are necessary;
 - d) There is a spill, leak or other release at the facility; or
 - e) There is an unauthorized discharge from the facility.
2. SWPPP modifications shall be made within 30 calendar days after discovery, observation or event requiring a SWPPP modification. Implementation of new or modified BMPs (distinct from regular preventive maintenance of existing BMPs described in Part I.E.2.b.6.b(iii)) shall be initiated before the next storm event if possible, but no later than 60 days after discovery, or as otherwise provided or

approved by the Director. The amount of time taken to modify a BMP or implement additional BMPs shall be documented in the SWPPP.

3. If the SWPPP modification is based on a release or unauthorized discharge, include a description and date of the release, the circumstances leading to the release, actions taken in response to the release, and measures to prevent the recurrence of such releases. Unauthorized releases and discharges are subject to the reporting requirements of Part II.G (Reports of Unauthorized Discharges) of this permit.

F. Other Requirements and Special Conditions

1. Operation and Maintenance (O&M) Manual Requirement

The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the facility that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ-NRO for review and approval.

The O&M manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water and sludge samples;
- b. Procedures for measuring and recording the duration and volume of industrial wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
- e. A plan for the management and/or disposal of waste solids and residues;
- f. List of facility, local and state emergency contacts; and
- g. Procedures for reporting and responding to any spills and/or overflows.

2. Notification Levels

The permittee shall notify the Department as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter;
 - (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
 - (3) Five times the maximum concentration value reported for that pollutant in the permit application; or
 - (4) The level established by the Board.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant, which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (1) Five hundred micrograms per liter;

- (2) One milligram per liter for antimony;
- (3) Ten times the maximum concentration value reported for that pollutant in the permit application; or
- (4) The level established by the Board.

3. Materials Handling/Storage

Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation, and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of, and/or stored in such a manner so as not to permit a discharge of such product, materials, industrial wastes, and/or other wastes to State waters, except as expressly authorized.

4. Prohibition of Chemical Additives

The permittee shall notify the Department of Environmental Quality Northern Regional Office, in writing at least thirty (30) days prior to the use of chemical additives in non-contact cooling water. The written notice shall contain the following:

- a. The name(s) of the proposed chemical additive(s) to be used and corresponding copies of their Material Safety Data Sheets (MSDS);
- b. The proposed schedule of chemical additive use; and
- c. A description of any proposed wastewater treatment and/or retention to be provided during the use of the chemical additive(s).

Should the use of chemical additives significantly alter the characteristics of the non-contact cooling water discharge or if the use of chemical additives becomes persistent or continuous, this permit may be modified or alternatively, revoked and reissued to include appropriate limitations and/or conditions.

5. Polychlorinated Biphenyl

There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid. Compliance with this requirement will be determined using EPA test method 608 (as referenced in 40 CFR Part 136).

6. Water Quality Criteria Reopener

Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

7. Water Quality Criteria Monitoring

In addition to the compliance monitoring required in Part I.A.3 of the permit, the permittee shall monitor the effluent at Outfall 004 for the substances noted in Attachment A, "Water Quality Criteria Monitoring" according to the indicated analysis number, quantification level, sample type and frequency. Monitoring shall be initiated after the start of the third year from the permit's effective date. Using Attachment A as the reporting form, the data shall be submitted with the next application for reissuance, which is due at least 180 days prior to the expiration date of this permit. Monitoring and analysis shall be conducted in accordance with 40 CFR Part 136 or alternative EPA approved methods. It is the responsibility of the permittee to ensure that proper QA/QC protocols are followed during the sample gathering and analytical procedures. The DEQ will use these data for making specific permit decisions in the future. This permit may be modified or, alternatively, revoked and reissued to incorporate limits for any of the substances listed in Attachment A.

8. 126 Priority Pollutants

In addition to the compliance monitoring required in Part I.A.9 and Part I.A.10 of the permit, the permittee shall monitor the effluent at Outfall 201 and Outfall 202 for the substances listed in Appendix A to 40 CFR Part 423. Any and all 126 priority pollutants listed in Appendix A to 40 CFR Part 423, contained in the chemicals added for cooling tower maintenance, shall be non-detectable in the blowdown discharge water. In accordance with Part I.A.9 and Part I.A.10 of the permit, sampling for these pollutants (except total chromium and total zinc) shall be conducted once per year when there is a discharge.

This monitoring requirement may be waived if the permittee submits engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

The permittee shall notify the DEQ-Northern Regional Office of any process change in the cooling tower, which may affect the quality of the associated discharge water.

9. Instream Monitoring

Monitoring of the thermal mixing zone shall take place twice per year. Statistical analysis of the positions of the thermal plume during extreme summer and winter simulations indicates that ninety-nine (99) percent of the time the plume would remain within about 657 and 507 acres, respectively, in Quantico Creek and a part of the Potomac River.

The monitoring results shall be presented as a temperature plot with 3-degree Celcius isotherms and shall be taken as near to full plant operating conditions as reasonably possible. The permittee shall comply with the State Water Quality Criteria outside of the approved mixing zone. Monitoring and reporting shall be conducted in accordance with the following schedule:

Permit Year	Monitoring Period	Report Submission Dates
First	July 2013	October 31, 2013
Second	February 2014	May 31, 2014
Second	July 2014	October 31, 2014
Third	February 2015	May 31, 2015
Third	July 2015	October 31, 2015
Fourth	February 2016	May 31, 2016
Fourth	July 2016	October 31, 2016
Fifth	February 2017	May 31, 2017
Fifth	July 2017	October 31, 2017

10. Debris Collection

Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters, or facility operations, including all debris collected on the intake trash racks, shall be disposed of in a manner to prevent any of the removed substances, or runoff from such substances, from entering waters of the State.

11. Solids in Ash Pond D

a. Ash Pond D may be used as a repository for dredge spoil material and residuals removed from facilities, areas, and systems related to operation and maintenance of Possum Point Power Station. These materials and residuals include:

- 1) Solids from VPDES treatment ponds and storm water management facilities;
- 2) Solids from old/closed VPDES treatment ponds (Ash Ponds A, B and C);
- 3) Solids from station floor drains, lift stations, and sumps;

- 4) Water treatment plant filter cake and cooling tower basin sludge;
 - 5) Soil and fines from station beautification and land restoration projects, including the coal pile area, deicing grit, abrasives, and inert cleanup debris such as surplus soil, rock, and gravel; and
 - 6) Sand/silt/sediment in the Potomac River and Quantico Creek within and adjacent to cooling water intake structures, outfall structures, oil barge berths, shoreline revetments, boat ramp, transportation structures, and navigation-related channels and structures.
- b. Ash Pond D may be used as a repository for dredge spoil material that is not related to operations at Possum Point Power Station provided the material originated from the Potomac River or Quantico Creek or public bodies of water in the Quantico Creek watershed meeting the definition of state waters in Virginia. The following guideline shall be followed:
- 1) Dominion shall provide written notice to the Department of Environmental Quality-Northern Regional Office (DEQ-NRO) at least 30 days prior to the placement of any dredge spoil material in Ash Pond D. This notice shall include as a minimum the following information:
 - a) Sampling tests and laboratory results (See 11.c. below);
 - b) Copies of all permits or regulatory authorizations required for the project;
 - c) Project schedule dates;
 - d) Method of placement;
 - e) Original location of material;
 - f) Type and volume of material; and
 - g) Name, address, and telephone number of dredging contractor (for placement of dredge spoil material) or station contact (for placement of station residuals).
 - 2) Specific approval by the DEQ-NRO is not required for a placement project but the DEQ-NRO shall have the right to request additional information or halt any noticed activity. If the placement project is not halted by the DEQ-NRO within 30 days of receipt of the above notice, the project is deemed authorized.
- c. Sampling Requirements
- 1) A “sample” is defined as a Core Dredge sample, which will be a composite of dredge material from the river, stream or lake bottom to the depth of the intended dredge.
 - 2) Number of Samples taken
 - a) >300,000 Cubic Yards of Material
For every 100,000 cubic yards of material a representative sample shall be collected. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
 - b) <300,000 Cubic Yards, but >50,000 Cubic Yards of Material
There shall be three representative samples of dredge area. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
 - c) <50,000 Cubic Yards, but >1,000 Cubic Yards of Material
There shall be two representative samples of dredge area. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
 - d) <1,000 Cubic Yards of Material
No sampling requirement shall apply to projects involving the placement of material less than 1,000 cubic yards with approval from Dominion (Virginia Power).
 - 3) All parameters limited in Attachment B shall be sampled. The permittee shall use Attachment B as a reporting form which will be submitted to DEQ-NRO at least 30 days prior to placement in Ash Pond D. If the measured constituents in the sample exceed any respective threshold levels listed in Attachment B, the material shall not be placed in Ash Pond D.

- 4) Materials and residuals related to routine station operations and dredge materials identified in Part I.F.11.a and Part I.F.11.b shall be tested prior to initial placement under this protocol and if station processes have not materially changed, further testing is not required.
 - 5) The above sampling requirements for any placement activity may be waived in the event of declared public emergency conditions or by consent of the DEQ-NRO.
 - 6) The placement of any material in Ash Pond D shall not be incompatible with the Ash Pond D liner system or cause a violation of the VPDES permit requirements applicable to Outfall 005 at Ash Pond E.
 - 7) Dominion shall retain records relating to the placement event for a minimum of three years and comply with the requirements of Part II.B.2 of the subject permit.
 - 8) Dredging shall be performed in accordance with all Federal and Virginia laws and regulations.
12. 316(b) Special Condition
The facility includes a cooling water intake structure governed by §316(b) of the Clean Water Act which requires that the location, design, construction and capacity of the cooling water intake structures reflect the "best technology available (BTA) for minimizing adverse environmental impact". The Possum Point – December, 1976 environmental report on impingement and entrainment studies conducted at the facility indicated minimal or no adverse environmental impact. This permit may be reopened to address compliance with Clean Water Act §316(b) through requirements including but not limited to those specified in EPA regulations in 40 CFR Part 125 Subpart J when finalized.
13. Re-Evaluation of Stratum B
Within 180 days of the permit reissuance (April 3, 2013), the permittee shall submit to the DEQ- Northern Regional Office for review and approval, a work plan to evaluate Stratum B monitoring network and propose any necessary changes for characterization of Stratum B water quality. Any well modifications, replacements or abandonments proposed in the approved plan must be completed within 180 days of the plan approval.
14. PCB Monitoring
The permittee shall monitor the effluent at Outfall 005 for Polychlorinated Biphenyls (PCBs). The permittee shall conduct the sampling and analysis in accordance with the requirements specified below. At a minimum:
- a. Monitoring and analysis shall be conducted in accordance with the most current version of EPA Method 1668 or other equivalent methods capable of providing low-detection level, congener specific results. Any equivalent method shall be submitted to DEQ-NRO for review and approval prior to sampling and analysis. It is the responsibility of the permittee to ensure that proper QA/QC protocols are followed during the sample gathering and analytical procedures. The sampling protocol shall be submitted to DEQ-NRO for review and approval prior to the first sample collection.
 - b. The permittee shall collect two (2) samples within the first three (3) years after the permit reissuance date of April 3, 2013.
 - c. Each effluent sample shall consist of a minimum 2 liter volume. The sample type, either a grab or automated composite, shall be at the discretion of the permittee.
 - d. The data shall be submitted to DEQ-NRO by the 10th day of the month following receipt of the results. The permittee shall submit the results electronically. The submittal shall include the

unadjusted and appropriately qualified individual PCB congener analytical results. Additionally, laboratory and field QA/QC documentation and results shall be reported. Total PCBs are to be computed as the summation of the reported, quantified congeners.

15. Total Maximum Daily Load (TMDL) Reopener

This permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

16. Ash Pond Dewatering

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.

17. Ash Pond Closure Stormwater Management.

Best management practices (BMPs), structural and/or non-structural, shall be utilized by the permittee to minimize the impact of ash pond closure activities on stormwater quality. Ash pond closure activities may include, but are not limited to, the process of ash movement for off-site disposal, ash loading and unloading areas, any area(s) associated with the storage of ash prior to transport off-site, and vehicle tracking associated with the movement of ash.

The facility's Stormwater Pollution Prevention Plan (SWPPP) shall include a description of the BMPs being implemented and a regular schedule for preventive maintenance of all BMPs where appropriate. All structural BMPs identified in the SWPPP shall be maintained in effective operating condition and shall be inspected for structural integrity and operational efficiency once per week during ash pond closure activities. Results of the weekly inspections and actions needed and performed in response to the weekly inspections shall be documented per the SWPPP.

18. Ash Handling Area Outfall Inspections.

Inspections of Outfall 010 and Stormwater Outfall S108, and Stormwater Outfall S107 in accordance with Part I.A.15, shall be conducted at a frequency of once every five business days and no later than forty-eight (48) hours following a measurable storm event. Corrective actions identified as a result of these inspections shall be implemented as soon as possible, but no later than seven (7) days after discovery. Results of these inspections and actions needed and performed in response to these inspections shall be documented per the SWPPP. Ash handling area outfall inspections shall be conducted as noted above until such time as the ash pond closure project is completed.

19. Weir Structure Discharge Prohibition.

Discharge from the weir structure associated with the Ash Pond A, B, and C complex is not authorized by this permit.

20. Limitation Exceedance for Internal Outfall 503 and Outfall 005.

The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503 or Outfall 005 (Interim Configuration Discharge from Holding Basin). The permittee shall promptly notify DEQ, in no case later than 24 hours, after 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(s) shall not occur until such time as an evaluation report is provided to DEQ and written authorization to resume the discharge is granted.

21. Drawdown Rate Requirement.
The drawdown rate of any pond or basin shall 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.
22. Conceptual Engineering Report (CER) Requirement (Internal Outfall 503).
Prior to constructing any wastewater treatment works, the permittee shall submit a final CER to the DEQ - Northern Regional Office. DEQ approval shall be secured prior to constructing any wastewater treatment works. The permittee shall construct the wastewater treatment works in accordance with the approved CER. No later than 14 days following completion of construction of any project for which a CER has been approved, written notification shall be submitted to the DEQ - Northern Regional Office certifying that, based on an inspection of the project, construction was completed in accordance with the approved CER. The written notification shall be certified by a professional engineer licensed in the Commonwealth of Virginia or signed in accordance with Part II.K of this permit. The installed wastewater treatment works shall be operated to achieve design treatment and effluent concentrations. Approval by DEQ does not relieve the owner of the responsibility for the correction of design and/or operational deficiencies. Noncompliance with the CER shall be deemed a violation of this permit.
23. Outfall 010 Groundwater (Toe Drain) Removal and Re-designation to S107.
Upon successful demonstration to and written approval from DEQ confirming that all groundwater contributions to the Outfall 010 discharge have been removed, the requirements of Part I.A.15 of this permit shall become effective and supersede the requirements of Part 1.A.8. The groundwater contributions include both the infiltration through the earthen berm as well as groundwater diverted around the impoundment. Should the permittee separate and remove all groundwater contributions to the discharge, then the discharge would be comprised of only industrially influenced stormwater. Stormwater-only discharges from this outfall would be designated as Outfall S107 and governed by the requirements of Part 1.A.15, Part I.E and Part I.F18. Should the permittee pursue separation of the groundwater contributions to the discharge, a demonstration plan shall be submitted to DEQ for review and approval. This demonstration plan shall consider, at a minimum: observations of the outfall during dry-weather with variable antecedent precipitation conditions to confirm no discharge; seasonal wet-weather conditions to include potential inflow and infiltration contributions; other information as appropriate, such as design schematics, to support a conclusion that groundwater contributions have been removed from the discharge.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements taken as required by this permit shall be representative of the monitored activity.
2. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
3. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
4. Samples taken as required by this permit shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records

1. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) and time(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

Department of Environmental Quality - Northern Regional Office (DEQ-NRO)
13901 Crown Court
Woodbridge, VA 22193

Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.

2. If the permittee monitors any pollutant specifically addressed by this permit more frequently than required by this permit using test procedures approved under Title 40 of the Code of Federal Regulations Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using

procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Department.

3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F.; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F., shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
 - a. Any unanticipated bypass; and
 - b. Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II, I.1. or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Regional Office at (703) 583-3800 (voice) or (703) 583-3821 (fax). For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - 1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
 - 2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or
 - c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements

1. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - 1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
 - 2) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes:
 - 1) The chief executive officer of the agency, or
 - 2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part II.K.1.;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. The written authorization is submitted to the Department.
3. Changes to authorization. If an authorization under Part II.K.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2. shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
4. Certification. Any person signing a document under Parts II, K.1. or K.2. shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 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 applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U.), and "upset" (Part II.V.) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of Solids or Sludges

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II, U.2. and U.3.
2. Notice
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.
3. Prohibition of bypass.
 - a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
 - 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - 3) The permittee submitted notices as required under Part II.U.2.
 - b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2. are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required in Part II.I.; and
 - d. The permittee complied with any remedial measures required under Part II.S.
3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of Permits

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.
2. As an alternative to transfers under Part II.Y.1., this permit may be automatically transferred to a new permittee if:
 - a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
 - b. 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
 - c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue 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.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

VA0002071 ATTACHMENT A – Outfall 004
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
METALS						
7440-36-0	Antimony, dissolved	(3)	1300		G or C	1/5YR
7440-38-2	Arsenic, dissolved	(3)	180		G or C	1/5YR
7440-43-9	Cadmium, dissolved	(3)	0.76		G or C	1/5YR
16065-83-1	Chromium III, dissolved ⁽⁸⁾	(3)	49		G or C	1/5YR
18540-29-9	Chromium VI, dissolved ⁽⁸⁾	(3)	13		G or C	1/5YR
7440-50-8	Copper, dissolved	(3)	5.4		G or C	1/5YR
7439-92-1	Lead, dissolved	(3)	6.4		G or C	1/5YR
7439-97-6	Mercury, dissolved	(3)	0.92		G or C	1/5YR
7782-49-2	Selenium, dissolved	(3)	6.0		G or C	1/5YR
7440-22-4	Silver, dissolved	(3)	0.78		G or C	1/5YR
7440-28-0	Thallium, dissolved	(4)	(5)		G or C	1/5YR
7440-66-6	Zinc, dissolved	(3)	50		G or C	1/5YR
PESTICIDES/PCB'S						
309-00-2	Aldrin	608	0.05		G or C	1/5YR
57-74-9	Chlordane	608	0.2		G or C	1/5YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	(4)	(5)		G or C	1/5YR
72-54-8	DDD	608	0.1		G or C	1/5YR
72-55-9	DDE	608	0.1		G or C	1/5YR
50-29-3	DDT	608	0.1		G or C	1/5YR
8065-48-3	Demeton	(4)	(5)		G or C	1/5YR
333-41-5	Diazinon	(4)	(5)		G or C	1/5YR
60-57-1	Dieldrin	608	0.1		G or C	1/5YR
959-98-8	Alpha-Endosulfan	608	0.1		G or C	1/5YR
33213-65-9	Beta-Endosulfan	608	0.1		G or C	1/5YR
1031-07-8	Endosulfan Sulfate	608	0.1		G or C	1/5YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
72-20-8	Endrin	608	0.1		G or C	1/5YR
7421-93-4	Endrin Aldehyde	(4)	(5)		G or C	1/5YR
86-50-0	Guthion	(4)	(5)		G or C	1/5YR
76-44-8	Heptachlor	608	0.05		G or C	1/5YR
1024-57-3	Heptachlor Epoxide	(4)	(5)		G or C	1/5YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608	(5)		G or C	1/5YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608	(5)		G or C	1/5YR
58-89-9	Hexachlorocyclohexane Gamma-BHC or Lindane	608	(5)		G or C	1/5YR
143-50-0	Kepone	(9)	(5)		G or C	1/5YR
121-75-5	Malathion	(4)	(5)		G or C	1/5YR
72-43-5	Methoxychlor	(4)	(5)		G or C	1/5YR
2385-85-5	Mirex	(4)	(5)		G or C	1/5YR
56-38-2	Parathion	(4)	(5)		G or C	1/5YR
11096-82-5	PCB 1260	608	1.0		G or C	1/5YR
11097-69-1	PCB 1254	608	1.0		G or C	1/5YR
12672-29-6	PCB 1248	608	1.0		G or C	1/5YR
53469-21-9	PCB 1242	608	1.0		G or C	1/5YR
11141-16-5	PCB 1232	608	1.0		G or C	1/5YR
11104-28-2	PCB 1221	608	1.0		G or C	1/5YR
12674-11-2	PCB 1016	608	1.0		G or C	1/5YR
1336-36-3	PCB Total	608	7.0		G or C	1/5YR
8001-35-2	Toxaphene	608	5.0		G or C	1/5YR
BASE NEUTRAL EXTRACTABLES						
83-32-9	Acenaphthene	625	10.0		G or C	1/5YR
120-12-7	Anthracene	625	10.0		G or C	1/5YR
92-87-5	Benzidine	(4)	(5)		G or C	1/5YR
56-55-3	Benzo (a) anthracene	625	10.0		G or C	1/5YR
205-99-2	Benzo (b) fluoranthene	625	10.0		G or C	1/5YR
207-08-9	Benzo (k) fluoranthene	625	10.0		G or C	1/5YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
50-32-8	Benzo (a) pyrene	625	10.0		G or C	1/5YR
111-44-4	Bis 2-Chloroethyl Ether	(4)	(5)		G or C	1/5YR
108-60-1	Bis 2-Chloroisopropyl Ether	(4)	(5)		G or C	1/5YR
117-81-7	Bis-2-ethylhexyl phthalate	625	10.0		G or C	1/5YR
85-68-7	Butyl benzyl phthalate	625	10.0		G or C	1/5YR
91-58-7	2-Chloronaphthalene	(4)	(5)		G or C	1/5YR
218-01-9	Chrysene	625	10.0		G or C	1/5YR
53-70-3	Dibenz(a,h)anthracene	625	20.0		G or C	1/5YR
84-74-2	Dibutyl phthalate (synonym = Di-n-Butyl Phthalate)	625	10.0		G or C	1/5YR
95-50-1	1,2-Dichlorobenzene	624	10.0		G or C	1/5YR
541-73-1	1,3-Dichlorobenzene	624	10.0		G or C	1/5YR
106-46-7	1,4-Dichlorobenzene	624	10.0		G or C	1/5YR
91-94-1	3,3-Dichlorobenzidine	(4)	(5)		G or C	1/5YR
84-66-2	Diethyl phthalate	625	10.0		G or C	1/5YR
131-11-3	Dimethyl phthalate	(4)	(5)		G or C	1/5YR
121-14-2	2,4-Dinitrotoluene	625	10.0		G or C	1/5YR
122-66-7	1,2-Diphenylhydrazine	(4)	(5)		G or C	1/5YR
206-44-0	Fluoranthene	625	10.0		G or C	1/5YR
86-73-7	Fluorene	625	10.0		G or C	1/5YR
118-74-1	Hexachlorobenzene	(4)	(5)		G or C	1/5YR
87-68-3	Hexachlorobutadiene	(4)	(5)		G or C	1/5YR
77-47-4	Hexachlorocyclopentadiene	(4)	(5)		G or C	1/5YR
67-72-1	Hexachloroethane	(4)	(5)		G or C	1/5YR
193-39-5	Indeno(1,2,3-cd)pyrene	625	20.0		G or C	1/5YR
78-59-1	Isophorone	625	10.0		G or C	1/5YR
98-95-3	Nitrobenzene	625	10.0		G or C	1/5YR
62-75-9	N-Nitrosodimethylamine	(4)	(5)		G or C	1/5YR
621-64-7	N-Nitrosodi-n-propylamine	(4)	(5)		G or C	1/5YR
86-30-6	N-Nitrosodiphenylamine	(4)	(5)		G or C	1/5YR
129-00-0	Pyrene	625	10.0		G or C	1/5YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
120-82-1	1,2,4-Trichlorobenzene	625	10.0		G or C	1/5YR
VOLATILES						
107-02-8	Acrolein	(4)	(5)		G	1/5YR
107-13-1	Acrylonitrile	(4)	(5)		G	1/5YR
71-43-2	Benzene	624	10.0		G	1/5YR
75-25-2	Bromoform	624	10.0		G	1/5YR
56-23-5	Carbon Tetrachloride	624	10.0		G	1/5YR
108-90-7	Chlorobenzene (synonym = monochlorobenzene)	624	50.0		G	1/5YR
124-48-1	Chlorodibromomethane	624	10.0		G	1/5YR
67-66-3	Chloroform	624	10.0		G	1/5YR
75-09-2	Dichloromethane (synonym = methylene chloride)	624	20.0		G	1/5YR
75-27-4	Dichlorobromomethane	624	10.0		G	1/5YR
107-06-2	1,2-Dichloroethane	624	10.0		G	1/5YR
75-35-4	1,1-Dichloroethylene	624	10.0		G	1/5YR
156-60-5	1,2-trans-dichloroethylene	(4)	(5)		G	1/5YR
78-87-5	1,2-Dichloropropane	(4)	(5)		G	1/5YR
542-75-6	1,3-Dichloropropene	(4)	(5)		G	1/5YR
100-41-4	Ethylbenzene	624	10.0		G	1/5YR
74-83-9	Methyl Bromide	(4)	(5)		G	1/5YR
79-34-5	1,1,2,2-Tetrachloroethane	(4)	(5)		G	1/5YR
127-18-4	Tetrachloroethylene	624	10.0		G	1/5YR
10-88-3	Toluene	624	10.0		G	1/5YR
79-00-5	1,1,2-Trichloroethane	(4)	(5)		G	1/5YR
79-01-6	Trichloroethylene	624	10.0		G	1/5YR
75-01-4	Vinyl Chloride	624	10.0		G	1/5YR
ACID EXTRACTABLES⁽⁶⁾						
95-57-8	2-Chlorophenol	625	10.0		G or C	1/5YR
120-83-2	2,4 Dichlorophenol	625	10.0		G or C	1/5YR
105-67-9	2,4 Dimethylphenol	625	10.0		G or C	1/5YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
51-28-5	2,4-Dinitrophenol	(4)	(5)		G or C	1/5YR
534-52-1	2-Methyl-4,6-Dinitrophenol	(4)	(5)		G or C	1/5YR
25154-52-3	Nonylphenol	(4)	(5)		G or C	1/5YR
87-86-5	Pentachlorophenol	625	50.0		G or C	1/5YR
108-95-2	Phenol	625	10.0		G or C	1/5YR
88-06-2	2,4,6-Trichlorophenol	625	10.0		G or C	1/5YR
MISCELLANEOUS						
16887-00-6	Chlorides	(4)	(5)		G	1/5YR
57-12-5	Cyanide, Free	(4)	10.0		G	1/5YR
7783-06-4	Hydrogen Sulfide	(4)	(5)		G or C	1/5YR
471-34-1	Hardness (mg/L as CaCO ₃)	(4)	(5)		G or C	1/5YR

Name of Principal Executive Officer or Authorized Agent/Title

Signature of Principal Officer or Authorized Agent/Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

- (1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows. Any QL that is less than the Specific Target Value may be used.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

- (2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

- (3) A specific analytical method is not specified; however a target value for each metal has been established. An appropriate method to meet the target value shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

<u>Metal</u>	<u>Analytical Method</u>
Antimony	1638; 1639
Arsenic	1632; 206.5
Chromium ⁽⁸⁾	1639
Cadmium	1637; 1638; 1639; 1640
Chromium VI	1639; 218.6 Rev 3.3
Copper	1638; 1640
Lead	1637; 1638; 1640
Mercury	1631; 245.7 Rev 2.0
Nickel	1638; 1639; 1640
Selenium	1638; 1639
Silver	1638
Zinc	1638; 1639

- (4) Any approved method presented in 40 CFR Part 136.
- (5) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.
- (6) Testing for phenols requires continuous extraction.
- (7) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].
- (8) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].
- (9) The lab may use SW846 Method 8270D provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270D

DEPARTMENT OF ENVIRONMENTAL QUALITY

Dredge Spoils Monitoring
ATTACHMENT B, Page 1 of 4

FACILITY NAME: Dominion – Possum Point Power Station

VPDES PERMIT NO. : VA0002071

DATE:

PROJECT:

DEQ Parameter No.	EPA CAS Number	Parameter	EPA Analysis No.	Quantification Level ⁽¹⁾ (mg/l)	Reporting Results ⁽¹⁾ (mg/l)	Sample Type ⁽²⁾	Threshold Levels (mg/l)
Toxicity Characteristic Leaching Procedure Parameters with Threshold Levels (Part A)							
033	7440-38-2	Arsenic	1311			G	5.0
151	7440-39-3	Barium	1311			G	100.0
216	71-43-2	Benzene	1311			G	3.0
096	7440-43-9	Cadmium	1311			G	1.0
236	56-23-5	Carbon Tetrachloride	1311			G	0.5
333	57-74-9	Chlordane	1311			G	0.03
280	108-90-7	Chlorobenzene	1311			G	100.0
223	67-66-3	Chloroform	1311			G	6.0
016	7440-47-3	Chromium	1311			G	5.0
510	95-48-7	o-Cresol *	1311			G	200.0
509	108-39-4	m-Cresol *	1311			G	200.0
511	106-44-5	p-Cresol *	1311			G	200.0
512		Cresols, Total	1311			G	200.0
266	106-46-7	1,4-Dichlorobenzene	1311			G	7.5
260	107-06-2	1,2-Dichloroethane	1311			G	0.5
258	75-35-4	1,1-Dichloroethylene	1311			G	0.7
239	121-14-2	2,4-Dinitrotoluene	1311			G	0.13
339	72-20-8	Endrin	1311			G	0.02
341	76-44-8	Heptachlor	1311			G	0.008
289	118-74-1	Hexachlorobenzene	1311			G	0.13
290	87-68-3	Hexachlorobutadiene	1311			G	0.5
291	67-72-1	Hexachloroethane	1311			G	5.0
034	7439-92-1	Lead	1311			G	5.0
342	58-89-9	Hexachlorocyclohexane (Lindane)	1311			G	0.4
042	7439-97-6	Mercury	1311			G	0.2
344	72-43-5	Methoxychlor	1311			G	10.0
	78-93-3	Methyl Ethyl Ketone	1311			G	200.0
294	98-95-3	Nitrobenzene	1311			G	2.0
210	87-86-5	Pentachlorophenol	1311			G	100.0
	110-86-1	Pyridine	1311			G	5.0
152	7782-49-2	Selenium	1311			G	1.0
037	7440-22-4	Silver	1311			G	5.0
220	127-18-4	Tetrachloroethylene	1311			G	0.7
349	8001-35-2	Toxaphene	1311			G	0.5
602	79-01-6	Trichloroethylene	1311			G	0.5
601	95-95-4	2,4,5-Trichlorophenol	1311			G	400
602	88-06-2	2,4,6-Trichlorophenol	1311			G	2.0
173	75-01-4	Vinyl Chloride	1311			G	0.2

* If o-, m- and p-Cresol concentrations cannot be differentiated, the total cresol concentration is used.

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Dredge Spoils Monitoring
ATTACHMENT B, Page 2 of 4

FACILITY NAME: Dominion – Possum Point Power Station

VPDES PERMIT NO. : VA0002071

DATE:

PROJECT:

DEQ Parameter No.	EPA CAS Number	Parameter	EPA Analysis No.	Quantification Level ⁽¹⁾ (mg/kg)	Reporting Results ⁽¹⁾ (mg/kg)	Sample Type ⁽²⁾
Metals (Part B.1.)						
178	7429-90-5	Antimony	(3)	(4)		G
457		Arsenic III	(3)	(4)		G
441	16055-83-1	Chromium III	(3)	(4)		G
231	18540-29-9	Chromium VI	(3)	(4)		G
442	744-50-8	Copper	(3)	(4)		G
445	7440-02-0	Nickel	(3)	(4)		G
	7440-28-0	Thallium	(3)	(4)		G
448	7440-66-6	Zinc	(3)	(4)		G
Pesticides/PCB'S (Part B.2.)						
332	309-00-2	Aldrin	(3)	(4)		G
334		Chlorpyrifos Dursban	(3)	(4)		G
--	72-54-8	DDD	(3)	(4)		G
--	72-55-9	DDE	(3)	(4)		G
335	50-29-3	DDT	(3)	(4)		G
336	8065-48-3	Demeton	(3)	(4)		G
337	60-57-1	Dieldrin	(3)	(4)		G
746	959-98-8	Alpha-Endosulfan	(3)	(4)		G
640	33213-65-9	Alpha-Endosulfan	(3)	(4)		G
617	1031-07-8	Endosulfan Sulfate	(3)	(4)		G
--	7421-93-4	Endrin Aldehyde	(3)	(4)		G
340	86-50-0	Guthion	(3)	(4)		G
--	1024-57-3	Heptachlor Epoxide	(3)	(4)		G
--	319-84-6	Hexachlorocyclohexane (Alpha-BHC)	(3)	(4)		G
--	319-85-7	Hexachlorocyclohexane (Beta-BHC)	(3)	(4)		G
--	143-50-0	Kepone	(3)	(4)		G
343	121-75-5	Malathion	(3)	(4)		G
345	2385-85-5	Mirex	(3)	(4)		G
346	56-38-2	Parathion	(3)	(4)		G
--	1336-36-3	Total PCB	(3)	(4)		G
641	53469-21-9	PCB-1242	(3)	(4)		G
642	11097-69-1	PCB-1254	(3)	(4)		G
643	11104-28-2	PCB-1221	(3)	(4)		G
644	11141-16-5	PCB-1232	(3)	(4)		G
645	12672-29-6	PCB-1248	(3)	(4)		G
618	11096-82-5	PCB-1260	(3)	(4)		G
646	12674-11-2	PCB-1016	(3)	(4)		G
Base Neutral Extractable (Part B.3.)						
273	208-96-8	Acenaphthene	(3)	(4)		G
275	120-12-7	Anthracene	(3)	(4)		G
--	92-87-5	Benzidine	(3)	(4)		G
276	56-55-3	Benzo(a) anthracene	(3)	(4)		G

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Dredge Spoils Monitoring
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FACILITY NAME: Dominion – Possum Point Power Station

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PROJECT:

DEQ Parameter No.	EPA CAS Number	Parameter	EPA Analysis No.	Quantification Level ⁽¹⁾ (mg/kg)	Reporting Results ⁽¹⁾ (mg/kg)	Sample Type ⁽²⁾
648	50-32-8	Benzo(b) fluoranthene (3,4-Bensofluoranthene)	(3)	(4)		G
278	207-08-9	Benzo(k) fluoranthene	(3)	(4)		G
277	50-32-8	Benzo(a)pyrene	(3)	(4)		G
--	111-44-4	Bis 2-Chloroethyl Ether	(3)	(4)		G
279	102-60-1	Bis 2-Chloroiso-Propyl Ether	(3)	(4)		G
486	85-68-7	Butyl benzyl phthalate	(3)	(4)		G
--	91-58-7	2-Chloronaphthalene	(3)	(4)		G
282	218-01-9	Chrysene	(3)	(4)		G
654	53-70-3	Dibenz(a,h) anthracene	(3)	(4)		G
206	84-74-2	Dibutyl phthalate	(3)	(4)		G
259	95-50-1	1,2-Dichlorobenzene	(3)	(4)		G
264	541-73-1	1,3-Dichlorobenzene	(3)	(4)		G
527	91-94-1	3,3-Dichlorobenzidine	(3)	(4)		G
285	84-66-2	Diethyl phthalate	(3)	(4)		G
170	117-81-7	Di-2-Ethylhexyl Phthalate (Bis (2-Ethylhexyl) Phthalate)	(3)	(4)		G
286	131-11-3	Dimethyl Phthalate	(3)	(4)		G
535	122-66-7	1,2-Dihenyhydrazine	(3)	(4)		G
287	206-44-0	Fluoranthene	(3)	(4)		G
288	86-73-7	Fluorene	(3)	(4)		G
538	77-47-4	Hexachlorocyclopentadiene	(3)	(4)		G
651	193-39-5	Indeno(1,2,3-cd) pyrene	(3)	(4)		G
650	78-59-1	Isophorone	(3)	(4)		G
293	91-20-3	Naphthalene	(3)	(4)		G
573	62-75-9	N-Nitrosodimethylamine	(3)	(4)		G
574	86-30-6	N-Nitrosodiphenylamine	(3)	(4)		G
575	621-64-7	N-Nitrosodi-n-propylamine	(3)	(4)		G
296	129-00-0	Pyrene	(3)	(4)		G
263	129-82-1	1,2,4 Trichlorobenzene	(3)	(4)		G
Volatiles (Part B.4.)						
171	107-02-8	Acrolein	(3)	(4)		G
204	107-13-1	Acrylonitrile (Vinyl cyanide)	(3)	(4)		G
484	75-25-2	Bromoform	(3)	(4)		G
652	124-48-1	Chlorodibromomethane	(3)	(4)		G
649	75-09-2	Dichloromethane (Methylene chloride)	(3)	(4)		G
244	75-27-4	Dichlorobromomethane	(3)	(4)		G
262	156-60-5	Trans 1,2-Dichloroethylene	(3)	(4)		G
261	78-87-5	1,2-Dichloropropane	(3)	(4)		G
265	542-75-6	1,3-Dichloropropene (1,3-Dichlorpropylene)	(3)	(4)		G
172	100-41-4	Ethylbenzene	(3)	(4)		G
--	74-83-9	Methyl Bromide	(3)	(4)		G
--	78-93-3	2-Butanone (Methyl Ethyl Ketone (MEK))	(3)	(4)		G
596	79-34-5	1,1,2,2-Tetrachloroethane	(3)	(4)		G

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Dredge Spoils Monitoring
ATTACHMENT B, Page 4 of 4

FACILITY NAME: Dominion – Possum Point Power Station

VPDES PERMIT NO. : VA0002071

DATE:

PROJECT:

DEQ Parameter No.	EPA CAS Number	Parameter	EPA Analysis No.	Quantification Level ⁽¹⁾ (mg/kg)	Reporting Results ⁽¹⁾ (mg/kg)	Sample Type ⁽²⁾
222	108-88-3	Toluene	(3)	(4)		G
373	79-00-5	1,1,2-Trichloroethane	(3)	(4)		G
155	79-01-6	Trichloroethylene	(3)	(4)		G
Acids Extratables (Part B.5.)						
267	95-57-8	2-Chlorophenol	(3)	(4)		G
268	120-83-2	2,4 Dichlorophenol	(3)	(4)		G
269	105-67-9	2,4 Dimethylphenol	(3)	(4)		G
--	534-52-1	2-Methyl-2,4-Dinitrophenol (4,6-Dinitro-O-Cresol)	(3)	(4)		G
270	51-28-5	2,4-Dinitrophenol	(3)	(4)		G
175	108-95-2	Phenol	(3)	(4)		G
Miscellaneous (Part B.6.)						
018		Cyanide, Total	(3)	(4)		G
350		Tributyltin	(3)	(4)		G
257		TPH (Total Petroleum Hydrocarbons)	(3)	(4)		G

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. §1001 and 33 U.S.C. §1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

Name of Principal Executive Officer or Authorized Agent

Title

Signature of Principal Executive Officer or Authorized Agent

Date

Footnotes to Water Quality Monitoring Attachment B

- (1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.
Units for the quantification level and the specific target value are micrograms/liter (mg/l) or micrograms/kilograms (mg/kg) unless otherwise specified. Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained. Data reported by the lab as less than the test method QL shall be reported as "<[QL]" on the Attachment B form, where the actual test method QL shall be substituted for "[QL]".
- (2) Sample Type:
G = Grab - An individual sample collected in less than fifteen (15) minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported.
- (3) Any approved method presented in 40 CFR Part 136.
- (4) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.