

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**DRAFT/PROPOSED AIR EMISSION PERMIT NO. 13700028-010**

This technical support document (TSD) is intended for all parties interested in the draft/proposed permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft/proposed permit.

**1. General Information**

**1.1 Applicant and Stationary Source Location:**

**Table 1. Applicant and Source Address**

<b>Applicant/Address</b>	<b>Stationary Source/Address (SIC Code: 4911)</b>
City of Virginia/Laurentian Energy Authority 618 2 <sup>nd</sup> Street South P.O. Box 1048 Virginia, MN 55792	Virginia Public Utilities Commission 618 2 <sup>nd</sup> Street South Virginia St. Louis County
Contact: Doug Ganoe Phone: 218-748-2102	

**1.2 Facility Description**

The Virginia Public Utilities Commission (VPUC) is a citizen-owned utility providing steam and electricity to businesses and residents of the local Virginia area. The department has the potential to operate four boilers.

Boiler 7 (EU001) and Boiler 9 (EU003) are coal-fired boilers. Boiler 10 (EU004) is a natural gas fired boiler. Boiler 11 (EU006) is a wood fired boiler used for district heating and electric generation. There is an additional boiler, Boiler 8, located at the facility but is physically disconnected from the Utility System and is unusable. Pollution control equipment consists of wet scrubbers, baghouses, and/or electrostatic precipitators in combination with good combustion practices.

**1.3 Description of the Activities Allowed by this Permit Action**

This permit action is a major permit amendment to a Part 70 permit. The amendment removes an annual limit on the hours of operation on EU 006 (Boiler #11). Together with a limit on the pound per hour (lb/hr) emissions of carbon monoxide (CO), the limit on annual operating hours restricted annual emissions of CO below 250 tons per year (tpy) to avoid triggering the requirement for an Environmental Assessment Worksheet (EAW). These conditions were included in Air Emission Permit No. 13700028-008.

The removal of the annual limitation on hours of operation allows emissions of all pollutants to increase. This amendment contains a condition that continues to limit the previous increase in CO emission below 250 tpy. This amendment also imposes limits to constrain emissions of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), oxides of nitrogen (NO<sub>x</sub>), and CO to ensure that the increase in hours of operation does not lead to a major modification to a major stationary source under the Prevention of Significant Deterioration (PSD) regulation.

#### 1.4. Facility Emissions:

**Table 2. Title I Emissions Increase Summary**

<b>Pollutant</b>	<b>* Potential to Emit (tpy)</b>	<b>Baseline Actual Emissions ** (tpy)</b>	<b>Emissions Increase (tpy)</b>	<b>NSR Significant Thresholds for major sources (tpy)</b>	<b>NSR Review Required? (Yes/No)</b>
PM	25.2	5.6	19.6	25	No
PM <sub>10</sub>	19.1	7.9	11.2	15	No
PM <sub>2.5</sub>	14.1	7.9	6.2	10	No
NO <sub>x</sub>	120	85	35	40	No
SO <sub>2</sub>	25.2	13.9	11.3	40	No
CO	280	190	90	100	No
Ozone (VOC)	17.1	8.8	8.4	40	No
Lead	0.03	0.01	0.03	0.6	No
CO <sub>2</sub> e ****	4380	2570	1810	75,000	No

\* Potential to Emit (based on proposed permit conditions) as defined in 40 CFR § 52.21(b)(4).

\*\* Baseline Actual Emissions as defined in 40 CFR § 52.21(b)(48).

\*\*\* There are no excludable emissions for this permit action (detailed in 40 CFR § 52.21(b)(41)(ii)(c).)

\*\*\*\* Carbon dioxide equivalents as defined in Minn. R. 7007.0100. CO<sub>2</sub> emissions from EU 006 are biogenic; they are omitted from the calculation of CO<sub>2</sub>e for the purposes of determining PSD applicability in accordance with EPA's Tailoring Rule (75 FR 31514) and the MPCA's November 3, 2011 memorandum entitled, "Program Management Decision Memorandum: Implementation of U.S. Environmental Protection Agency's Deferral for Carbon Dioxide Emissions from Bioenergy and Other Biogenic Sources Under the Prevention of Significant Deterioration and Title V Programs."

**Table 3. Total Facility Potential to Emit Summary**

	PM tpy	PM <sub>10</sub> tpy	PM <sub>2.5</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	CO <sub>2</sub> e tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	1160	596	72.6	3000	1000	938	642,000*	29.2	151	178
Total Facility Actual Emissions (2009)	26.2	44.8	**	640	284	265	**	10.5	**	

\* Does not include biogenic CO<sub>2</sub> from EU 006. See footnote \*\*\*\* to Table 2.

\*\* Not reported in MN emission inventory.

**Table 4. Facility Classification**

Classification	Major/Affected Source	Synthetic Minor/Area	Minor/Area
PSD	X		
Part 70 Permit Program	X		
Part 63 NESHAP	X		

## 2. Regulatory and/or Statutory Basis

The following discussion focuses on the unit affected by the permit action. Rules that apply to units that are not affected by this permit action are not discussed.

### New Source Review

The facility is an existing major source under New Source Review regulations.

This permit action allows an increase in the annual hours of operation of EU 006 (Boiler #11) from 7560 to 8760. Permit limits are taken to restrict the potential increase in emissions of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), CO, and NO<sub>x</sub> below the PSD significant emission rates for major modifications. The permit action does not trigger review under the Prevention of Significant Deterioration (PSD) regulation.

### Part 70 Permit Program

The facility is a major source under the Part 70 permit program.

### New Source Performance Standards (NSPS)

EU 006 is subject to the requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, Subpart Db).

### National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is a major source under 40 CFR pt. 63.

EU 006 is subject to the requirements of Subpart DDDDD as promulgated and/or amended. At the time of permit issuance, the effective dates of that rule have been delayed by EPA (Federal Register Volume

76, No. 96, Page 28662. May 18, 2011), and the reconsidered rule proposed in the Federal Register on December 23, 2011. On January 9, 2012, the courts vacated EPA's delay of the rule, and ordered that the rule is effective as promulgated. For that reason, the details of the rule were not included in the permit – whenever the “reconsidered” rule is promulgated, the requirements of the rule will be different than those in effect as of the date of permit issuance. By the compliance date listed in the rule as promulgated (as of the date of permit issuance, this is March 2014 for existing sources) and amended, the permittee must be in compliance with the rule. Once the compliance options become clear, and the rule is finalized, if there are more than 3 years remaining in the permit term, the MPCA has 18 months after promulgation to reopen the permit and add the conditions (Minn. R. 7007.1600, subp. 1.A.).

#### Compliance Assurance Monitoring (CAM)

EU 006 is subject to CAM as indicated in the Table 5:

**Table 5. CAM Summary**

Control	CAM Applicability	Pollutant	Monitoring
CE008 Selective Non-Catalytic Reduction	Large	NO <sub>x</sub>	Continuous, NO <sub>x</sub> CEMS
CE009 ESP	Other	PM/PM <sub>10</sub>	Continuous, using COMS

#### Environmental Review & AERA

The emissions increases associated with this project do not trigger Environmental Review. No EAW or Environmental Impact Statement is needed and the facility is not required to perform an Air Emissions Risk Analysis (AERA).

#### Minnesota State Rules

Because EU 006 is subject to a federal New Source Performance Standard (40 CFR Part 60, Subpart Db), the performance standards in Minnesota's rules do not apply. (See Minn. 7011.0505.)

**Table 6. Regulatory Overview of Units Affected by the Modification/Permit Amendment**

Level*	Applicable Regulations	Comments
EU006	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Limits placed on emissions of PM <sub>2.5</sub> , PM <sub>10</sub> , CO and NO <sub>x</sub> to avoid PSD.

Level*	Applicable Regulations	Comments
	40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units <ul style="list-style-type: none"> <li>Boiler was constructed after 2/28/2005</li> <li>Boiler burns only untreated wood and residues</li> <li>No applicable NO<sub>x</sub> or SO<sub>2</sub> limits</li> </ul> Per Minn. R. 7011.0505, since a standard of performance has been promulgated (Subpart Db), the Minn. R. limits do not apply.
	40 CFR § 52.21	Best Available Control Technology (BACT) limits set for PM, PM <sub>10</sub> , PM <sub>2.5</sub> , CO, and NO <sub>x</sub> .

\*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

### 3. Technical Information

#### 3.1 Calculations of Potential to Emit

Attachment 1 to this TSD contains a summary of the PTE of the facility, as well as detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

#### 3.2 Applicability Analysis

Although EU 006 is a wood-burning unit, the facility operates coal-burning units. This makes the facility a fossil fuel-fired steam electric plant with more than 250 MMBtu/hr heat input and subject to the 100 tpy major stationary source threshold under PSD (which it exceeds). However, the steam output of EU 006 does not allow it to generate 25 MW, so the unit does not meet the definition of an electric utility steam generating unit.<sup>1</sup>

In accordance with 40 CFR § 52.21(b)(48)(ii), baseline actual emissions were selected from the 10-year period immediately preceding the permit application, which would date back to 2003. However, EU 006 (Boiler #11) has only been operated since 2007. For PM, PM<sub>10</sub>, and PM<sub>2.5</sub>, VPUC selected a baseline period of 2007-2008. A baseline period of 2010-2011 was selected for CO, NO<sub>x</sub>, SO<sub>2</sub>, VOCs, and lead.

A comparison of the PTE of pollutants to their respective baseline actual emissions showed that the increases in PM, SO<sub>2</sub>, VOCs, and lead would not exceed their PSD significant emission rates (SERs). Permit limits are needed on NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> to restrict their potentials to emit below the SERs.

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<sup>1</sup> *Electric utility steam generating unit* means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility. (40 CFR § 52.21(b)(31).)

### **3.3 Condition to Retain CO Limit**

In Air Emission Permit No. 13700028-008, the MPCA raised the CO emission limit on EU 006 from 0.30 lb/MMBtu to 0.58 lb/MMBtu. Without hourly limitations, the increase in annual allowable CO emissions from the permitting action would have been 282 tons. This exceeds the regulatory threshold of 250 tons per year for an EAW. To avoid the EAW, permit conditions limited operation to 7560 hours per year, limiting the increase in annual CO emissions to 243 tons.

The current permit action eliminates the hourly limitations. However, the permit continues to constrain CO emissions; the new condition limits CO emissions to 280 tons on a 365-day rolling sum. This keeps CO emissions below an increase of 250 tons by directly limiting CO emissions as measured by a continuous emission monitor (CEM).<sup>2</sup>

### **3.4 PM<sub>10</sub> BACT Limit**

This permit action adds permit limits for NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> to restrict their potentials to emit below the SERs. While the new permit limit for PM<sub>10</sub> is more restrictive than the existing PM<sub>10</sub> permit limit, the existing PM<sub>10</sub> limit is retained because it is a BACT limit. BACT limits cannot be established or modified without a formal BACT review. Since no formal BACT analysis was submitted and reviewed during this permit action, the BACT limit is retained.

### **3.5 New and Revised 1-hour NAAQS**

In 2010, the U. S .Environmental Protection Agency (EPA) promulgated the new National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO<sub>2</sub>) and nitrogen dioxide (NO<sub>2</sub>) averaged over one hour. The attainment dates (the date by which the state must be able to demonstrate compliance with the applicable standard) are five years after EPA publishes Minnesota's attainment designation in the Federal Register.

#### ***3.5.1 1-hour NAAQS for Sulfur Dioxide***

In June 2010, the new one-hour NAAQS for SO<sub>2</sub> was set at 75 ppb. Minnesota has no monitored violations of the standard. When EPA promulgates a new standard an infrastructure SIP is due within three years; for SO<sub>2</sub>, this is June 2013. EPA initially indicated that all states, even those without monitored violations, would need to demonstrate in the infrastructure SIP that sufficient emission limits would be in place to model compliance with the SO<sub>2</sub> standard. These emission limits were to be in place by the attainment date – five years after promulgation of designations under the new standard. (See 75 FR 35573).

As indicated in a letter to the MPCA dated April 12, 2012, EPA acknowledged that it has not issued implementation guidance for this standard. EPA indicated that stakeholders, including states, have responded to EPA's implementation proposal by identifying a number of concerns. EPA also indicated that it no longer expects Minnesota's infrastructure SIP submittal for the one-hour SO<sub>2</sub> NAAQS to include modeling demonstrations showing attainment of the standard in unclassifiable areas.

Previously, the MPCA completed the following steps in the SO<sub>2</sub> SIP process:

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<sup>2</sup> Allowable CO emissions prior to Air Emission Permit No. 13700028-008 were 302 tons per year based on operation at a limit of 0.30 lb/MMBtu and 8760 hours per year.

- In the spring of 2011, the MPCA identified key sources. MPCA staff requested modeling parameters from 65 sources that met a certain emissions threshold or otherwise were considered to potentially cause or contribute to a violation of the SO<sub>2</sub> standard.
- During the summer of 2011, key sources submitted SO<sub>2</sub> modeling parameters. All facilities submitted modeling parameters by the end of July 2011.
- In fall 2011, the MPCA completed the initial round of baseline modeling of 75 sources and identified sources that modeled an exceedance of the standard. The MPCA developed model input files based on the modeling parameters received from the facilities or information available in house.

After receiving the April 12, 2012 letter from EPA, the MPCA suspended these efforts.

VPUC was modeled during the MPCA's baseline modeling. This modeling showed that VPUC's emissions led to a predicted maximum ambient concentration that may exceed the one-hour SO<sub>2</sub> NAAQS. VPUC was also modeled for Polymet Mining, Inc.'s Northmet Project, a proposed neighboring facility. Polymet's modeling also predicted that VPUC's emissions may contribute to a modeled exceedance of the 1-hour SO<sub>2</sub> NAAQS.

Since VPUC is not increasing its hourly emissions in this permitting action, the MPCA is not requiring VPUC to conduct its own SO<sub>2</sub> modeling demonstration at this time. However, the permit includes conditions requiring VPUC to submit a plan to ensure compliance with the one-hour SO<sub>2</sub> NAAQS by the SO<sub>2</sub> attainment date. VPUC's plan is due within about 18 months of permit issuance. Any needed physical changes or enforceable limits must be in place by the SO<sub>2</sub> attainment date.

### **3.5.2 1-hour NAAQS for Nitrogen Dioxide**

On February 9, 2010, EPA established the new one-hour NAAQS for NO<sub>2</sub> at an ambient concentration of 100 ppb. Monitoring data indicates that Minnesota meets the one-hour standard. EPA has indicated that they intend to designate Minnesota counties as attainment or as unclassifiable with the one-hour NO<sub>2</sub> standard.

The MPCA is not requiring an NO<sub>2</sub> modeling demonstration for VPUC at this time.

### **3.5 Periodic Monitoring and CAM**

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

For CAM, the Permittee submitted a CAM proposal as required by 40 CFR § 64.3. It can be found in Attachment 3 to this TSD. Further discussion of decisions about CAM can be found in Table 4.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;

- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 7 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate or where CAM applies.

**Table 7. Periodic Monitoring**

Level	Requirement (basis)	Additional Monitoring	Discussion
EU006	PM: < 0.025 lb/MMBtu (BACT) PM: < 0.030 lb/MMBtu Opacity: < 20% with exceptions (NSPS Subpart Db)	Periodic Performance Testing Proper control equipment (multiclone & ESP) O&M Opacity Monitoring	<p>This permit action changes the frequency of required performance testing for PM emissions from an annual test to a test performed every sixty months. See Section 3.10.</p> <p>This unit is subject to CAM for PM. It is an “other” PSEU. However, because continuous monitoring is already in place, the Permittee has identified opacity monitoring (COMS) as CAM for the ESP, with a trigger level determined from previous test data.</p> <p>The CAM excursion threshold of 29% opacity to PM is retained. The existing test schedule for PM remains.</p>
	PM <sub>10</sub> < 0.025 lb/MMBtu (BACT) PM <sub>10</sub> < 0.019 lb/MMBtu (Title I Condition: To avoid classification as a major modification)	Periodic Performance Testing Proper control equipment (multiclone & ESP) O&M Opacity Monitoring	<p>This permit action changes the frequency of required performance testing for PM emissions from an annual test to a test performed every sixty months. See Section 3.10.</p> <p>This unit is subject to CAM for PM<sub>10</sub>. It is an “other” PSEU. However, because continuous monitoring is already in place, the Permittee has identified opacity monitoring (COMS) as CAM for the ESP, with a trigger level determined from previous test data.</p> <p>A CAM excursion threshold for PM<sub>10</sub> of 26% opacity is established. The existing test schedule for PM<sub>10</sub> remains.</p>



Level	Requirement (basis)	Additional Monitoring	Discussion
	$PM_{2.5} < 0.014$ lb/MMBtu <i>(Title I Condition: To avoid classification as a major modification)</i>	Initial performance test Ongoing periodic performance tests Proper control equipment (multiclone & ESP) O&M Opacity Monitoring	<p>A performance test is required within 180 days of permit issuance. Using the results of the initial performance test, the Permittee will submit a performance test frequency plan.</p> <p>This unit is subject to CAM for <math>PM_{2.5}</math>. It is an "other" PSEU. However, because continuous monitoring is already in place, the Permittee has identified opacity monitoring (COMS) as CAM for the ESP, with a trigger level determined from previous test data.</p> <p>A CAM excursion threshold for <math>PM_{2.5}</math> of 34% opacity is established. The existing test schedule for <math>PM_{2.5}</math> remains.</p>
	$CO: < 0.58$ lb/MMBtu <i>(BACT)</i>	CO CEMS	<p>This unit is not subject to CAM for CO because there is no control equipment for CO.</p>
	$NO_x: < 0.15$ lb/MMBtu <i>(BACT)</i>	$NO_x$ CEMS Proper control equipment (SNCR) O&M	<p>This unit is subject to CAM for <math>NO_x</math>. It is a large PSEU. The Permittee has identified <math>NO_x</math> monitoring (CEMS) as CAM for the SNCR. There are also SNCR operating parameters established during stack testing that must be maintained and reestablished periodically.</p> <p>The previously-established CAM excursion threshold is retained.</p>
	Steam Flow: $\leq 123,304$ lb/hour <i>(Minn. R. 7017.2025)</i>	Readings taken every 15 minutes to calculate an 8-hour block average. Heat input readings can be take from $SO_2$ CEMS.	<p>Unit was tested in October 2011, at a steam flow rate of 112,095 lb/hour. The resultant emissions were less than 80% of the applicable limits, so an operating rate of 110% of the tested rate is set.</p>

### 3.6 Calculations of Potential to Emit

Attachment 1 to this TSD contains Form GI-07, which summarizes the PTE of the Facility. Attachment 1 also contains detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

### 3.7 Insignificant Activities

VPUC did not add any insignificant activities in this permit action.

### 3.8 Limits

VPUC proposed annual limits for CO and NO<sub>x</sub> and lb/MMBtu limits for PM<sub>10</sub> and PM<sub>2.5</sub>. The MPCA examined CEM data for CO and NO<sub>x</sub> and stack test data for PM<sub>10</sub> and PM<sub>2.5</sub> to ensure that these limits were achievable.

#### 3.8.1 CO and NO<sub>x</sub>

VPUC submitted monthly CO and NO<sub>x</sub> emission data for 2010, 2011, and 2012 (to date) taken from CEM data. An analysis of those emission data are provided in Table 8:

**Table 8. Summary CO and NO<sub>x</sub> Data**

<i>(tons per year)</i>	CO	NO <sub>x</sub>
Annualized average monthly emissions	197	85.1
Annualized maximum monthly emissions	465	135
Annualized monthly emissions at upper prediction level	222	110
New annual emission limit	280	120

Although continuous operation at the maximum monthly emission rate would exceed the synthetic minor limits, annualized average emissions are much lower than the synthetic minor limits (about 70 percent of the limit). Continuous operation at the upper prediction level for monthly emissions would also meet the limit, providing additional assurance that the CO and NO<sub>x</sub> limits are reasonable.

#### 3.8.2 PM<sub>10</sub> and PM<sub>2.5</sub>

During the permitting process, VPUC provided performance test reports for PM<sub>10</sub> and PM<sub>2.5</sub>. The results are provided in Table 9:

**Table 9. PM<sub>10</sub> and PM<sub>2.5</sub> Performance Test Data**

Stack Test Date	PM <sub>10</sub> (lb/MMBtu)	PM <sub>2.5</sub> (lb/MMBtu)
October 2-3, 2007	0.018	<i>Not tested</i>
November 19, 2009	0.006	<i>Not tested</i>
October 5, 2011	0.004	<i>Not tested</i>
February 23, 2012	0.0043	0.0023
Average	0.008	0.002

Based on these test results (particularly the most recent), EU 006 is capable of meeting the proposed limits of 0.019 lb/MMBtu of PM<sub>10</sub> and 0.014 lb/MMBtu of PM<sub>2.5</sub>.

### **3.9 Test Frequency Changes**

This permit action changes the frequency of tests for PM and PM<sub>10</sub> emissions from EU 006. Prior to this permit action, tests were required annually. This permit action changes the test frequency to every 60 months. This is based on recent stack tests. Recent stack test results for PM emissions are shown in Table 10, while Table 9 contains recent stack test results for PM<sub>10</sub>.

**Table 10. PM Performance Test Data**

Stack Test Date	PM (lb/MMBtu)
October 2-3, 2007	0.009
November 19, 2009	0.004
October 5, 2011	0.003
February 23, 2012	0.006
Average	0.006

The average of the PM tests during the last five years is 0.006 lb/MMBtu (less than 60 percent of the limit of 0.025 lb PM/MMBtu (or 0.015 lb/MMBtu). The average of PM<sub>10</sub> stack test results over the last five years is 0.008 lb/MMBtu, which is less than 60 percent of the limit of 0.019 lb PM<sub>10</sub>/MMBtu. (Sixty percent of 0.019 lb/MMBtu is 0.0114 lb/MMBtu.) According to the MPCA's test frequency policy, performance tests are required every five years for both PM and PM<sub>10</sub>.

### **3.10 Ammonia Testing Requirement**

The permit has included a condition requiring periodic testing for ammonia slip from EU 006 (Boiler #11). In Air Emission Permit No. 13700028-008, the condition was modified to require testing for PM<sub>10</sub> during the test for ammonia slip. Because this permit adds a PM<sub>2.5</sub> emission limit, the test for particulate matter is amended to include PM<sub>2.5</sub>. This addresses the concern that the injection of ammonia, needed to control NO<sub>x</sub> emissions, can lead to the formation of condensable particulate and therefore increase emissions of PM<sub>10</sub> and PM<sub>2.5</sub>.

### **3.11 Permit Organization**

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be electronically tracked (e.g., limits, submittals, etc.), should be in Table A or B of the permit. The main reason is that the appendices are word processing sections and are not part of the electronic tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must identify violations of the appendices and generate any enforcement notices.

### **3.12 Comments Received**

*This section will be completed after the referenced review periods.*

Public Notice Period: November <start date>, 2012 - December <end date>, 2012

EPA 45-day Review Period: November <start date>, 2012 - December <end date>, 2012

Comments were <not> received from the public during the public notice period. <The comments received did <not> include adverse comments on any applicable requirements of the permit. Changes to the permit were <not> made as a result of the comments. *Provide summary of changes.* >

<The revised permit was sent to EPA for their 45-day review on <date>.> Comments were <not> received from EPA during their review period. Changes to the permit were <not> made as a result of the comments. *Provide summary of changes.* >

#### **4. Permit Fee Assessment**

Attachment 3 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application fee for this permit action as required by Minn. R. 7002.0019. The permit action is for major permit amendment first applied for in January 2012. The permit includes limits taken to stay below a permitting threshold.

#### **5. Conclusion**

Based on the information provided by Virginia Public Utilities Commission, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13700028-010 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:     Richard Cordes (permit writer/engineer)  
   Steve Palzkill (enforcement)  
   Andy Place (stack testing)  
   Adriane Lenshek (peer reviewer)

AQ File No. 622; DQ #3891

Attachments:

1. PTE Summary and Emissions Increase Calculation Spreadsheets
2. Facility Description and CD-01 Forms
3. Points Calculator
4. CAM plans

## **Attachment 1. PTE Summary and Emissions Increase Calculation Spreadsheets**

## **Attachment 2. Facility Description and CD-01 Forms**

## **Attachment 3. Points Calculator**

## **Attachment 4. CAM plans**



## **Attachment 1**

### **PTE Summary and Emissions Increase Calculation Spreadsheets**

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 001</b>							
	Acetaldehyde	PER 009		5.87E-03	2.57E-02	2.57E-02	
	Acetophenone	PER 009		1.54E-04	6.76E-04	6.76E-04	
	Acrolein	PER 009		2.99E-03	1.31E-02	1.31E-02	
	Benzene	PER 009		1.34E-02	5.86E-02	5.86E-02	
	Arsenic compounds	PER 009		4.22E-03	1.85E-02	1.85E-02	
	Benzyl chloride	PER 009		7.21E-03	3.16E-02	3.16E-02	
	Biphenyl	PER 009		1.75E-05	7.67E-05	7.67E-05	
	Bis(2-ethylhexyl) phthalate	PER 009		7.51E-04	3.29E-03	3.29E-03	
	Bromoform	PER 009		4.01E-04	1.76E-03	1.76E-03	
	Bromomethane	PER 009		1.65E-03	7.21E-03	7.21E-03	
	Beryllium	PER 009		2.18E-04	9.47E-04	9.47E-04	
	Carbon disulfide	PER 009		1.34E-03	5.86E-03	5.86E-03	
	Carbon Dioxide Equivalent	PER 009		3.76E+04	1.65E+05	1.65E+05	
	2-Chloroacetophenone	PER 009		7.21E-05	3.16E-04	3.16E-04	
	Chlorobenzene	PER 009		2.26E-04	9.92E-04	9.92E-04	
	Chloroethane	PER 009		4.32E-04	1.89E-03	1.89E-03	
	Chloroform	PER 009		6.07E-04	2.66E-03	2.66E-03	
	Cadmium compounds	PER 009		5.25E-04	2.30E-03	2.30E-03	
	Methane	PER 009		4.24E+00	1.86E+01	1.86E+01	
	Cyanide compounds	PER 009		2.57E-02	1.13E-01	1.13E-01	
	Carbon Monoxide	PER 008		5.15E+01	2.25E+02	2.25E+02	
	Carbon Dioxide	PER 009		3.74E+04	1.64E+05	1.64E+05	
	Cobalt compounds	PER 009		1.03E-03	4.51E-03	4.51E-03	
	Chromium compounds	PER 009		2.68E-03	1.17E-02	1.17E-02	
	Cumene	PER 009		5.46E-05	2.39E-04	2.39E-04	
	1,2-Dichloroethane	PER 009		4.12E-04	1.80E-03	1.80E-03	
	Dimethyl sulfate	PER 009		4.94E-04	2.16E-02	2.16E-02	
	2,4-Dinitrotoluene	PER 009		2.88E-06	1.26E-05	1.26E-05	
	Ethylbenzene	PER 009		9.68E-04	4.24E-03	4.24E-03	
	Formaldehyde	PER 009		2.47E-03	1.08E-02	1.08E-02	
	Hexane	PER 009		5.97E-03	2.62E-02	2.62E-02	
	Hydrogen fluoride	PER 009		1.54E+00	6.76E+00	6.76E+00	
	Methyl ethyl ketone (MEK)	PER 009					
	Methyl methacrylate	PER 009		2.06E-04	9.02E-04	9.02E-04	
	Methylhydrazine	PER 009		1.75E-03	7.67E-03	7.67E-03	
	Naphthalene	PER 009		1.34E-04	5.86E-04	5.86E-04	
	HAPs - Total	PER 009		1.40E+01	6.14E+01	6.14E+01	
	Mercury	PER 009		8.54E-04	3.74E-03	3.74E-03	
	Phenol	PER 009		1.65E-04	7.21E-04	7.21E-04	
	Styrene	PER 009		2.57E-04	1.13E-03	1.13E-03	
	2,3,7,8-TCDD (dioxin)	PER 009		1.00E-10	6.00E-10	6.00E-10	
	Tetrachloroethylene	PER 009		4.43E-04	1.94E-03	1.94E-03	
	Toluene	PER 009		2.47E-03	1.08E-02	1.08E-02	
	1,1,1-Trichloroethane	PER 009		2.06E-04	9.02E-04	9.02E-04	
	Vinyl acetate	PER 009		7.82E-05	3.43E-04	3.43E-04	
	Xylenes (mixed isomers)	PER 009		3.81E-04	1.67E-03	1.67E-03	

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 001</b>							
	Hydrochloric acid	PER 009		1.24E+01	5.41E+01	5.41E+01	
	Manganese compounds	PER 009		5.04E-03	2.21E-02	2.21E-02	
	Acenaphthene	PER 009					
	Acenaphthylene	PER 009					
	Anthracene	PER 009					
	Benz(a)anthracene	PER 009					
	Benzo(a)pyrene	PER 009					
	Benzo(b)fluoranthene	PER 009					
	Benzo(ghi)perylene	PER 009					
	Benzo(k)fluoranthene	PER 009					
	Chrysene	PER 009					
	Ethylene dibromide (dibromoeth	PER 009		1.24E-05	5.41E-05	5.41E-05	
	Fluoranthene	PER 009					
	Fluorene	PER 009					
	Nitrous Oxide	PER 009		6.20E-01	2.70E+00	2.70E+00	
	Indeno(1,2,3-cd)pyrene	PER 009					
	Isophorone	PER 009		5.97E-03	2.62E-02	2.62E-02	
	Methyl chloride (chloromethane	PER 009		5.46E-03	2.39E-02	2.39E-02	
	Methyl tert butyl ether	PER 009		3.60E-04	1.58E-03	1.58E-03	
	Methylene chloride (dichlorome	PER 009		2.99E-03	1.31E-02	1.31E-02	
	Phenanthrene	PER 009					
	Propionaldehyde	PER 009		3.91E-03	1.71E-02	1.71E-02	
	Pyrene	PER 009					
	Nickel compounds	PER 009		2.88E-03	1.26E-02	1.26E-02	
	Nitrogen Oxides	PER 009		9.06E+01	4.15E+02		
	PM < 2.5 micron	PER 009		3.72E+00	1.63E+01	1.63E+01	
	Lead	PER 009		4.32E-03	1.89E-02	1.89E-02	
	PM < 10 micron	PER 009		5.25E+01	3.53E+02	2.30E+02	
	Polycyclic organic matter	PER 009		6.00E-05	2.63E-04	2.63E-04	
	Total Particulate Matter	PER 009		1.05E+02	5.43E+02	4.60E+02	
	Antimony compounds	PER 009		1.85E-04	8.12E-04	8.12E-04	
	Selenium compounds	PER 009		1.34E-02	5.86E-02	5.86E-02	
	Sulfur Dioxide	PER 009		4.38E+02	1.58E+03		
	Volatile Organic Compounds	PER 009		5.10E-01	2.25E+00	2.26E+00	
<b>EU 002</b>							
	Arsenic compounds	PER 005					
	Beryllium	PER 005					
	Cadmium compounds	PER 005					
	Carbon Monoxide	PER 005					
	Chromium compounds	PER 005					
	Formaldehyde	PER 005					
	Mercury	PER 005					
	Manganese compounds	PER 005					
	Nickel compounds	PER 005					
	Nitrogen Oxides	PER 005					
	Lead	PER 005					

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 002</b>							
	PM < 10 micron	PER 005					
	Polycyclic organic matter	PER 005					
	Total Particulate Matter	PER 005					
	Sulfur Dioxide	PER 005					
	Volatile Organic Compounds	PER 005					
<b>EU 003</b>							
	Acetaldehyde	PER 009		8.37E-03	3.66E-02	3.66E-02	
	Acetophenone	PER 009		2.20E-04	9.64E-04	9.64E-04	
	Acrolein	PER 009		4.26E-03	1.86E-02	1.86E-02	
	Benzene	PER 009		1.91E-02	8.36E-02	8.36E-02	
	Arsenic compounds	PER 009		6.02E-03	2.64E-02	2.64E-02	
	Benzyl chloride	PER 009		1.03E-02	4.50E-02	4.50E-02	
	Biphenyl	PER 009		2.50E-05	1.09E-04	1.09E-04	
	Bis(2-ethylhexyl) phthalate	PER 009		1.07E-03	4.69E-03	4.69E-03	
	Bromoform	PER 009		5.72E-04	2.51E-03	2.51E-03	
	Bromomethane	PER 009		2.35E-03	1.03E-02	1.03E-02	
	Beryllium	PER 009		3.08E-04	1.35E-03	1.35E-03	
	Carbon disulfide	PER 009		1.91E-03	8.36E-03	8.36E-03	
	Carbon Dioxide Equivalent	PER 009		5.35E+04	2.35E+05	2.35E+05	
	2-Chloroacetophenone	PER 009		1.03E-04	4.50E-04	4.50E-04	
	Chlorobenzene	PER 009		3.23E-04	1.41E-03	1.41E-03	
	Chloroethane	PER 009		6.16E-04	2.70E-03	2.70E-03	
	Chloroform	PER 009		8.66E-04	3.79E-03	3.79E-03	
	Cadmium compounds	PER 009		7.49E-04	3.28E-03	3.28E-03	
	Methane	PER 009		6.03E+00	2.64E+01	2.64E+01	
	Cyanide compounds	PER 009		3.67E-02	1.61E-01	1.61E-01	
	Carbon Monoxide	PER 009		7.34E+01	3.21E+02	3.21E+02	
	Carbon Dioxide	PER 009		5.31E+04	2.33E+05	2.33E+05	
	Cobalt compounds	PER 009		1.47E-03	6.43E-03	6.43E-03	
	Chromium compounds	PER 009		3.82E-03	1.67E-02	1.67E-02	
	Cumene	PER 009		7.78E-05	3.41E-04	3.41E-04	
	1,2-Dichloroethane	PER 009		5.87E-04	2.57E-03	2.57E-03	
	Dimethyl sulfate	PER 009		7.04E-04	3.09E-03	3.09E-03	
	2,4-Dinitrotoluene	PER 009		4.11E-06	1.80E-05	1.80E-05	
	Ethylbenzene	PER 009		1.38E-03	6.04E-03	6.04E-03	
	Formaldehyde	PER 009		3.52E-03	1.54E-02	1.54E-02	
	Hexane	PER 009		9.83E-04	4.31E-03	4.31E-03	
	Hydrogen fluoride	PER 009		2.20E+00	9.64E+00	9.64E+00	
	Methyl ethyl ketone (MEK)	PER 009					
	Methyl methacrylate	PER 009		2.94E-04	1.29E-03	1.29E-03	
	Methylhydrazine	PER 009		2.50E-03	1.09E-02	1.09E-02	
	Naphthalene	PER 009		1.91E-04	8.36E-04	8.36E-04	
	HAPs - Total	PER 009		2.00E+01	8.76E+01	8.76E+01	
	Mercury	PER 009		1.22E-03	5.34E-03	5.34E-03	
	Phenol	PER 009		2.35E-04	1.03E-03	1.03E-03	
	Styrene	PER 009		3.67E-04	1.61E-03	1.61E-03	

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 003</b>							
	2,3,7,8-TCDD (dioxin)	PER 009		2.00E-10	9.00E-10	9.00E-10	
	Tetrachloroethylene	PER 009		6.31E-04	2.76E-03	2.76E-03	
	Toluene	PER 009		3.52E-03	1.54E-02	1.54E-02	
	1,1,1-Trichloroethane	PER 009		2.94E-04	1.29E-03	1.29E-03	
	Vinyl acetate	PER 009		1.12E-04	4.89E-04	4.89E-04	
	Xylenes (mixed isomers)	PER 009		5.43E-04	2.38E-03	2.38E-03	
	Hydrochloric acid	PER 009		1.76E+01	7.71E+01	7.71E+01	
	Manganese compounds	PER 009		7.19E-03	3.15E-02	3.15E-02	
	Acenaphthene	PER 009					
	Acenaphthylene	PER 009					
	Anthracene	PER 009					
	Benz(a)anthracene	PER 009					
	Benzo(a)pyrene	PER 009					
	Benzo(b)fluoranthene	PER 009					
	Benzo(ghi)perylene	PER 009					
	Benzo(k)fluoranthene	PER 009					
	Chrysene	PER 009					
	Ethylene dibromide (dibromoeth	PER 009		1.76E-05	7.71E-05	7.71E-05	
	Fluoranthene	PER 009					
	Fluorene	PER 009					
	Nitrous Oxide	PER 009		8.80E-01	3.84E+00	3.84E+00	
	Indeno(1,2,3-cd)pyrene	PER 009					
	Isophorone	PER 009		8.51E-03	3.73E-02	3.73E-02	
	Methyl chloride (chloromethane	PER 009		7.78E-03	3.41E-02	3.41E-02	
	Methyl tert butyl ether	PER 009		5.14E-04	2.25E-03	2.25E-03	
	Methylene chloride (dichlorome	PER 009		4.26E-03	1.86E-02	1.86E-02	
	Phenanthrene	PER 009					
	Propionaldehyde	PER 009		5.58E-03	2.44E-02	2.44E-02	
	Pyrene	PER 009					
	Nickel compounds	PER 009		4.11E-03	1.80E-02	1.80E-02	
	Nitrogen Oxides	PER 009		1.29E+02	5.66E+02		
	PM < 2.5 micron	PER 009		5.30E+00	2.32E+01	2.32E+01	
	Lead	PER 009		6.16E-03	2.70E-02	2.70E-02	
	PM < 10 micron	PER 009		7.49E+01	5.04E+02	3.28E+02	
	Polycyclic organic matter	PER 009		8.55E-05	3.75E-04	3.75E-04	
	Total Particulate Matter	PER 009		1.50E+02	7.74E+02	6.56E+02	
	Antimony compounds	PER 009		2.64E-04	1.16E-03	1.16E-03	
	Selenium compounds	PER 009		1.91E-02	8.36E-02	8.36E-02	
	Sulfur Dioxide	PER 009		3.99E+02	2.73E+03		
	Volatile Organic Compounds	PER 009		7.34E-01	3.21E+00	3.21E+00	
<b>EU 004</b>							
	Benzene	PER 005		5.62E-04	2.46E-03	2.46E-03	
	Arsenic compounds	PER 005		5.36E-05	2.35E-04	2.35E-04	
	Benzyl chloride	PER 009					
	Beryllium	PER 005		3.21E-06	1.41E-05	1.41E-05	
	Carbon Dioxide Equivalent	PER 009		3.11E+04	1.36E+05	1.36E+05	

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 004</b>							
	Cadmium compounds	PER 005		2.95E-04	1.29E-03	1.29E-03	
	Methane	PER 009		5.85E-01	2.56E+00	2.56E+00	
	Carbon Monoxide	PER 008		2.25E+01	9.85E+01	9.85E+01	
	Carbon Dioxide	PER 009		3.10E+04	1.36E+05	1.36E+05	
	Cobalt compounds	PER 005		2.25E-05	9.85E-05	9.85E-05	
	Chromium compounds	PER 005		3.75E-04	1.64E-03	1.64E-03	
	1,4-Dichlorobenzene	PER 009		3.21E-04	1.41E-03	1.41E-03	
	Formaldehyde	PER 009		2.01E-02	8.80E-02	8.80E-02	
	Hexane	PER 005		4.82E-01	2.11E+00	2.11E+00	
	Naphthalene	PER 005		1.63E-04	7.15E-04	7.15E-04	
	HAPs - Total	PER 009		5.06E-01	2.21E+00	2.21E+00	
	Mercury	PER 008		6.96E-05	3.05E-04	3.05E-04	
	Toluene	PER 005		9.11E-04	3.99E-03	3.99E-03	
	Manganese compounds	PER 005		1.02E-04	4.46E-04	4.46E-04	
	Acenaphthene	PER 009					
	Anthracene	PER 009					
	Benz(a)anthracene	PER 009					
	Benzo(a)pyrene	PER 009					
	Benzo(b)fluoranthene	PER 009					
	Benzo(ghi)perylene	PER 009					
	Benzo(k)fluoranthene	PER 009					
	Chrysene	PER 009					
	Dibenz(a,h)anthracene	PER 009					
	Fluoranthene	PER 009					
	Fluorene	PER 009					
	Nitrous Oxide	PER 009		5.90E-02	2.60E-01	2.60E-01	
	Indeno(1,2,3-cd)pyrene	PER 009					
	Phenanthrene	PER 009					
	Pyrene	PER 009					
	Nickel compounds	PER 005		5.62E-04	2.46E-03	2.46E-03	
	Nitrogen Oxides	PER 009		2.68E+01	1.17E+02		
	PM < 2.5 micron	PER 009		2.04E+00	8.91E+00	8.91E+00	
	Lead	PER 009		1.34E-04	5.86E-04	5.86E-04	
	PM < 10 micron	PER 008		2.04E+00	8.91E+00	8.91E+00	
	Polycyclic organic matter	PER 009		2.36E-05	1.03E-04	1.03E-04	
	Total Particulate Matter	PER 008		2.04E+00	8.91E+00	8.91E+00	
	Selenium compounds	PER 005		6.43E-06	2.82E-05	2.82E-05	
	Sulfur Dioxide	PER 008		1.61E-01	7.04E-01	7.04E-01	
	Volatile Organic Compounds	PER 008		1.47E+00	6.45E+00	6.45E+00	
<b>EU 005</b>							
	Benzene	PER 009		1.47E-05	6.45E-05	6.45E-05	
	Arsenic compounds	PER 009		1.40E-06	6.14E-06	6.14E-06	
	Beryllium	PER 009		8.41E-08	3.68E-07	3.68E-07	
	Carbon Dioxide Equivalent	PER 009		8.35E+02	3.66E+03	3.66E+03	
	Cadmium compounds	PER 009		7.71E-06	3.38E-05	3.38E-05	
	Methane	PER 009		1.57E-02	7.00E-02	7.00E-02	

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 005</b>							
	Carbon Monoxide	PER 009		5.90E-01	2.58E+00	2.58E+00	
	Carbon Dioxide	PER 009		8.34E+02	3.65E+03	3.65E+03	
	Cobalt compounds	PER 009		5.89E-07	2.58E-06	2.58E-06	
	Chromium compounds	PER 009		9.81E-06	4.30E-05	4.30E-05	
	1,4-Dichlorobenzene	PER 009		8.41E-06	3.68E-05	3.68E-05	
	Formaldehyde	PER 009		5.26E-04	2.30E-03	2.30E-03	
	Hexane	PER 009		1.26E-02	5.53E-02	5.53E-02	
	Naphthalene	PER 009		4.28E-06	1.87E-05	1.87E-05	
	HAPs - Total	PER 009		1.32E-02	5.80E-02	5.80E-02	
	Mercury	PER 009		1.82E-06	7.98E-06	7.98E-06	
	Toluene	PER 009		2.38E-05	1.04E-04	1.04E-04	
	Manganese compounds	PER 009		2.66E-06	1.17E-05	1.17E-05	
	Nitrous Oxide	PER 009		1.57E-03	6.89E-03	6.89E-03	
	Nickel compounds	PER 009		1.47E-05	6.45E-05	6.45E-05	
	Nitrogen Oxides	PER 009		7.00E-01	3.07E+00		
	PM < 2.5 micron	PER 009		5.00E-02	2.30E-01	2.30E-01	
	Lead	PER 009		3.50E-06	1.54E-05	1.54E-05	
	PM < 10 micron	PER 009		5.00E-02	2.30E-01	2.30E-01	
	Polycyclic organic matter	PER 009		6.18E-07	2.71E-06	2.71E-06	
	Total Particulate Matter	PER 009		5.00E-02	2.30E-01	2.30E-01	
	Selenium compounds	PER 009		1.68E-07	7.37E-07	7.37E-07	
	Sulfur Dioxide	PER 009		4.21E-03	1.84E-02	1.84E-02	
	Volatile Organic Compounds	PER 009		4.00E-02	1.70E-01	1.70E-01	
<b>EU 006</b>							
	Acetaldehyde	PER 009		5.38E-02	2.36E-01	2.03E-01	
	Acetaldehyde	PER 010		5.38E-02	2.36E-01	2.36E-01	
	Acetophenone	PER 009		7.36E-07	3.22E-06	2.78E-06	
	Acetophenone	PER 010		7.36E-07	3.22E-06	3.22E-06	
	Acrolein	PER 009		1.00E-02	4.39E-02	3.79E-02	
	Acrolein	PER 010		1.00E-02	4.39E-02	4.39E-02	
	Benzene	PER 009		1.63E-01	7.15E-01	6.17E-01	
	Benzene	PER 010		1.63E-01	7.15E-01	7.15E-01	
	Arsenic compounds	PER 009		7.48E-03	3.27E-02	2.83E-02	
	Arsenic compounds	PER 010		7.48E-03	3.27E-02	3.27E-02	
	Bis(2-ethylhexyl) phthalate	PER 009		1.08E-05	4.73E-05	4.09E-05	
	Bis(2-ethylhexyl) phthalate	PER 010		1.08E-05	4.73E-05	4.73E-05	
	Bromomethane	PER 009		3.45E-03	1.51E-02	1.30E-02	
	Bromomethane	PER 010		3.45E-03	1.51E-02	1.51E-02	
	Barium	PER 009					
	Beryllium	PER 009		4.09E-04	1.79E-03	1.55E-03	
	Beryllium	PER 010		4.09E-04	1.79E-03	1.79E-03	
	Carbon tetrachloride	PER 009		1.04E-02	4.53E-02	3.91E-02	
	Carbon tetrachloride	PER 010		1.04E-02	4.53E-02	4.53E-02	
	Carbon Dioxide Equivalent	PER 009		4.85E+04	2.12E+05	1.83E+05	
	Carbon Dioxide Equivalent	PER 010		4.85E+04	2.12E+05	4.37E+03	
	Chlorine	PER 009		1.82E-01	7.96E-01	6.87E-01	

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 006</b>							
	Chlorine	PER 010		1.82E-01	7.96E-01	7.96E-01	
	2-Chloroacetophenone	PER 009					
	Chlorobenzene	PER 009		7.59E-03	3.32E-02	2.87E-02	
	Chlorobenzene	PER 010		7.59E-03	3.32E-02	3.32E-02	
	Chloroform	PER 009		6.44E-03	2.82E-02	2.43E-02	
	Chloroform	PER 010		6.44E-03	2.82E-02	2.82E-02	
	Cadmium compounds	PER 009		4.14E-04	1.81E-03	1.56E-03	
	Cadmium compounds	PER 010		4.14E-04	1.81E-03	1.81E-03	
	Methane	PER 009		1.62E+01	7.09E+01	6.12E+01	
	Methane	PER 010		1.62E+01	7.09E+01	7.09E+01	
	Carbon Monoxide	PER 008		9.20E+01	6.04E+02	5.04E+02	
	Carbon Monoxide	PER 010		9.20E+01	6.04E+02	2.80E+02	
	Carbon Dioxide	PER 009		4.75E+04	2.08E+05	1.79E+05	
	Carbon Dioxide	PER 010		4.75E+04	2.08E+05	1.79E+05	
	Cobalt compounds	PER 009		8.14E-05	3.57E-04	3.08E-04	
	Cobalt compounds	PER 010		8.14E-05	3.57E-04	3.57E-04	
	Chromium compounds	PER 009		3.36E-04	1.47E-03	1.27E-03	
	Chromium compounds	PER 010		3.36E-04	1.47E-03	1.47E-03	
	1,2-Dichloroethane	PER 009		6.67E-03	2.92E-02	2.52E-02	
	1,2-Dichloroethane	PER 010		6.67E-03	2.92E-02	2.92E-02	
	1,2-Dichloropropane	PER 009		7.59E-03	3.32E-02	2.87E-02	
	1,2-Dichloropropane	PER 010		7.59E-03	3.32E-02	3.32E-02	
	2,4-Dinitrophenol	PER 009		2.15E-05	9.40E-05	8.11E-05	
	2,4-Dinitrophenol	PER 010		2.15E-05	9.40E-05	9.40E-05	
	Ethylbenzene	PER 009		7.13E-03	3.12E-02	2.70E-02	
	Ethylbenzene	PER 010		7.13E-03	3.12E-02	3.12E-02	
	Formaldehyde	PER 009		3.22E-01	1.41E+00	1.22E+00	
	Formaldehyde	PER 010		3.22E-01	1.41E+00	1.41E+00	
	Methyl ethyl ketone (MEK)	PER 009					
	Naphthalene	PER 009		1.57E-02	6.87E-02	5.93E-02	
	Naphthalene	PER 010		1.57E-02	6.87E-02	6.87E-02	
	4-Nitrophenol	PER 009		3.93E-05	1.72E-04	1.49E-04	
	4-Nitrophenol	PER 010		3.93E-05	1.72E-04	1.72E-04	
	HAPs - Total	PER 009				4.11E+01	
	HAPs - Total	PER 010				2.71E+01	
	Mercury	PER 009		6.90E-04	3.02E-03	2.61E-03	
	Mercury	PER 010		6.90E-04	3.02E-03	3.02E-03	
	Phenol	PER 009		2.88E-03	1.26E-02	1.09E-02	
	Phenol	PER 010		2.88E-03	1.26E-02	1.26E-02	
	Styrene	PER 009		4.37E-01	1.91E+00	1.65E+00	
	Styrene	PER 010		4.37E-01	1.91E+00	1.91E+00	
	2,3,7,8-TCDD (dioxin)	PER 009		2.40E-09	1.06E-08	9.20E-09	
	2,3,7,8-TCDD (dioxin)	PER 010		2.40E-09	1.06E-08	1.06E-08	
	Toluene	PER 009		4.90E-03	2.15E-02	1.85E-02	
	Toluene	PER 010		4.90E-03	2.15E-02	2.15E-02	
	1,1,1-Trichloroethane	PER 009		7.13E-03	3.12E-02	2.70E-02	



## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 006</b>							
	1,1,1-Trichloroethane	PER 010		7.13E-03	3.12E-02	3.12E-02	
	2,4,6-Trichlorophenol	PER 009		2.62E-06	1.15E-05	9.91E-06	
	2,4,6-Trichlorophenol	PER 010		2.62E-06	1.15E-05	1.15E-05	
	Vinyl chloride	PER 009		4.14E-03	1.81E-02	1.56E-02	
	Vinyl chloride	PER 010		4.14E-03	1.81E-02	1.81E-02	
	Hydrochloric acid	PER 009		4.60E+00	2.01E+01	1.74E+01	
	Hydrochloric acid	PER 010		4.60E+00	2.01E+01	2.01E+01	
	Manganese compounds	PER 009		2.99E-01	1.31E+00	1.13E+00	
	Manganese compounds	PER 010		2.99E-01	1.31E+00	1.31E+00	
	Molybdenum	PER 009					
	Acenaphthene	PER 009					
	Acenaphthylene	PER 009					
	Anthracene	PER 009					
	Benz(a)anthracene	PER 009					
	Benzo(a)pyrene	PER 009					
	Benzo(b)fluoranthene	PER 009					
	Benzo(ghi)perylene	PER 009					
	Benzo(k)fluoranthene	PER 009					
	Chrysene	PER 009					
	Dibenz(a,h)anthracene	PER 009					
	Fluoranthene	PER 009					
	Fluorene	PER 009					
	Nitrous Oxide	PER 009		2.13E+00	9.31E+00	8.03E+00	
	Nitrous Oxide	PER 010		2.13E+00	9.31E+00	9.31E+00	
	Indeno(1,2,3-cd)pyrene	PER 009					
	Methyl chloride (chloromethane)	PER 009		5.29E-03	2.32E-02	2.00E-02	
	Methyl chloride (chloromethane)	PER 010		5.29E-03	2.32E-02	2.32E-02	
	Methylene chloride (dichlorome)	PER 009		6.67E-02	2.92E-01	2.52E-01	
	Phenanthrene	PER 009					
	Phosphorus	PER 009		4.44E-03	1.94E-02	1.68E-02	
	Phosphorus	PER 010		4.44E-03	1.94E-02	1.94E-02	
	Propionaldehyde	PER 009		1.40E-02	6.15E-02	5.30E-02	
	Propionaldehyde	PER 010		1.40E-02	6.15E-02	6.15E-02	
	Pyrene	PER 009					
	Nickel compounds	PER 009		5.22E-04	2.29E-03	1.97E-03	
	Nickel compounds	PER 010		5.22E-04	2.29E-03	2.29E-03	
	Nitrogen Oxides	PER 009		3.45E+01	2.22E+02	1.30E+02	
	Nitrogen Oxides	PER 010		3.45E+01	2.22E+02	1.20E+02	
	PM < 2.5 micron	PER 009		5.75E+00	1.03E+02	2.17E+01	
	PM < 2.5 micron	PER 010		5.75E+00	1.03E+02	1.41E+01	
	Lead	PER 009		7.25E-03	3.18E-02	2.75E-02	
	Lead	PER 010		7.25E-03	3.18E-02	3.18E-02	
	PM < 10 micron	PER 009		5.75E+00	5.21E+02	2.17E+01	
	PM < 10 micron	PER 010		5.75E+00	5.21E+02	1.91E+01	
	Polycyclic organic matter	PER 009		9.11E-04	3.99E-03	3.45E-03	
	Polycyclic organic matter	PER 010		9.11E-04	3.99E-03	3.99E-03	

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 006</b>							
	Total Particulate Matter	PER 009		5.75E+00	5.81E+02	2.17E+01	
	Total Particulate Matter	PER 010		5.75E+00	5.81E+02	2.52E+01	
	Antimony compounds	PER 009		2.69E-03	1.18E-02	1.02E-02	
	Antimony compounds	PER 010		2.69E-03	1.18E-02	1.18E-02	
	Selenium compounds	PER 009		5.61E-04	2.46E-03	2.12E-03	
	Selenium compounds	PER 010		5.61E-04	2.46E-03	2.46E-03	
	Sulfur Dioxide	PER 009		5.75E+00	2.52E+01	2.17E+01	
	Sulfur Dioxide	PER 010		5.75E+00	2.52E+01	2.52E+01	
	Volatile Organic Compounds	PER 009		3.91E+00	1.71E+01	1.48E+01	
	Volatile Organic Compounds	PER 010		3.91E+00	1.71E+01	1.71E+01	
<b>EU 007</b>							
	PM < 2.5 micron	PER 009		6.00E-01	8.76E+00	2.63E+00	
	PM < 10 micron	PER 009		6.00E-01	8.76E+00	2.63E+00	
	Total Particulate Matter	PER 009		6.00E-01	8.76E+00	2.63E+00	
<b>EU 009</b>							
	PM < 2.5 micron	PER 009		6.00E-02	5.00E-01	2.60E-01	
	PM < 10 micron	PER 009		6.00E-02	5.00E-01	2.60E-01	
	Total Particulate Matter	PER 009		6.00E-02	5.00E-01	2.60E-01	
<b>EU 010</b>							
	PM < 2.5 micron	PER 009		3.10E-02	5.00E-01	1.40E-01	
	PM < 10 micron	PER 009		3.10E-02	5.00E-01	1.40E-01	
	Total Particulate Matter	PER 009		3.10E-02	5.00E-01	1.40E-01	
<b>EU 011</b>							
	Acrolein	PER 009					
	Benzene	PER 009					
	Carbon Monoxide	PER 008					
	Formaldehyde	PER 009					
	Naphthalene	PER 009					
	Toluene	PER 009					
	Xylenes (mixed isomers)	PER 009					
	Acenaphthene	PER 009					
	Acenaphthylene	PER 009					
	Anthracene	PER 009					
	Benz(a)anthracene	PER 009					
	Benzo(b)fluoranthene	PER 009					
	Chrysene	PER 009					
	Fluoranthene	PER 009					
	Fluorene	PER 009					
	Phenanthrene	PER 009					
	Pyrene	PER 009					
	Nitrogen Oxides	PER 009					
	PM < 10 micron	PER 009					
	Total Particulate Matter	PER 009					
	Sulfur Dioxide	PER 009					
	Volatile Organic Compounds	PER 009					

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>FS 005</b>							
	PM < 2.5 micron	PER 009		8.34E-07	1.53E-04	1.53E-04	
	PM < 10 micron	PER 009		1.10E-02	1.00E-03	1.00E-03	
	Total Particulate Matter	PER 009		2.33E-02	2.10E-03	2.10E-03	
<b>FS 006</b>							
	PM < 2.5 micron	PER 009		1.39E-06	1.52E-04	1.52E-04	
	PM < 10 micron	PER 009		1.84E-02	1.00E-03	1.00E-03	
	Total Particulate Matter	PER 009		3.88E-02	2.10E-03	2.10E-03	
<b>FS 009</b>							
	PM < 2.5 micron	PER 009		1.34E-02	6.30E-02	6.30E-02	
	PM < 10 micron	PER 009		5.15E-02	2.57E-01	2.57E-01	
	Total Particulate Matter	PER 009		2.73E-01	1.28E+00	1.28E+00	
<b>GP 001</b>							
	Sulfur Dioxide	PER 009				2.98E+03	
<b>GP 002</b>							
	Nitrogen Oxides	PER 009				8.77E+02	

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Acetaldehyde</b>							
	EU 001	PER 009		5.870E-03	2.570E-02	2.570E-02	
	EU 003	PER 009		8.370E-03	3.660E-02	3.660E-02	
	EU 006	PER 009		5.380E-02	2.360E-01	2.030E-01	
	EU 006	PER 010		5.380E-02	2.360E-01	2.360E-01	
Totals					2.983E-01	2.983E-01	0.000E+00
<b>Acetophenone</b>							
	EU 001	PER 009		1.540E-04	6.760E-04	6.760E-04	
	EU 003	PER 009		2.200E-04	9.640E-04	9.640E-04	
	EU 006	PER 009		7.360E-07	3.220E-06	2.780E-06	
	EU 006	PER 010		7.360E-07	3.220E-06	3.220E-06	
Totals					1.643E-03	1.643E-03	0.000E+00
<b>Acrolein</b>							
	EU 001	PER 009		2.990E-03	1.310E-02	1.310E-02	
	EU 003	PER 009		4.260E-03	1.860E-02	1.860E-02	
	EU 006	PER 009		1.000E-02	4.390E-02	3.790E-02	
	EU 006	PER 010		1.000E-02	4.390E-02	4.390E-02	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					7.560E-02	7.560E-02	0.000E+00
<b>Benzene</b>							
	EU 001	PER 009		1.340E-02	5.860E-02	5.860E-02	
	EU 003	PER 009		1.910E-02	8.360E-02	8.360E-02	
	EU 004	PER 005		5.620E-04	2.460E-03	2.460E-03	
	EU 005	PER 009		1.470E-05	6.450E-05	6.450E-05	
	EU 006	PER 009		1.633E-01	7.150E-01	6.170E-01	
	EU 006	PER 010		1.633E-01	7.150E-01	7.150E-01	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					8.597E-01	8.597E-01	0.000E+00
<b>Arsenic compounds</b>							
	EU 001	PER 009		4.220E-03	1.850E-02	1.850E-02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		6.020E-03	2.640E-02	2.640E-02	0.000E+00
	EU 004	PER 005		5.360E-05	2.350E-04	2.350E-04	0.000E+00
	EU 005	PER 009		1.400E-06	6.140E-06	6.140E-06	
	EU 006	PER 009		7.480E-03	3.270E-02	2.830E-02	
	EU 006	PER 010		7.480E-03	3.270E-02	3.270E-02	
Totals					7.784E-02	7.784E-02	0.000E+00

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

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AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Benzyl chloride</b>							
	EU 001	PER 009		7.210E-03	3.160E-02	3.160E-02	
	EU 003	PER 009		1.030E-02	4.500E-02	4.500E-02	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
Totals					7.660E-02	7.660E-02	0.000E+00
<b>Biphenyl</b>							
	EU 001	PER 009		1.750E-05	7.670E-05	7.670E-05	
	EU 003	PER 009		2.500E-05	1.090E-04	1.090E-04	
Totals					1.857E-04	1.857E-04	0.000E+00
<b>Bis(2-ethylhexyl) phthalate</b>							
	EU 001	PER 009		7.510E-04	3.290E-03	3.290E-03	
	EU 003	PER 009		1.070E-03	4.690E-03	4.690E-03	
	EU 006	PER 009		1.080E-05	4.730E-05	4.090E-05	
	EU 006	PER 010		1.080E-05	4.730E-05	4.730E-05	
Totals					8.027E-03	8.027E-03	0.000E+00
<b>Bromoform</b>							
	EU 001	PER 009		4.010E-04	1.760E-03	1.760E-03	
	EU 003	PER 009		5.720E-04	2.510E-03	2.510E-03	
Totals					4.270E-03	4.270E-03	0.000E+00
<b>Bromomethane</b>							
	EU 001	PER 009		1.650E-03	7.210E-03	7.210E-03	
	EU 003	PER 009		2.350E-03	1.030E-02	1.030E-02	
	EU 006	PER 009		3.450E-03	1.510E-02	1.300E-02	
	EU 006	PER 010		3.450E-03	1.510E-02	1.510E-02	
Totals					1.751E-02	1.751E-02	0.000E+00
<b>Barium</b>							
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Beryllium</b>							
	EU 001	PER 009		2.180E-04	9.470E-04	9.470E-04	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		3.080E-04	1.350E-03	1.350E-03	0.000E+00
	EU 004	PER 005		3.210E-06	1.410E-05	1.413E-05	0.000E+00
	EU 005	PER 009		8.410E-08	3.680E-07	3.680E-07	
	EU 006	PER 009		4.090E-04	1.790E-03	1.550E-03	
	EU 006	PER 010		4.090E-04	1.790E-03	1.790E-03	
Totals					4.101E-03	4.101E-03	0.000E+00

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Carbon disulfide</b>							
	EU 001	PER 009		1.340E-03	5.860E-03	5.860E-03	
	EU 003	PER 009		1.910E-03	8.360E-03	8.360E-03	
Totals					1.422E-02	1.422E-02	0.000E+00
<b>Carbon tetrachloride</b>							
	EU 006	PER 009		1.040E-02	4.530E-02	3.910E-02	
	EU 006	PER 010		1.040E-02	4.530E-02	4.530E-02	
Totals					4.530E-02	4.530E-02	0.000E+00
<b>Carbon Dioxide Equivalent</b>							
	EU 001	PER 009		3.763E+04	1.648E+05	1.648E+05	
	EU 003	PER 009		5.355E+04	2.345E+05	2.345E+05	
	EU 004	PER 009		3.106E+04	1.360E+05	1.360E+05	
	EU 005	PER 009		8.348E+02	3.657E+03	3.657E+03	
	EU 006	PER 009		4.846E+04	2.123E+05	1.832E+05	
	EU 006	PER 010		4.846E+04	2.123E+05	4.375E+03	
Totals					5.391E+05	5.391E+05	0.000E+00
<b>Chlorine</b>							
	EU 006	PER 009		1.820E-01	7.960E-01	6.870E-01	
	EU 006	PER 010		1.820E-01	7.960E-01	7.960E-01	
Totals					7.960E-01	7.960E-01	0.000E+00
<b>2-Chloroacetophenone</b>							
	EU 001	PER 009		7.210E-05	3.160E-04	3.160E-04	
	EU 003	PER 009		1.030E-04	4.500E-04	4.500E-04	
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					7.660E-04	7.660E-04	0.000E+00
<b>Chlorobenzene</b>							
	EU 001	PER 009		2.260E-04	9.920E-04	9.920E-04	
	EU 003	PER 009		3.230E-04	1.410E-03	1.410E-03	
	EU 006	PER 009		7.590E-03	3.320E-02	2.870E-02	
	EU 006	PER 010		7.590E-03	3.320E-02	3.320E-02	
Totals					3.560E-02	3.560E-02	0.000E+00
<b>Chloroethane</b>							
	EU 001	PER 009		4.320E-04	1.890E-03	1.890E-03	
	EU 003	PER 009		6.160E-04	2.700E-03	2.700E-03	
Totals					4.590E-03	4.590E-03	0.000E+00
<b>Chloroform</b>							
	EU 001	PER 009		6.070E-04	2.660E-03	2.660E-03	

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Chloroform</b>							
	EU 003	PER 009		8.660E-04	3.790E-03	3.790E-03	
	EU 006	PER 009		6.440E-03	2.820E-02	2.430E-02	
	EU 006	PER 010		6.440E-03	2.820E-02	2.820E-02	
Totals					3.465E-02	3.465E-02	0.000E+00
<b>Cadmium compounds</b>							
	EU 001	PER 009		5.250E-04	2.300E-03	2.300E-03	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		7.490E-04	3.280E-03	3.280E-03	0.000E+00
	EU 004	PER 005		2.950E-04	1.290E-03	1.290E-03	0.000E+00
	EU 005	PER 009		7.710E-06	3.380E-05	3.380E-05	
	EU 006	PER 009		4.140E-04	1.810E-03	1.560E-03	
	EU 006	PER 010		4.140E-04	1.810E-03	1.810E-03	
Totals					8.714E-03	8.714E-03	0.000E+00
<b>Methane</b>							
	EU 001	PER 009		4.240E+00	1.855E+01	1.855E+01	
	EU 003	PER 009		6.030E+00	2.639E+01	2.639E+01	
	EU 004	PER 009		5.850E-01	2.560E+00	2.560E+00	
	EU 005	PER 009		1.570E-02	7.000E-02	7.000E-02	
	EU 006	PER 009		1.619E+01	7.092E+01	6.121E+01	
	EU 006	PER 010		1.619E+01	7.092E+01	7.092E+01	
Totals					1.185E+02	1.185E+02	0.000E+00
<b>Cyanide compounds</b>							
	EU 001	PER 009		2.570E-02	1.130E-01	1.130E-01	
	EU 003	PER 009		3.670E-02	1.610E-01	1.610E-01	
Totals					2.740E-01	2.740E-01	0.000E+00
<b>Carbon Monoxide</b>							
	EU 001	PER 008		5.147E+01	2.254E+02	2.254E+02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		7.338E+01	3.214E+02	3.214E+02	0.000E+00
	EU 004	PER 008		2.249E+01	9.850E+01	9.850E+01	0.000E+00
	EU 005	PER 009		5.900E-01	2.580E+00	2.580E+00	0.000E+00
	EU 006	PER 008		9.200E+01	6.044E+02	5.043E+02	
	EU 006	PER 010		9.200E+01	6.044E+02	2.800E+02	
	EU 011	PER 008		0.000E+00		0.000E+00	
Totals					1.252E+03	9.279E+02	0.000E+00

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

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AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Carbon Dioxide</b>							
	EU 001	PER 009		3.735E+04	1.636E+05	1.636E+05	
	EU 003	PER 009		5.315E+04	2.328E+05	2.328E+05	
	EU 004	PER 009		3.103E+04	1.359E+05	1.359E+05	
	EU 005	PER 009		8.340E+02	3.653E+03	3.653E+03	
	EU 006	PER 009		4.746E+04	2.079E+05	1.794E+05	
	EU 006	PER 010		4.746E+04	2.079E+05	1.794E+05	
Totals					7.438E+05	7.154E+05	0.000E+00
<b>Cobalt compounds</b>							
	EU 001	PER 009		1.030E-03	4.510E-03	4.510E-03	
	EU 003	PER 009		1.470E-03	6.430E-03	6.430E-03	
	EU 004	PER 005		2.250E-05	9.850E-05	9.850E-05	
	EU 005	PER 009		5.890E-07	2.580E-06	2.580E-06	
	EU 006	PER 009		8.140E-05	3.570E-04	3.080E-04	
	EU 006	PER 010		8.140E-05	3.570E-04	3.570E-04	
Totals					1.140E-02	1.140E-02	0.000E+00
<b>Chromium compounds</b>							
	EU 001	PER 009		2.680E-03	1.170E-02	1.170E-02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		3.820E-03	1.670E-02	1.670E-02	0.000E+00
	EU 004	PER 005		3.750E-04	1.640E-03	1.640E-03	0.000E+00
	EU 005	PER 009		9.810E-06	4.300E-05	4.300E-05	
	EU 006	PER 009		3.360E-04	1.470E-03	1.270E-03	
	EU 006	PER 010		3.360E-04	1.470E-03	1.470E-03	
Totals					3.155E-02	3.155E-02	0.000E+00
<b>Cumene</b>							
	EU 001	PER 009		5.460E-05	2.390E-04	2.390E-04	
	EU 003	PER 009		7.780E-05	3.410E-04	3.410E-04	
Totals					5.800E-04	5.800E-04	0.000E+00
<b>1,4-Dichlorobenzene</b>							
	EU 004	PER 009		3.210E-04	1.410E-03	1.410E-03	
	EU 005	PER 009		8.410E-06	3.680E-05	3.680E-05	
Totals					1.447E-03	1.447E-03	0.000E+00
<b>1,2-Dichloroethane</b>							
	EU 001	PER 009		4.120E-04	1.800E-03	1.800E-03	
	EU 003	PER 009		5.870E-04	2.570E-03	2.570E-03	
	EU 006	PER 009		6.670E-03	2.920E-02	2.520E-02	



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AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>1,2-Dichloroethane</b>							
	EU 006	PER 010		6.670E-03	2.920E-02	2.920E-02	
Totals					4.370E-03	4.370E-03	0.000E+00
<b>1,2-Dichloropropane</b>							
	EU 006	PER 009		7.590E-03	3.320E-02	2.870E-02	
	EU 006	PER 010		7.590E-03	3.320E-02	3.320E-02	
Totals					3.320E-02	3.320E-02	0.000E+00
<b>Dimethyl sulfate</b>							
	EU 001	PER 009		4.940E-04	2.160E-02	2.160E-02	
	EU 003	PER 009		7.040E-04	3.090E-03	3.090E-03	
Totals					2.469E-02	2.469E-02	0.000E+00
<b>2,4-Dinitrophenol</b>							
	EU 006	PER 009		2.150E-05	9.400E-05	8.110E-05	
	EU 006	PER 010		2.150E-05	9.400E-05	9.400E-05	
Totals					9.400E-05	9.400E-05	0.000E+00
<b>2,4-Dinitrotoluene</b>							
	EU 001	PER 009		2.880E-06	1.260E-05	1.260E-05	
	EU 003	PER 009		4.110E-06	1.800E-05	1.800E-05	
Totals					3.060E-05	3.060E-05	0.000E+00
<b>Ethylbenzene</b>							
	EU 001	PER 009		9.680E-04	4.240E-03	4.240E-03	
	EU 003	PER 009		1.380E-03	6.040E-03	6.040E-03	
	EU 006	PER 009		7.130E-03	3.120E-02	2.700E-02	
	EU 006	PER 010		7.130E-03	3.120E-02	3.120E-02	
Totals					4.148E-02	4.148E-02	0.000E+00
<b>Formaldehyde</b>							
	EU 001	PER 009		2.470E-03	1.080E-02	1.080E-02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		3.520E-03	1.540E-02	1.540E-02	0.000E+00
	EU 004	PER 009		2.010E-02	8.800E-02	8.800E-02	0.000E+00
	EU 005	PER 009		5.260E-04	2.300E-03	2.300E-03	
	EU 006	PER 009		3.220E-01	1.410E+00	1.220E+00	
	EU 006	PER 010		3.220E-01	1.410E+00	1.410E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					1.527E+00	1.527E+00	0.000E+00
<b>Hexane</b>							
	EU 001	PER 009		5.970E-03	2.620E-02	2.620E-02	

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AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Hexane</b>							
	EU 003	PER 009		9.830E-04	4.310E-03	4.310E-03	
	EU 004	PER 005		4.820E-01	2.110E+00	2.110E+00	
	EU 005	PER 009		1.260E-02	5.530E-02	5.530E-02	
Totals					2.196E+00	2.196E+00	0.000E+00
<b>Hydrogen fluoride</b>							
	EU 001	PER 009		1.540E+00	6.760E+00	6.760E+00	
	EU 003	PER 009		2.200E+00	9.640E+00	9.640E+00	
Totals					1.640E+01	1.640E+01	0.000E+00
<b>Methyl ethyl ketone (MEK)</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Methyl methacrylate</b>							
	EU 001	PER 009		2.060E-04	9.020E-04	9.020E-04	
	EU 003	PER 009		2.940E-04	1.290E-03	1.290E-03	
Totals					2.192E-03	2.192E-03	0.000E+00
<b>Methylhydrazine</b>							
	EU 001	PER 009		1.750E-03	7.670E-03	7.670E-03	
	EU 003	PER 009		2.500E-03	1.090E-02	1.090E-02	
Totals					1.857E-02	1.857E-02	0.000E+00
<b>Naphthalene</b>							
	EU 001	PER 009		1.340E-04	5.860E-04	5.860E-04	
	EU 003	PER 009		1.910E-04	8.360E-04	8.360E-04	
	EU 004	PER 005		1.630E-04	7.150E-04	7.150E-04	
	EU 005	PER 009		4.280E-06	1.870E-05	1.870E-05	0.000E+00
	EU 006	PER 009		1.570E-02	6.870E-02	5.930E-02	
	EU 006	PER 010		1.570E-02	6.870E-02	6.870E-02	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					7.086E-02	7.086E-02	0.000E+00
<b>4-Nitrophenol</b>							
	EU 006	PER 009		3.930E-05	1.720E-04	1.490E-04	
	EU 006	PER 010		3.930E-05	1.720E-04	1.720E-04	
Totals					1.720E-04	1.720E-04	0.000E+00
<b>HAPs - Total</b>							
	EU 001	PER 009		1.402E+01	6.142E+01	6.142E+01	

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Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>HAPs - Total</b>							
	EU 003	PER 009		1.999E+01	8.757E+01	8.757E+01	
	EU 004	PER 009		5.060E-01	2.210E+00	2.210E+00	
	EU 005	PER 009		1.320E-02	5.800E-02	5.800E-02	
	EU 006	PER 009				4.110E+01	
	EU 006	PER 010				2.705E+01	
<b>Totals</b>					1.513E+02	1.783E+02	0.000E+00
<b>Mercury</b>							
	EU 001	PER 009		8.540E-04	3.740E-03	3.740E-03	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		1.220E-03	5.340E-03	5.340E-03	0.000E+00
	EU 004	PER 008		6.960E-05	3.050E-04	3.050E-04	0.000E+00
	EU 005	PER 009		1.820E-06	7.980E-06	7.980E-06	
	EU 006	PER 009		6.900E-04	3.020E-03	2.610E-03	
	EU 006	PER 010		6.900E-04	3.020E-03	3.020E-03	
<b>Totals</b>					1.241E-02	1.241E-02	0.000E+00
<b>Phenol</b>							
	EU 001	PER 009		1.650E-04	7.210E-04	7.210E-04	
	EU 003	PER 009		2.350E-04	1.030E-03	1.030E-03	
	EU 006	PER 009		2.880E-03	1.260E-02	1.090E-02	
	EU 006	PER 010		2.880E-03	1.260E-02	1.260E-02	
<b>Totals</b>					1.435E-02	1.435E-02	0.000E+00
<b>Styrene</b>							
	EU 001	PER 009		2.570E-04	1.130E-03	1.130E-03	
	EU 003	PER 009		3.670E-04	1.610E-03	1.610E-03	
	EU 006	PER 009		4.370E-01	1.910E+00	1.650E+00	
	EU 006	PER 010		4.370E-01	1.910E+00	1.910E+00	
<b>Totals</b>					1.913E+00	1.913E+00	0.000E+00
<b>2,3,7,8-TCDD (dioxin)</b>							
	EU 001	PER 009		1.000E-10	6.000E-10	6.000E-10	
	EU 003	PER 009		2.000E-10	9.000E-10	9.000E-10	
	EU 006	PER 009		2.400E-09	1.060E-08	9.200E-09	
	EU 006	PER 010		2.400E-09	1.060E-08	1.060E-08	
<b>Totals</b>					1.210E-08	1.210E-08	0.000E+00
<b>Tetrachloroethylene</b>							
	EU 001	PER 009		4.430E-04	1.940E-03	1.940E-03	

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<b>Tetrachloroethylene</b>							
	EU 003	PER 009		6.310E-04	2.760E-03	2.760E-03	
Totals					4.700E-03	4.700E-03	0.000E+00
<b>Toluene</b>							
	EU 001	PER 009		2.470E-03	1.080E-02	1.080E-02	
	EU 003	PER 009		3.520E-03	1.540E-02	1.540E-02	
	EU 004	PER 005		9.110E-04	3.990E-03	3.990E-03	
	EU 005	PER 009		2.380E-05	1.040E-04	1.040E-04	
	EU 006	PER 009		4.900E-03	2.150E-02	1.850E-02	
	EU 006	PER 010		4.900E-03	2.150E-02	2.150E-02	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					5.179E-02	5.179E-02	0.000E+00
<b>1,1,1-Trichloroethane</b>							
	EU 001	PER 009		2.060E-04	9.020E-04	9.020E-04	
	EU 003	PER 009		2.940E-04	1.290E-03	1.290E-03	
	EU 006	PER 009		7.130E-03	3.120E-02	2.700E-02	
	EU 006	PER 010		7.130E-03	3.120E-02	3.120E-02	
Totals					2.192E-03	2.192E-03	0.000E+00
<b>2,4,6-Trichlorophenol</b>							
	EU 006	PER 009		2.620E-06	1.150E-05	9.910E-06	
	EU 006	PER 010		2.620E-06	1.150E-05	1.150E-05	
Totals					1.150E-05	1.150E-05	0.000E+00
<b>Vinyl acetate</b>							
	EU 001	PER 009		7.820E-05	3.430E-04	3.430E-04	
	EU 003	PER 009		1.120E-04	4.890E-04	4.890E-04	
Totals					8.320E-04	8.320E-04	0.000E+00
<b>Vinyl chloride</b>							
	EU 006	PER 009		4.140E-03	1.810E-02	1.560E-02	
	EU 006	PER 010		4.140E-03	1.810E-02	1.810E-02	
Totals					1.810E-02	1.810E-02	0.000E+00
<b>Xylenes (mixed isomers)</b>							
	EU 001	PER 009		3.810E-04	1.670E-03	1.670E-03	
	EU 003	PER 009		5.430E-04	2.380E-03	2.380E-03	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					4.050E-03	4.050E-03	0.000E+00
<b>Hydrochloric acid</b>							
	EU 001	PER 009		1.235E+01	5.411E+01	5.411E+01	

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<b>Hydrochloric acid</b>							
	EU 003	PER 009		1.761E+01	7.714E+01	7.714E+01	
	EU 006	PER 009		4.600E+00	2.010E+01	1.740E+01	
	EU 006	PER 010		4.600E+00	2.010E+01	2.010E+01	
Totals					1.514E+02	1.514E+02	0.000E+00
<b>Manganese compounds</b>							
	EU 001	PER 009		5.040E-03	2.210E-02	2.210E-02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		7.190E-03	3.150E-02	3.150E-02	0.000E+00
	EU 004	PER 005		1.020E-04	4.460E-04	4.460E-04	0.000E+00
	EU 005	PER 009		2.660E-06	1.170E-05	1.170E-05	
	EU 006	PER 009		2.990E-01	1.310E+00	1.130E+00	
	EU 006	PER 010		2.990E-01	1.310E+00	1.310E+00	
Totals					5.406E-02	5.406E-02	0.000E+00
<b>Molybdenum</b>							
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Acenaphthene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Acenaphthylene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Anthracene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Benz(a)anthracene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Benzo(a)pyrene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Benzo(b)fluoranthene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Benzo(ghi)perylene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Benzo(k)fluoranthene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Chrysene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00		
	EU 006	PER 009		0.000E+00		0.000E+00	

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Chrysene</b>							
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Dibenz(a,h)anthracene</b>							
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Ethylene dibromide (dibromoeth</b>							
	EU 001	PER 009		1.240E-05	5.410E-05	5.410E-05	
	EU 003	PER 009		1.760E-05	7.710E-05	7.710E-05	
Totals					1.312E-04	1.312E-04	0.000E+00
<b>Fluoranthene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Fluorene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Nitrous Oxide</b>							
	EU 001	PER 009		6.200E-01	2.700E+00	2.700E+00	
	EU 003	PER 009		8.800E-01	3.840E+00	3.840E+00	
	EU 004	PER 009		5.900E-02	2.600E-01	2.600E-01	
	EU 005	PER 009		1.570E-03	6.890E-03	6.890E-03	
	EU 006	PER 009		2.130E+00	9.310E+00	8.030E+00	
	EU 006	PER 010		2.130E+00	9.310E+00	9.310E+00	
Totals					1.612E+01	1.612E+01	0.000E+00
<b>Indeno(1,2,3-cd)pyrene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Indeno(1,2,3-cd)pyrene</b>							
	EU 006	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Isophorone</b>							
	EU 001	PER 009		5.970E-03	2.620E-02	2.620E-02	
	EU 003	PER 009		8.510E-03	3.730E-02	3.730E-02	
Totals					6.350E-02	6.350E-02	0.000E+00
<b>Methyl chloride (chloromethane)</b>							
	EU 001	PER 009		5.460E-03	2.390E-02	2.390E-02	
	EU 003	PER 009		7.780E-03	3.410E-02	3.410E-02	
	EU 006	PER 009		5.290E-03	2.320E-02	2.000E-02	
	EU 006	PER 010		5.290E-03	2.320E-02	2.320E-02	
Totals					8.120E-02	8.120E-02	0.000E+00
<b>Methyl tert butyl ether</b>							
	EU 001	PER 009		3.600E-04	1.580E-03	1.580E-03	
	EU 003	PER 009		5.140E-04	2.250E-03	2.250E-03	
Totals					3.830E-03	3.830E-03	0.000E+00
<b>Methylene chloride (dichlorome</b>							
	EU 001	PER 009		2.990E-03	1.310E-02	1.310E-02	
	EU 003	PER 009		4.260E-03	1.860E-02	1.860E-02	
	EU 006	PER 009		6.670E-02	2.920E-01	2.520E-01	
Totals					3.237E-01	2.837E-01	0.000E+00
<b>Phenanthrene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Phosphorus</b>							
	EU 006	PER 009		4.440E-03	1.940E-02	1.680E-02	
	EU 006	PER 010		4.440E-03	1.940E-02	1.940E-02	
Totals					1.940E-02	1.940E-02	0.000E+00
<b>Propionaldehyde</b>							
	EU 001	PER 009		3.910E-03	1.710E-02	1.710E-02	
	EU 003	PER 009		5.580E-03	2.440E-02	2.440E-02	
	EU 006	PER 009		1.400E-02	6.150E-02	5.300E-02	



## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Propionaldehyde</b>							
	EU 006	PER 010		1.400E-02	6.150E-02	6.150E-02	
Totals					1.030E-01	1.030E-01	0.000E+00
<b>Pyrene</b>							
	EU 001	PER 009		0.000E+00		0.000E+00	
	EU 003	PER 009		0.000E+00		0.000E+00	
	EU 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	EU 006	PER 009		0.000E+00		0.000E+00	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
<b>Nickel compounds</b>							
	EU 001	PER 009		2.880E-03	1.260E-02	1.260E-02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		4.110E-03	1.800E-02	1.800E-02	0.000E+00
	EU 004	PER 005		5.620E-04	2.460E-03	2.460E-03	0.000E+00
	EU 005	PER 009		1.470E-05	6.450E-05	6.450E-05	
	EU 006	PER 009		5.220E-04	2.290E-03	1.970E-03	
	EU 006	PER 010		5.220E-04	2.290E-03	2.290E-03	
Totals					3.541E-02	3.541E-02	0.000E+00
<b>Nitrogen Oxides</b>							
	EU 001	PER 009		9.060E+01	4.145E+02	0.000E+00	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		1.292E+02	5.657E+02	0.000E+00	0.000E+00
	EU 004	PER 009		2.678E+01	1.173E+02	0.000E+00	0.000E+00
	EU 005	PER 009		7.000E-01	3.070E+00		0.000E+00
	EU 006	PER 009		3.450E+01	2.216E+02	1.304E+02	
	EU 006	PER 010		3.450E+01	2.216E+02	1.200E+02	
	EU 011	PER 009		0.000E+00		0.000E+00	
	GP 002	PER 009				8.770E+02	
Totals					1.322E+03	9.970E+02	0.000E+00
<b>PM &lt; 2.5 micron</b>							
	EU 001	PER 009		3.720E+00	1.629E+01	1.629E+01	
	EU 003	PER 009		5.300E+00	2.322E+01	2.322E+01	
	EU 004	PER 009		2.035E+00	8.914E+00	8.914E+00	
	EU 005	PER 009		5.000E-02	2.300E-01	2.300E-01	
	EU 006	PER 009		5.750E+00	1.028E+02	2.174E+01	
	EU 006	PER 010		5.750E+00	1.028E+02	1.410E+01	

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>PM &lt; 2.5 micron</b>							
	EU 007	PER 009		6.000E-01	8.760E+00	2.630E+00	
	EU 009	PER 009		6.000E-02	5.000E-01	2.600E-01	
	EU 010	PER 009		3.100E-02	5.000E-01	1.400E-01	
	FS 005	PER 009		8.340E-07	1.530E-04	1.530E-04	
	FS 006	PER 009		1.390E-06	1.520E-04	1.520E-04	
	FS 009	PER 009		1.340E-02	6.300E-02	6.300E-02	
Totals					1.613E+02	6.585E+01	0.000E+00
<b>Lead</b>							
	EU 001	PER 009		4.320E-03	1.890E-02	1.890E-02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		6.160E-03	2.700E-02	2.700E-02	0.000E+00
	EU 004	PER 009		1.340E-04	5.860E-04	5.860E-04	0.000E+00
	EU 005	PER 009		3.500E-06	1.540E-05	1.540E-05	0.000E+00
	EU 006	PER 009		7.250E-03	3.180E-02	2.750E-02	
	EU 006	PER 010		7.250E-03	3.180E-02	3.180E-02	
Totals					7.830E-02	7.830E-02	0.000E+00
<b>PM &lt; 10 micron</b>							
	EU 001	PER 009		5.250E+01	3.535E+02	2.300E+02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		7.485E+01	5.040E+02	3.278E+02	0.000E+00
	EU 004	PER 008		2.035E+00	8.914E+00	8.914E+00	0.000E+00
	EU 005	PER 009		5.000E-02	2.300E-01	2.300E-01	0.000E+00
	EU 006	PER 009		5.750E+00	5.208E+02	2.174E+01	
	EU 006	PER 010		5.750E+00	5.208E+02	1.914E+01	
	EU 007	PER 009		6.000E-01	8.760E+00	2.630E+00	
	EU 009	PER 009		6.000E-02	5.000E-01	2.600E-01	
	EU 010	PER 009		3.100E-02	5.000E-01	1.400E-01	
	EU 011	PER 009		0.000E+00		0.000E+00	
	FS 005	PER 009		1.100E-02	1.000E-03	1.000E-03	
	FS 006	PER 009		1.840E-02	1.000E-03	1.000E-03	
	FS 009	PER 009		5.150E-02	2.565E-01	2.565E-01	
Totals					1.397E+03	5.894E+02	0.000E+00
<b>Polycyclic organic matter</b>							
	EU 001	PER 009		6.000E-05	2.630E-04	2.630E-04	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Polycyclic organic matter</b>							
	EU 003	PER 009		8.550E-05	3.750E-04	3.750E-04	0.000E+00
	EU 004	PER 009		2.360E-05	1.030E-04	1.030E-04	0.000E+00
	EU 005	PER 009		6.180E-07	2.710E-06	2.710E-06	
	EU 006	PER 009		9.110E-04	3.990E-03	3.450E-03	
	EU 006	PER 010		9.110E-04	3.990E-03	3.990E-03	
<b>Totals</b>					4.734E-03	4.734E-03	0.000E+00
<b>Total Particulate Matter</b>							
	EU 001	PER 009		1.050E+02	5.429E+02	4.600E+02	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		1.497E+02	7.740E+02	6.557E+02	0.000E+00
	EU 004	PER 008		2.035E+00	8.914E+00	8.914E+00	0.000E+00
	EU 005	PER 009		5.000E-02	2.300E-01	2.300E-01	0.000E+00
	EU 006	PER 009		5.750E+00	5.813E+02	2.174E+01	
	EU 006	PER 010		5.750E+00	5.813E+02	2.519E+01	
	EU 007	PER 009		6.000E-01	8.760E+00	2.630E+00	
	EU 009	PER 009		6.000E-02	5.000E-01	2.600E-01	
	EU 010	PER 009		3.100E-02	5.000E-01	1.400E-01	
	EU 011	PER 009		0.000E+00		0.000E+00	
	FS 005	PER 009		2.330E-02	2.100E-03	2.100E-03	
	FS 006	PER 009		3.880E-02	2.100E-03	2.100E-03	
	FS 009	PER 009		2.725E-01	1.280E+00	1.280E+00	
<b>Totals</b>					1.918E+03	1.154E+03	0.000E+00
<b>Antimony compounds</b>							
	EU 001	PER 009		1.850E-04	8.120E-04	8.120E-04	
	EU 003	PER 009		2.640E-04	1.160E-03	1.160E-03	
	EU 006	PER 009		2.690E-03	1.180E-02	1.020E-02	
	EU 006	PER 010		2.690E-03	1.180E-02	1.180E-02	
<b>Totals</b>					1.377E-02	1.377E-02	0.000E+00
<b>Selenium compounds</b>							
	EU 001	PER 009		1.340E-02	5.860E-02	5.860E-02	
	EU 003	PER 009		1.910E-02	8.360E-02	8.360E-02	
	EU 004	PER 005		6.430E-06	2.820E-05	2.820E-05	
	EU 005	PER 009		1.680E-07	7.370E-07	7.370E-07	
	EU 006	PER 009		5.610E-04	2.460E-03	2.120E-03	

## FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Selenium compounds</b>							
	EU 006	PER 010		5.610E-04	2.460E-03	2.460E-03	
Totals					1.447E-01	1.447E-01	0.000E+00
<b>Sulfur Dioxide</b>							
	EU 001	PER 009		4.375E+02	1.578E+03	0.000E+00	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		3.992E+02	2.732E+03	0.000E+00	0.000E+00
	EU 004	PER 008		1.610E-01	7.040E-01	7.040E-01	0.000E+00
	EU 005	PER 009		4.210E-03	1.840E-02	1.840E-02	0.000E+00
	EU 006	PER 009		5.750E+00	2.519E+01	2.174E+01	
	EU 006	PER 010		5.750E+00	2.519E+01	2.519E+01	
	EU 011	PER 009		0.000E+00		0.000E+00	
	GP 001	PER 009				2.975E+03	
Totals					4.336E+03	3.001E+03	0.000E+00
<b>Volatile Organic Compounds</b>							
	EU 001	PER 009		5.100E-01	2.250E+00	2.258E+00	0.000E+00
	EU 002	PER 005		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	EU 003	PER 009		7.340E-01	3.210E+00	3.210E+00	0.000E+00
	EU 004	PER 008		1.473E+00	6.451E+00	6.451E+00	0.000E+00
	EU 005	PER 009		4.000E-02	1.700E-01	1.700E-01	0.000E+00
	EU 006	PER 009		3.910E+00	1.713E+01	1.478E+01	
	EU 006	PER 010		3.910E+00	1.713E+01	1.713E+01	
	EU 011	PER 009		0.000E+00		0.000E+00	
Totals					2.921E+01	2.922E+01	0.000E+00

Project: Virginia Department of Public Utilities Computed: AMC

Subject: Change in PTE Calculations B011

Task: Boiler 11 Emissions (EU006) Sheet: 1 of 4

Rated Capacity of Boiler 230 MMBtu/hr  
Proposed Annual Operating Hours 8,760 Hours  
Actual Operating Hours 2011 7,015 Hours operated 2011

Pollutant	Listed HAP (Y/N)	Permit Limit lbs/MMBtu	AP42 Emission Factor lbs/MMBtu	PTE		2011 Actual Emissions
				lbs/hr	tons/yr	
NO <sub>x</sub>	N	0.15	-	34.50	120.00	See actuals worksheet for criteria pollutant actuals
CO	N	0.58	-	133.40	280.00	
PM <sub>2.5</sub>	N	0.014	-	3.22	14.10	
PM <sub>10</sub>	N	0.019	-	4.37	19.14	
PM (total)	N	0.025	-	5.75	25.19	Actual 2011 HAPs
SO <sub>2</sub>	N	NA	0.025	5.75	25.19	TPY
VOC	N	NA	0.017	3.91	17.13	
Hydrochloric Acid	Y	0.02	-	4.60	20.15	0.0067
Mercury	Y	0.000003	-	6.90E-04	3.02E-03	0.000507
Benzene	Y	NA	7.10E-04	1.63E-01	7.15E-01	5.73E-01
Lead	Y	NA	3.16E-05	7.27E-03	3.18E-02	2.55E-02
Hydrogen Chloride (see hydrochloric acid)	Y	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	N	NA	3.10E-05	7.13E-03	3.12E-02	2.50E-02
1,2-Dichloroethane	N	NA	2.90E-05	6.67E-03	2.92E-02	2.34E-02
1,2-Dichloropropane	N	NA	3.30E-05	7.59E-03	3.32E-02	2.66E-02
2,3,7,8-TCDD	N	NA	1.06E-11	2.43E-09	1.06E-08	8.53E-09
2,3,7,8-TCDF	N	NA	5.05E-11	1.16E-08	5.08E-08	4.07E-08
2,4,6-Trichlorophenol	N	NA	1.14E-08	2.62E-06	1.15E-05	9.20E-06
2,4-Dinitrophenol	N	NA	9.33E-08	2.15E-05	9.40E-05	7.53E-05
4-Nitrophenol	N	NA	1.71E-07	3.93E-05	1.72E-04	1.38E-04
Acenaphthene	N	NA	6.29E-09	1.45E-06	6.34E-06	5.07E-06
Acenaphthylene	N	NA	1.28E-06	2.94E-04	1.29E-03	1.03E-03
Acetaldehyde	Y	NA	2.34E-04	5.38E-02	2.36E-01	1.89E-01
Acetophenone	Y	NA	3.20E-09	7.36E-07	3.22E-06	2.58E-06
Acrolein (st paul calc see acrolein tab)	Y	NA	4.36E-05	1.00E-02	4.39E-02	3.52E-02
Anthracene	N	NA	4.17E-08	9.59E-06	4.20E-05	3.36E-05
Antimony	Y	NA	1.17E-05	2.69E-03	1.18E-02	9.44E-03
Arsenic	Y	NA	3.25E-05	7.48E-03	3.27E-02	2.62E-02
Beryllium	Y	NA	1.78E-06	4.09E-04	1.79E-03	1.44E-03
Bis(2-ethylhexyl)phthalate (DEHP)	Y	NA	4.70E-08	1.08E-05	4.73E-05	3.79E-05
Bromomethane	N	NA	1.50E-05	3.45E-03	1.51E-02	1.21E-02
Cadmium	N	NA	1.80E-06	4.14E-04	1.81E-03	1.45E-03
Carbon tetrachloride	Y	NA	4.50E-05	1.04E-02	4.53E-02	3.63E-02
Chlorine	Y	NA	7.90E-04	1.82E-01	7.96E-01	6.37E-01
Chlorobenzene	Y	NA	3.30E-05	7.59E-03	3.32E-02	2.66E-02
Chloroform	Y	NA	2.80E-05	6.44E-03	2.82E-02	2.26E-02
Methyl Chloride (Chloromethane)	Y	NA	2.30E-05	5.29E-03	2.32E-02	1.86E-02
Chromium	Y	NA	1.46E-06	3.36E-04	1.47E-03	1.18E-03
Chromium (VI)	Y	NA	1.63E-06	3.75E-04	1.64E-03	1.31E-03
Chrysene	N	NA	2.64E-09	6.07E-07	2.66E-06	2.13E-06
Cobalt	Y	NA	3.54E-07	8.14E-05	3.57E-04	2.86E-04
Dichloromethane	N	NA	2.90E-04	6.67E-02	2.92E-01	2.34E-01
Ethyl benzene	Y	NA	3.10E-05	7.13E-03	3.12E-02	2.50E-02
Formaldehyde	Y	NA	1.40E-03	3.22E-01	1.41E+00	1.13E+00
Manganese	Y	NA	1.30E-03	2.99E-01	1.31E+00	1.05E+00
Naphthalene	Y	NA	6.82E-05	1.57E-02	6.87E-02	5.50E-02
Nickel	Y	NA	2.27E-06	5.22E-04	2.29E-03	1.83E-03
Phenanthrene	N	NA	1.36E-06	3.13E-04	1.37E-03	1.10E-03
Phenol	Y	NA	1.25E-05	2.88E-03	1.26E-02	1.01E-02
Phosphorus	Y	NA	1.93E-05	4.44E-03	1.94E-02	1.56E-02
Propionaldehyde	Y	NA	6.10E-05	1.40E-02	6.15E-02	4.92E-02
Selenium	N	NA	2.44E-06	5.61E-04	2.46E-03	1.97E-03
Styrene	Y	NA	1.90E-03	4.37E-01	1.91E+00	1.53E+00
Toluene	Y	NA	2.13E-05	4.90E-03	2.15E-02	1.72E-02
Vinyl Chloride	Y	NA	1.80E-05	4.14E-03	1.81E-02	1.45E-02
Xylenes	Y	NA	2.50E-05	5.75E-03	2.52E-02	2.02E-02
POM	Y	NA	3.96E-06	9.11E-04	3.99E-03	3.20E-03
Total HAPs				6.18	27.05	5.66

Actual 2011 mercury emissions based on stack testing.

0.0001445

lb/hr

Emission factors taken from chapter 1.6 Wood Residue Combustion in Boilers dated September 2003.

PM<sub>2.5</sub> is considered the same as PM<sub>10</sub>

Job No.: 177474

Computed: AMC

Project: Virginia Department of Public Utilities

Subject: Change in PTE Calculations B011

Sheet: 2 of 4

Task: Boiler 11 Emissions (EU006)

Wood heating value 2010      1,152,140.41 MMBtu  
 Wood heating value 2011      1,219,473.72 MMBtu  
     Capacity                      230 MMBtu/hr  
     Fuel                      Biomass

Potential Greenhouse Gas Calculations EU006									
CH <sub>4</sub>		N <sub>2</sub> O		CO <sub>2</sub>		CO <sub>2</sub> e (without CO <sub>2</sub> )		CO <sub>2</sub> e (with CO <sub>2</sub> )	
lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
16.19	70.92	2.13	9.31	44,850.00	196,443.00	998.844	4,374.94	45,848.84	200,817.94
2010 CH <sub>4</sub> (tpy)	40.56	2010 N <sub>2</sub> O (tpy)	5.32	2010 CO <sub>2</sub> (tpy)	112,333.69	2010 CO <sub>2</sub> e (tpy)	2,501.76	2010 CO <sub>2</sub> (tpy)	114,835.45
2011 CH <sub>4</sub> (tpy)	42.93	2011 N <sub>2</sub> O (tpy)	5.63	2011 CO <sub>2</sub> (tpy)	118,898.69	2011 CO <sub>2</sub> e (tpy)	2,647.97	2011 CO <sub>2</sub> (tpy)	121,546.65
2 yr ave (tpy)	41.74	2 yr ave (tpy)	5.48	2 yr ave (tpy)	115,616.19	2 yr ave (tpy)	2,574.86	2 yr ave (tpy)	118,191.05

Fuels	Default CH <sub>4</sub>		Default N <sub>2</sub> O		CO <sub>2</sub>
	Emission Factor		Emission Factor		Emission Factor
	(Kg/mmBtu)	(lb/mmBtu)	(Kg/mmBtu)	(lb/mmBtu)	(lb/mmBtu)
Biomass	3.20E-02	0.0704	4.20E-03	0.00924	195
global warming potential		21		310	1

Conversion -      2.2 lb/kg

Title V permitting and PSD applicability for biogenic sources does not consider CO<sub>2</sub> but N<sub>2</sub>O and CH<sub>4</sub> are considered.  
 Per MPCA memo dated November 3, 2011. Emissions of CO<sub>2</sub> from the biomass are presented here for informational purposes.

Job No.: 177474

Computed: AMC

Project: Virginia Department of Public Utilities

Subject: Historic Actual Emissions Criteria Pollutants

Sheet: 3 of 4

Task: Boiler 11 Emissions (EU006)

Rated capacity of boiler: 230 MMBtu/hr

Actual Emissions from MPCA Data TPY					
Pollutant	2007	2008	2009	2010	2011
CO	193	95.15	144.69	198.04	182.9
NO <sub>x</sub>	49.7	41.17	72.56	88.707	80.49
PM	8.6	2.64	4.55	2.021	1.83
PM <sub>10</sub>	10.5	5.27	9.09	5.557	0.61
PM <sub>2.5</sub>	57.97	not listed	not listed	not listed	not avail.
SO <sub>x</sub>	7.6	14.64	41.37	53.091 <sup>a</sup>	13.38
VOC	5.39	not listed	7.86	8.435	9.1
Lead	0.015	not listed	not listed	0.0057	0.0062
CO <sub>2</sub> e	not avail.	not avail.	not avail.	not avail.	not avail.

<sup>a</sup> SO<sub>x</sub> for 2010 should have been reported as : 14.40 tpy

Baseline Emissions 2 year Average		2-year Baseline Period	PTE (TPY)	Change from Baseline (TPY)	SER	Above or Below SER	Proposed Limited Annual PTE (TPY)	Change from Baseline (TPY)	SER	Above or Below SER
NO <sub>x</sub> <sup>1</sup>	84.60	2010 -2011	151.11	66.51	40	Above	120	35.40	40	Below
CO <sup>2</sup>	190.47	2011 -2011	584.29	393.82	100	Above	280	89.53	100	Below
PM	5.62	2007-2008	25.19	19.57	25	Below	NA	NA	NA	NA
PM <sub>10</sub>	7.89	2007-2008	25.19	17.30	15	Above	19.14	11.26	15	Below
PM <sub>2.5</sub> <sup>3</sup>	7.89	2007-2008	25.19	17.31	10	Above	14.10	6.22	10	Below
SO <sub>x</sub>	13.89	2010-2011	25.19	11.30	40	Below	NA	NA	NA	NA
VOC	8.77	2010-2011	17.13	8.36	40	Below	NA	NA	NA	NA
Lead	0.01	2010-2011	3.18E-02	0.03	0.6	Below	NA	NA	NA	NA
CO <sub>2</sub> e	2,574.86	2010-2011	4,374.94	1,800.08	75,000	Below	NA	NA	NA	NA

<sup>1</sup>VPU proposes a cap on NO<sub>x</sub> emissions of 120 tons per year so the change in emissions is below 40 tpy.

<sup>2</sup>VPU proposes a cap on CO emissions of 280 tons per year so the change in emissions is below 100 tpy.

<sup>3</sup>Since no past actual information on PM<sub>2.5</sub> was available the MPCA protocol is to assume all PM<sub>10</sub> is PM<sub>2.5</sub>.

VPU proposes PM<sub>10</sub> limit of 0.019 lb/MMBtu and PM<sub>2.5</sub> limit of 0.014 lb/MMBtu.

PM<sub>10</sub> proposed limit: 0.019 lb/MMBtu 19.14 tons/year

PM<sub>2.5</sub> proposed limit: 0.014 lb/MMBtu 14.10 tons/year

NA = Not Applicable.





## **Attachment 2**

### **Facility Description and CD-01 Forms**



## FACILITY DESCRIPTION: GROUPS (GP)

Show: Active and Pending Records  
Action: PER 010  
AQD Facility ID: 13700028  
Facility Name: Virginia Department of Public Utilities

	ID No.	Group Status	Added By (Action)	Retired By (Action)	Include in EI	Operator ID for Item	Group Description	Group Items
1	GP 001	Active	PER 009		<input type="checkbox"/>		Boilers 7 and 9 SO2 limits	EU 001, EU 003, MR 015, MR 016, MR 017, MR 018, SV 002, SV 003
2	GP 002	Active	PER 006		<input type="checkbox"/>		Boilers 7, 9, and 10 and makeup air heater NOx cap	EU 001, EU 003, EU 004, EU 005
3	GP 003	Active	PER 009		<input type="checkbox"/>		Material Handling Baghouses	CE 010, CE 013, CE 014
4	GP 004	Active	PER 009		<input type="checkbox"/>		NSPS CEMS	MR 005, MR 010
5	GP 005	Active	PER 006		<input type="checkbox"/>		Opacity Monitors	MR 006, MR 008, MR 012
6	GP 006	Active	PER 009		<input type="checkbox"/>		Non-NSPS CEMS	MR 011, MR 013, MR 014, MR 015, MR 016, MR 017, MR 018
7	GP 007	Active	PER 009		<input type="checkbox"/>		Enclosed Wood Unloading System	CE 010, EU 007, EU 017, EU 018, SV 006
8	GP 008	Active	PER 009		<input type="checkbox"/>		Wood Conveying System	CE 013, EU 009, EU 019, SV 009
9	GP 009	Active	PER 009		<input type="checkbox"/>		Wood Transfer/Metering Bin System	CE 014, EU 010, EU 020, EU 021, SV 010
10	GP 010	Active	PER 009		<input type="checkbox"/>		Ash Loadout	FS 005, FS 006



## FACILITY DESCRIPTION: STACK/VENTS (SV)

Show: Active and Pending Records  
Action: PER 010  
AQD Facility ID: 13700028  
Facility Name: Virginia Department of Public Utilities

	ID No.	Stack/ Vent Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Operators Description	Height of Opening From Ground (feet)	Inside Dimensions		Design Flow Rate at Top (ACFM)	Exit Gas Temperature at Top (°F)	Flow Rate/ Temperature Information Source	Discharge Direction
								Diameter or Length (feet)	Width (feet)				
1	SV 001	Removec	PER 008				130	5		58700	410	Manufacturer	Up, No Cap
2	SV 002	Active	PER 008			Boiler No. 7	150	7		97863	335	Manufacturer	Up, No Cap
3	SV 003	Active	PER 005			Boiler No. 9	150	5		106860	390	Manufacturer	Up, No Cap
4	SV 004	Active	PER 005			Natural Gas Boiler 10	150	6		88060	314	Manufacturer	Up, No Cap
5	SV 005	Active	PER 008			Boiler #11 (Wood Fired)	150	6.5		99066	315	Estimate	Up, No Cap
6	SV 006	Active	PER 005			Enclosed Wood Unloading Area	40	2.5		35000	68	Estimate	Up, No Cap
7	SV 007	Removec	PER 008			Wood Storage Silo Vent #1	60	0.47		1500	68		Up, No Cap
8	SV 008	Removec	PER 008			Wood Storage Silo Vent #2	60	0.47		1500	68		Up, No Cap
9	SV 009	Active	PER 006			Wood Conveyor	40	0.708		3500	68		Up, No Cap
10	SV 010	Active	PER 006			Wood Transfer Metering Bin	85	0.5		1800	68		Up, No Cap
11	SV 011	Removec	PER 009			Emergency Generator (not installed)	12	0.67		11.870	938	Estimate	Up, No Cap
12	SV 012	Removec	PER 009			Wood Ash Silo Bin Vent - does not exist	55	0.75		100	68	Estimate	Horizontal
13	SV 013	Removec	PER 008			Not built							
14	SV 014	Removec	PER 009			Coal Fly Ash Silo (IA)	92	1		2363	68		
15	SV 015	Removec	PER 009			Coal Bottom Ash Silo Water Wash (IA)	85.7	1		2363	170		
16	SV 016	Removec	PER 009			Coal Bottom Ash Bin Vent (IA)	59.1	2		20	68		
17	SV 017	Removec	PER 009			Boiler 9 Bunker (IA)	96.9	1		1000	68		



## FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)

Show: Active and Pending Records  
Action: PER 010  
AQD Facility ID: 13700028  
Facility Name: Virginia Department of Public Utilities

	ID No.	Control Equip. Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Control Equip. Type	Control Equipment Description	Manufacturer	Model	Pollutants Controlled	Capture Efficiency (%)	Destruction/Collection Efficiency (%)	Afterburner Combustion Parameters
1	CE 001	Active	PER 001			008	Centrifugal Collector - Medium Efficiency	Western Precip.	P37697A	Lead PM10 PM	100 100 100	40 50 50	
2	CE 002	Active	PER 001			010	Electrostatic Precipitator - High Efficiency	UOP	246692814	Lead PM10 PM	100 100 100	76 95 95	
3	CE 003	Active	PER 001			010	Electrostatic Precipitator - High Efficiency	UOP	249992813	Lead PM10 PM	100 100 100	76 95 95	
4	CE 004	Active	PER 001			024	Modified Furnace or Burner Design	Zurn/Indeck		NOx	100	20	
5	CE 005	Active	PER 001			026	Flue Gas Recirculation	Zurn/Indeck		NOx	10	20	
6	CE 006	Active	PER 001			029	Low Excess - Air Firing	Coen/Zurn/Indeck	695DAF45	NOx	100	10	
7	CE 007	Active	PER 006			076	Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones	Clarage	na	PM10 PM	100 100	80 80	
8	CE 008	Active	PER 008			107	Selective Noncatalytic Reduction for NOX	De-Nox Tech. Lim.	na				
9	CE 009	Active	PER 006			010	Electrostatic Precipitator - High Efficiency	PPC Industries	17R-1332-3712:	Lead PM10 PM	100 100 100	76 99 99	
10	CE 010	Active	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Donaldson	376-RFW-10	PM10 PM	100 100	93 99	
11	CE 011	Removed	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Filter Technology	16-8	PM	100	99	
12	CE 012	Removed	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Filter Technology	16-8	PM	100	99	
13	CE 013	Active	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Donaldson	54MBT6	PM	100	99	
14	CE 014	Active	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Donaldson	36MBT6	PM10 PM	100 100	93 99	
15	CE 015	Removed	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Ashtec	na	PM	100	99	
16	CE 016	Removed	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	tbd	tbd	PM10 PM	100 100	93 99	
17	CE 019	Removed	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F						
18	CE 020	Removed	PER 008			001	Wet Scrubber - High Efficiency						
19	CE 021	Removed	PER 008			018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F						



## FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records  
Action: PER 010  
AQD Facility ID: 13700028  
Facility Name: Virginia Department of Public Utilities

	ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Stack/Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity			Max Fuel Input (mil Btu)
														Materials	Units n	Units d	
1	EU 001	Active	PER 008		<input type="checkbox"/>		SV 002 (M)	CE 001 CE 002	Boiler #7	Wickes	61848	4911	90000	Steam	Lb	Hr	175
2	EU 002	Removed	PER 005		<input type="checkbox"/>				Boiler #8	Erie City	95900	4911	150000	Steam	Lb	Hr	250.07
3	EU 003	Active	PER 006		<input type="checkbox"/>		SV 003 (M)	CE 003	Boiler #9	Riley Stoker	74059-62	4911	167000	Steam	Lb	Hr	249
4	EU 004	Active	PER 006		<input type="checkbox"/>		SV 004 (M)	CE 004 CE 005 CE 006	Boiler #10	Zurn/Indeck	101743	4911	161000	Steam	Lb	Hr	266
5	EU 005	Active	PER 009		<input type="checkbox"/>		SV 004 (O)		Makeup Air Heater	Industrial Air Systems	DA-36	4911	7.15	Natural Gas	Mmbtu	Hr	7.15
6	EU 006	Active	PER 008		<input type="checkbox"/>		SV 005 (M)	CE 007 CE 008 CE 009	Boiler #11 (Wood Fired)	Foster Wheeler	7408	4911	230	Wood	Mmbtu	Hr	230
7	EU 007	Active	PER 008		<input type="checkbox"/>		SV 006 (M)	CE 010	Enclosed Wood Unloading	Wolf Mat. Handling	na	4911	200	Wood	Ton	Hr	
8	EU 008	Removed	PER 008		<input type="checkbox"/>				Wood Storage Silo	Clarks Sheet Metal	L-270 Flo-Matic	4911	200	Wood	Ton	Hr	
9	EU 009	Active	PER 009		<input type="checkbox"/>		SV 009 (M)	CE 013	Wood Conveyor System	Hudco	36TR	4911	50	Wood	Ton	Hr	
10	EU 010	Active	PER 009		<input type="checkbox"/>		SV 010 (M)	CE 014	Wood Transfer/Metering Bin	Hudco et al	na	4911	50	Wood	Ton	Hr	
11	EU 011	Removed	PER 008		<input type="checkbox"/>				Emergency Generator (Never Installed)	tbd	tbd	4911	1.5	Elect Energy	Mw		15.3
12	EU 012	Removed	PER 009		<input type="checkbox"/>				Wood Ash Storage Silo	Ashtec	na	4911	110		Yd3		
13	EU 013	Removed	PER 009		<input checked="" type="checkbox"/>				(IA) Coal Fly Ash Silo			4911					
14	EU 014	Removed	PER 009		<input checked="" type="checkbox"/>				(IA) Coal Bottoms Ash Silo Water Wash			4911					
15	EU 015	Removed	PER 009		<input checked="" type="checkbox"/>				(IA) Coal Bottom Ash Bin Vent			4911					
16	EU 016	Removed	PER 008		<input checked="" type="checkbox"/>				Boiler 9 Bunker			4911					
17	EU 017	Active	PER 009		<input type="checkbox"/>		SV 006 (M)	CE 010	Bucket Elevator			4911	200	Wood	Ton	Hr	
18	EU 018	Active	PER 009		<input type="checkbox"/>		SV 006 (M)	CE 010	Conveyor 2			4911	200	Wood	Ton	Hr	
19	EU 019	Active	PER 009		<input type="checkbox"/>		SV 009 (M)	CE 013	Conveyor 3			4911	50	Wood	Ton	Hr	
20	EU 020	Active	PER 009		<input type="checkbox"/>		SV 010 (M)	CE 014	Conveyor 4			4911	50	Wood	Ton	Hr	
21	EU 021	Active	PER 009		<input type="checkbox"/>		SV 010 (M)	CE 014	Conveyor 5			4911	50	Wood	Ton	Hr	

**FACILITY DESCRIPTION: EMISSION UNIT (EU)**

	ID No.	Emission Unit Status	Added By (Action)	Commence Const. Date	Initial Startup Date	Removal Date	Firing Method	Pct. Fuel/ Space Heat	Bottleneck	Elevator Type
1	EU 001	Active	PER 008	01/09/1952	01/09/1952		Spreader Stoker			
2	EU 002	Removed	PER 005	01/09/1959	01/09/1959	12/31/1998	Pulverized Coal: Dry Bottom			
3	EU 003	Active	PER 006	05/01/1974	01/09/1976		Spreader Stoker			
4	EU 004	Active	PER 006	04/05/1993	01/10/1994					
5	EU 005	Active	PER 009	01/09/1993	12/01/1993					
6	EU 006	Active	PER 008	08/31/2005	12/31/2006					
7	EU 007	Active	PER 008	08/31/2005	12/31/2006					
8	EU 008	Removed	PER 008	08/31/2005	12/31/2006					
9	EU 009	Active	PER 009	08/31/2005	12/31/2006					
10	EU 010	Active	PER 009	08/31/2005	12/31/2006					
11	EU 011	Removed	PER 008			01/01/2007				
12	EU 012	Removed	PER 009	08/31/2005	12/31/2006					
13	EU 013	Removed	PER 009							
14	EU 014	Removed	PER 009							
15	EU 015	Removed	PER 009							
16	EU 016	Removed	PER 008							
17	EU 017	Active	PER 009	08/31/2005	12/31/2006					
18	EU 018	Active	PER 009	08/31/2005	12/31/2006					
19	EU 019	Active	PER 009	08/31/2005	12/31/2006					
20	EU 020	Active	PER 009	08/31/2005	12/31/2006					
21	EU 021	Active	PER 009	08/31/2005	12/31/2006					



## FACILITY DESCRIPTION: FUGITIVE SOURCES (FS)

Show: Active and Pending Records

Action: PER 010

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

	ID No.	Fugitive Source Status	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for Item	Pollutant(s) Emitted	Control Equip. ID No(s).	Fugitive Source Description	Year Installed	Year Removed
1	FS 001	Retired	PER 009		<input checked="" type="checkbox"/>		PM10		Coal Unloading (existing IA)	1954	
2	FS 002	Retired	PER 009		<input checked="" type="checkbox"/>		PM10		Coal Crushing (existing IA)	1954	
3	FS 003	Retired	PER 009		<input checked="" type="checkbox"/>		PM10		Coal Conveying (existing IA)	1954	
4	FS 004	Removed	PER 005		<input type="checkbox"/>				Coal Stockpiles		2004
5	FS 005	Active	PER 009		<input type="checkbox"/>				Wood Ash Loadout	2004	
6	FS 006	Active	PER 009		<input type="checkbox"/>		PM10		Coal Fly Ash Loadout	2004	
7	FS 008	Retired	PER 009		<input checked="" type="checkbox"/>		PM		Coal Bottom Ash Loadout (existing IA)		
8	FS 009	Active	PER 009		<input type="checkbox"/>		PM10		Truck Traffic		



## FACILITY DESCRIPTION: CONTINUOUS MONITORS (MR)

Show: Active and Pending Records  
Action: PER 010  
AQD Facility ID: 13700028  
Facility Name: Virginia Department of Public Utilities

	ID No.	Monitor Status	Added By (Action)	Retired By (Action)	Monitored Item (ID No(s).)	Operator ID for Item	Monitor Description	Manufacturer	Model Number	Serial Number	Parameters Monitored
1	MR 001	Retired	PER 009				Boiler 7 CO2 ( bias adjustment)	Thermo Envir Inst.	41H	41H34947249	
2	MR 002	Retired	PER 009				Boiler 7 SO2	Thermo Envir Inst.	43B	43B43086268	
3	MR 003	Retired	PER 009				Boiler 9 CO2 (bias adjustment)	Thermo Envir Inst.	41H	41H34947249	
4	MR 004	Retired	PER 009				Boiler 9 SO2	Thermo Envir Inst.	43B	43B43086268	
5	MR 005	Active	PER 009		EU 004 EU 005		Boiler 10 NOx	Thermo Envir Inst.	42D	42D39999262	NOx
6	MR 006	Active	PER 006		EU 001		Boiler 7 Opacity	Thermo Envir Inst.	400	40020232189	Opacity
7	MR 007	Removed	PER 005					Thermo Envir Inst.	700	70020306189	
8	MR 008	Active	PER 006		EU 003		Boiler 9 Opacity	Thermo Envir Inst.	400	40020233189	Opacity
9	MR 009	Removed	PER 005					Thermo Envir Inst.	700	70020306189	
10	MR 010	Active	PER 009		EU 004 EU 005		Boiler 10 CO2 (bias adjustment)	Thermo Envir Inst.	41H	41H36101252	CO2
11	MR 011	Active	PER 008		EU 006		Boiler 11 (Wood Fired) NOx	Teledyne	TMLM4102	N0173	NOx
12	MR 012	Active	PER 008		EU 006		Boiler 11 (Wood Fired) Opacity	Teledyne	Lighthawk	5601053	Opacity
13	MR 013	Active	PER 008		EU 006		Boiler 11 (Wood Fired) CO	Teledyne	TML30	C0995	CO
14	MR 014	Active	PER 008		EU 006		Boiler 11 (Wood Fired) O2 (bias adjustment)	Teledyne	TMLM4102	N0173	O2
15	MR 015	Active	PER 009		EU 001		Boiler 7 CO2	TECO	41I	CO2150	CO2
16	MR 016	Active	PER 009		EU 001		Boiler 7 SO2	TECO	43I	SO2278	SO2
17	MR 017	Active	PER 009		EU 003		Boiler 9 CO2	TECO	41I	CO2150	CO2
18	MR 018	Active	PER 009		EU 003		Boiler 9 SO2	TECO	43I	SO2278	SO2



**FACILITY DESCRIPTION: CONTINUOUS MONITORS (MR)**

	ID No.	Monitor Status	Added By (Action)	Span Value	System Full-Scale Value	Bypass Capability?	Optical Path Length Ratio	Installation Date	Removal Date
1	MR 001	Retired	PER 009			No			
2	MR 002	Retired	PER 009			No			
3	MR 003	Retired	PER 009			No			
4	MR 004	Retired	PER 009			No			
5	MR 005	Active	PER 009	500	500	No			
6	MR 006	Active	PER 006	100	100	No	.5		
7	MR 007	Removed	PER 005			No			
8	MR 008	Active	PER 006	100	100	No	.5		
9	MR 009	Removed	PER 005			No			
10	MR 010	Active	PER 009	20	20	No			
11	MR 011	Active	PER 008			No			
12	MR 012	Active	PER 008			No			
13	MR 013	Active	PER 008			No			
14	MR 014	Active	PER 008			No			
15	MR 015	Active	PER 009	20	20	No			
16	MR 016	Active	PER 009	1000	1000				
17	MR 017	Active	PER 009	20	20				
18	MR 018	Active	PER 009	1000	1000				



## FACILITY DESCRIPTION: DATA ACQUISITION SYSTEMS (DA)

Show: Active and Pending Records

Action: PER 010

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

	ID No.	DAS Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Data Acquisition System Description	Manufacturer	Model Number	Serial Number	Data Storage Medium	Installation Date	Removal Date
1	DA 001	Active	PER 008			Facility Boilers	Teledyne		971, 972, 975	Electronic	12/31/2006	



## FACILITY DESCRIPTION: CONTINUOUS MONITORING SYSTEMS (CM)

Show: Active and Pending Records

Action: PER 010

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

	ID No.	CMS Status	Added By (Action)	Retired By (Action)	Monitor ID No(s).	DAS ID No(s).	Operator ID for Item	CMS Description	Parameter	Month/ Year Installed	Month/ Year Removed	Cert. Date	Cert. Basis
1	CM 001	Active	PER 009		MR 015 MR 016	DA 001		Boiler 7: 2.5 lbs SO <sub>2</sub> /mmBtu, EU001, 1-hr ave.	Sulfur Dioxide			11/22/1994	40CFR60
2	CM 002	Active	PER 009		MR 017 MR 018	DA 001		Boiler 9: 2.5 lbs SO <sub>2</sub> /mmBtu, EU003, 1-hr ave.	Sulfur Dioxide			11/22/1994	40CFR60
3	CM 003	Active	PER 009		MR 015 MR 016 MR 017 MR 018	DA 001		Boiler 7 & 9: 1.6 lbs SO <sub>2</sub> /mmBtu, EU001 & EU003, 1-hr ave.	Sulfur Dioxide			11/22/1994	40CFR60
4	CM 004	Active	PER 002		MR 005 MR 010	DA 001		Boiler 10: 0.105 lbs NO <sub>x</sub> /mmBtu, EU004, 30 DRA	Nitrogen Oxides			06/01/1994	40CFR60
5	CM 005	Active	PER 002		MR 006 MR 007	DA 001		Boiler 7: 20% Opacity, EU001, 6-min ave.	Opacity			05/08/1987	40CFR60
6	CM 006	Active	PER 002		MR 008 MR 009	DA 001		Boiler 9: 20% Opacity, EU003, 6-min ave.	Opacity			05/08/1987	40CFR60



## FACILITY DESCRIPTION: BUILDINGS (BG)

Show: Active and Pending Records

Action: PER 010

AQD Facility ID: 13700028

Facility Name: Virginia Department of Public Utilities

	ID No.	Added By (Action)	Retired By (Action)	Operator ID for Item	Length (feet)	Width (feet)	Roof Height from Ground (feet)	Description/Comment	Building Status
1	BG 001	PER 009		BG001	302	203	92.0	Power Plant Building	Active
2	BG 002	PER 009		BG002	120.0	40.0	25.0	Chemical Treatment Building	Active
3	BG 003	PER 009		BG003	48.0	30.0	30.0	Wood Unloading Building	Active
4	BG 004	PER 009		BG004	100.0	70.0	20.0	Utility Garage Building	Active
5	BG 005	PER 009		BG005	93.0	51.0	56.5	Wood Storage Building	Active
6	BG 006	PER 009		BG006	58.0	50.0	79.5	Coal Shed Building	Active
7	BG 007	PER 009		BG007	38.0	25.0	65.0	Wood Precipitator Building	Active



# COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item: Total Facility**

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	SOURCE-SPECIFIC REQUIREMENTS
2.0		CD	Minn. R. 7007.0800, subp. 2	<p>Permit Appendices: This permit contains appendices as listed in the permit Table of Contents.</p> <p>The Permittee shall comply with all requirements contained in Appendix B: Insignificant Activities.</p> <p>Modeling parameters in Appendix C: Modeled Stack Parameters are included for reference only and compliance with these parameters is achieved through meeting the Table A requirements that reference Appendix C.</p>
3.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000	<p>Parameters Used in Modeling: The stack heights, emission rates, and other parameters used in the most recent dispersion modeling are listed in the Appendix C of this permit. The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. The information submitted must include, at a minimum, the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.</p>
4.0		CD	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000	<p>For changes that do not involve an increase in an emission rate and that do not require a permit amendment, this proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit.</p> <p>For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit.</p> <p>For changes involving increases in emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted with the permit application.</p>
5.0		S/A	Minn. R. 7007.0800, subp. 6(B)	<p>Report: due 30 days after half-year starting 01/18/2012 . The Compliance Schedule Progress Report shall contain the information specified in Minn. R. 7007.0800, subp. 6(B) and shall be submitted on a form approved by the Commissioner in accordance with the Compliance Schedule contained in Table C. Progress Reports will not be needed upon completion of all activities contained in the Compliance Schedule.</p>
6.0		CD	hdr	DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NSR
7.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2	<p>These requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of Section 52.21(r)(6)(vi)(b).</p> <p>Even though a particular modification is not subject to New Source Review (NSR), or where there isn't a RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500.</p>



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Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

8.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.1200, subp. 4; Minn. R. 7007.0800, subps. 4 & 5	<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following:</p> <ol style="list-style-type: none"> <li>1. Project description</li> <li>2. Identification of any emission unit (EU) whose emissions of an NSR pollutant could be affected</li> <li>3. Pre-change potential emissions of any affected existing EU, and the projected post-change potential emissions of any affected existing or new EU.</li> <li>4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the EU could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination.</li> </ol> <p>The Permittee shall maintain records of this documentation.</p>
9.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.
10.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6)(ii); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	Before beginning actual construction of any project which includes any electric utility steam generating unit (EUSGU), the Permittee shall submit a copy of the preconstruction documentation (items 1-4 under Preconstruction Documentation, above) to the Agency.
11.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	<p>For any project which includes any EUSGU, the Permittee must submit an annual report to the Agency, within 60 days after the end of the calendar year. The report shall contain:</p> <ol style="list-style-type: none"> <li>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</li> <li>b. The quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project analyzed as part of a hybrid test.</li> <li>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection, if that is the case.</li> </ol>
12.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	<p>For any project which does not include any EUSGU, the Permittee must submit a report to the Agency if the annual summed (actual, plus potential used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:</p> <ol style="list-style-type: none"> <li>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</li> <li>b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions rate is exceeded.</li> <li>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.</li> </ol>
13.0		CD	hdr	OPERATIONAL REQUIREMENTS
14.0		CD	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.



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15.0		S/A	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	<p>Compliance Plan: due 545 days after Permit Issuance for SO<sub>2</sub> NAAQS. The Permittee shall submit a plan that, when implemented, will allow the facility to achieve compliance with the 1-hour SO<sub>2</sub> National Ambient Air Quality Standard by June 3, 2018 unless required sooner by federal law.</p> <p>The plan shall contain (a) a description of any proposed physical changes to the facility and any proposed limits or permit changes; (b) refined modeling, consistent with those permit changes and consistent with a modeling protocol approved by the MPCA, demonstrating compliance with the 1-hour SO<sub>2</sub> NAAQS; and (c) a schedule for implementing the proposed changes and for incorporating limits and other conditions, if necessary, into an enforceable document by June 3, 2018 unless required sooner by federal law.</p>
16.0		CD	Minn. R. 7011.0020	Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.
17.0		CD	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)	Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated.
18.0		CD	Minn. R. 7007.0800, subps. 14 and 16(J)	Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.
19.0		CD	Minn. R. 7019.1000, subp. 4	Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.
20.0		CD	Minn. R. 7011.0150	Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.
21.0		CD	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2	Fugitive Emissions Control Plan: The Permittee shall follow the actions and record keeping specified in the existing Fugitive Control Plan. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive emission control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors.
22.0		CD	Minn. R. 7030.0010 - 7030.0080	Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.
23.0		CD	Minn. R. 7007.0800, subp. 9(A)	Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).
24.0		CD	Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
25.0		CD	hdr	PERFORMANCE TESTING
26.0		CD	Minn. R. ch. 7017	Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, and/or B.



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27.0		CD	Minn. R. 7017.2018; Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2035, subps. 1-2	<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Table A of the permit. See Table B for additional testing requirements.</p> <p>Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test</p> <p>The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>
28.0		CD	Minn. R. 7017.2025, subp. 3	Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.
29.0		CD	hdr	MONITORING REQUIREMENTS
30.0		CD	Minn. R. 7007.0800, subp. 4(D)	Monitoring Equipment Calibration: The Permittee shall calibrate all required monitoring equipment at least once every 12 months (any requirements applying to continuous emission monitors are listed separately in this permit).
31.0		CD	Minn. R. 7007.0800, subp. 4(D)	Operation of Monitoring Equipment: Unless otherwise noted in Tables A, and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.
32.0		CD	hdr	RECORDKEEPING
33.0		CD	Minn. R. 7007.0800, subp. 5(C)	Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).
34.0		CD	Minn. R. 7007.0800, subp. 5(B)	Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.
35.0		CD	Minn. R. 7007.1200, subp. 4	If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.
36.0		CD	hdr	REPORTING/SUBMITTALS
37.0		CD	Minn. R. 7019.1000, subp. 3	<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.</p>





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Facility Name: Virginia Department of Public Utilities

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38.0		CD	Minn. R. 7019.1000, subp. 2	<p>Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.</p> <p>At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.</p>
39.0		CD	Minn. R. 7019.1000, subp. 1	<p>Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.</p>
40.0		CD	Minn. R. 7019.1000, subp. 1	<p>Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description:</p> <ol style="list-style-type: none"> <li>1. the cause of the deviation;</li> <li>2. the exact dates of the period of the deviation, if the deviation has been corrected;</li> <li>3. whether or not the deviation has been corrected;</li> <li>4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and</li> <li>5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.</li> </ol>
41.0		S/A	Minn. R. 7007.0800, subp. 6(A)(2)	<p>Semiannual Deviations Report: due 30 days after end of each calendar half-year starting 01/18/2012. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.</p>
42.0		S/A	40 CFR Section 60.7(c); Minn. R. 7017.1110, subp. 1 & 2	<p>Excess Emissions/Downtime Reports (EER's): due 30 days after end of each calendar quarter starting 01/18/2012. Submit Deviations Reporting Form DRF-1 as amended. The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions. The EER must be submitted even if there were no excess emissions, downtime, or bypasses during the quarter.</p>
43.0		CD	Minn. R. 7007.1150 - 7007.1500	<p>Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.</p>
44.0		CD	40 CFR Section 63.52(b)(1) and 63.52(e)(1)	<p>For changes that do not require a permit amendment:</p> <ul style="list-style-type: none"> <li>- The Permittee shall submit a Part 1 MACT application within 30 days of startup of any 112(j) affected source. The application shall meet the requirements of 40 CFR Section 63.53(a).</li> <li>- The Permittee shall submit a Part 2 MACT application within 90 days of startup of any 112(j) affected source. The application shall meet the requirements of 40 CFR Section 63.53(b).</li> </ul> <p>112(j) affected source is defined in 40 CFR Section 63.51.</p> <p>At the time of permit issuance, 112(j) affected sources include utility boilers, brick and structural clay products manufacturing, and clay ceramics manufacturing.</p>
45.0		S/A	Minn. R. 7007.0400, subp. 2	<p>Application for Permit Reissuance: due 180 days before expiration of Existing Permit.</p>
46.0		CD	Minn. R. 7007.1400, subp. 1(H)	<p>Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).</p>



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

47.0		S/A	Minn. R. 7007.0800, subp. 6(C)	Compliance Certification: due 31 days after end of each calendar year starting 01/18/2012 (for the previous calendar year). The Permittee shall submit this on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.
48.0		CD	Minn. R. 7019.3000 - 7019.3100	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance, to be submitted on a form approved by the Commissioner.
49.0		CD	Minn. R. 7002.0005 - 7002.0095	Emission Fees: due 60 days after receipt of an MPCA bill.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 001 Boilers 7 and 9 SO2 limits

**Associated Items:** EU 001 Boiler #7

EU 003 Boiler #9

MR 015 Boiler 7 CO2

MR 016 Boiler 7 SO2

MR 017 Boiler 9 CO2

MR 018 Boiler 9 SO2

SV 002 Boiler No. 7

SV 003 Boiler No. 9

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080; Minn. R. 7011.0510, subp. 1	Sulfur Dioxide: less than or equal to 2.50 lbs/million Btu heat input using 1-Hour Average when only one of the emission units in GP001 is combusting coal.
2.0		LIMIT	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080; Minn. R. 7011.0510, subp. 1	Sulfur Dioxide: less than or equal to 1.60 lbs/million Btu heat input using 1-Hour Average when both EU 001 and EU 003 are combusting coal. This SO2 limit applies individually to each emission unit.
3.0		CD	Minn. R. 7007.0800, subp. 4	Coal Combustion Monitoring: The Permittee shall record the start and stop dates and times of all coal combustion periods for EU 001 and EU 003. The Permittee may use the data from the SO2 CEMS for EU001 (on SV002) and the SO2 CEMS for EU003 (on SV003) to meet this recordkeeping requirement provided that the CEMS data continuously specifies the time and date. However, when either or both of the CEMS malfunction, the Permittee shall keep a written log of coal combustion in EU001 and/or EU003 in place of CEMS data, during the CEMS malfunction.



# COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 002 Boilers 7, 9, and 10 and makeup air heater NOx cap

**Associated Items:** EU 001 Boiler #7

EU 003 Boiler #9

EU 004 Boiler #10

EU 005 Makeup Air Heater

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000	Nitrogen Oxides: less than 73.08 tons/month using 12-month Rolling Average basis. This limit applies to the combined NOX emissions from the units listed as Associated Items.
2.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5	Recordkeeping: by the 15th day of each month, the Permittee shall record the following information:  1. total quantity of coal burned in EU001 during the previous month, in tons (A); 2. tons quantity of coal burned in EU003 during the previous month, in tons (B); 3. total monthly NOx emissions from EU004 and EU005 as measured by NOx CEMS, in tons (y) 4. quantity of natural gas combusted in EU004 and EU005 during times of NOx CEMS malfunction (z).  The Permittee shall use these fuel usage records, NOx emissions data, and Equation 1 to determine monthly facility NOx emissions.
3.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4(B)	By the 15th day of each month the Permittee shall calculate and record the monthly NOx emissions for the previous month using Equation 1:  $\text{NOx emissions} = (\text{EF1c} \times \text{A}) + (\text{EF3c} \times \text{B}) + (\text{EF4g} \times \text{z}) + \text{y}$  EF1c = The MPCA-approved emission factor for coal combustion at EU001, tons NOx/ton coal; at the time of permit issuance, the factor is 0.0037 tons NOx/ton coal  EF3c = The MPCA-approved emission factor for coal combustion at EU003, tons NOx/ton coal; at the time of permit issuance, the factor is 0.0036 tons NOx/ton coal  EF4g = The MPCA-approved emission factor for natural gas combustion at EU004 and EU005, tons NOx/mmcf natural gas; at the time of permit issuance, the factor is 0.05 ton NOx/mmcf natural gas  A, B, y, and z are as described above.
4.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4(B)	By the 15th day of each month the Permittee shall calculate and record the monthly 12-month rolling average NOx emission rate. The monthly 12-month rolling average shall be determined by summing the monthly NOx emission rates (determined using the above equation) for the previous 12 months, and dividing by 12.
5.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000	Revision of Equation 1 Emission Factors: All Equation 1 emission factors are subject to change based on the results of performance tests. The Permittee shall use the most-recent performance test-revised emission factor for calculating emissions, upon receipt of written notification from the MPCA that the performance testing results were valid. For the interim period prior to receipt of any written MPCA notification, the Permittee shall use the most recently-approved factors (defined above or in a more recent approval letter from MPCA).



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 003 Material Handling Baghouses

**Associated Items:** CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 013 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

	NC/ CA	Type	Citation	Requirement
1.0		CD	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000	The Permittee shall operate and maintain each of the fabric filters (listed as Associated Items) at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment when the emission unit is in operation.
2.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain each of the fabric filters in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
3.0		LIMIT	Minn. R. 7011.0070, subp. 1(A)	The Permittee shall operate and maintain each fabric filter such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99.0 percent control efficiency
4.0		LIMIT	Minn. R. 7011.0070, subp. 1(A)	The Permittee shall operate and maintain each fabric filter such that it achieves an overall control efficiency for PM < 10 micron: greater than or equal to 93.0 percent control efficiency
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000	Pressure Drop: greater than or equal to 2.0 inches of water column and less than or equal to 6.0 inches of water column (CE010), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change.
6.0		LIMIT	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000	Pressure Drop: greater than or equal to 2.0 inches of water column and less than or equal to 6.0 inches of water column (CE013), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change.
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000	Pressure Drop: greater than or equal to 2.0 inches of water column and less than or equal to 6.0 inches of water column (CE014), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change.
8.0		CD	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000	Visible Emissions: The Permittee shall check each of the fabric filter stacks (SV006, SV009, and SV010) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall instead read and record the pressure drop across the fabric filters, once each day of operation.
9.0		CD	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000	Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, or whether the observed pressure drop was within the range specified in this permit.
10.0		CD	Minn. R. 7007.0800, subp. 4, 5, and 14	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

11.0		CD	Minn. R. 7007.0800, subp. 4	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.
12.0		CD	Minn. R. 7007.0800, subp. 4, 5 and 14	Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the internal or external components of the control equipment. Internal inspections shall be conducted semiannually, with external inspections taking place during alternating calendar quarters when internal inspections are not required. The Permittee shall maintain a written record of these internal and external inspections.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 004 NSPS CEMS

**Associated Items:** MR 005 Boiler 10 NOx

MR 010 Boiler 10 CO2 (bias adjustment)

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	Additional requirements can be found in Table B.
2.0		CD	40 CFR Section 60.13(e)(2)	CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period.
3.0		CD	40 CFR Section 60.13(e); Minn. R. 7017.1090	Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. No data record is required for the diluent monitors.  Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.
4.0		CD	40 CFR Section 60.13(h); Minn. R. 7017.1160, subp. 1 and 2	Monitoring Data: Reduce all data to 1-hour averages, in accordance with 40 CFR Section 60.13(h). 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period.
5.0		CD	40 CFR Part 60, Appendix F, Section 3; Minn. R. 7017.1170, subp. 2	QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR Part 60, Appendix F, section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list.
6.0		CD	40 CFR Part 60, Appendix F; 40 CFR Section 60.13(a)	CEMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR Part 60, Appendix B, and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR Part 60, Appendix F, as amended and maintain a written QA/QC program available in a form suitable for inspection.
7.0		CD	40 CFR Part 60, Appendix F, Section 4.1; 40 CFR Section 60.13(d)(1); Minn. R. 7017.1170, subp. 3	CEMS Daily Calibration Drift (CD) Test: Check the zero (low level between 0 and 20 percent of the span value) and span (50 to 100 percent of the span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR part 60. Appendix F shall be used to determine out-of-control periods for CEMS.
8.0		CD	40 CFR Part 60, Appendix F, Section 5.1.2; Minn. R. 7017.1170, subp. 4	Cylinder Gas Audit: due before end of each three out of four calendar quarters following Permit Issuance but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed.
9.0		CD	40 CFR Part 60, Appendix F, Section 5.1.1	CEMs Relative Accuracy Test Audit (RATA): due before the end of every one out of four calendar quarters following Permit Issuance.
10.0		CD	Minn. R. 7017.1180, subp. 2	Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA).
11.0		CD	40 CFR Section 60.7(f)Minn. R. 7007.1130	Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 005 Opacity Monitors

**Associated Items:** MR 006 Boiler 7 Opacity

MR 008 Boiler 9 Opacity

MR 012 Boiler 11 (Wood Fired) Opacity

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	REQUIREMENTS FOR ALL OPACITY MONITORS (See Table B for additional requirements)
2.0		CD	40 CFR Section 60.13(e)(1); 40 CFR Section 60.13(h); Minn. R. 7017.1200, subp. 1, 2 & 3	All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data for each successive 6-minute period.
3.0		CD	40 CFR Section 60.13(e); Minn. R. 7017.1090, subp. 1	Continuous Operation: COMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A COMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.  Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.
4.0		CD	Minn. R. 7017.1200, subp. 1, 2, and 3	Monitoring Data: All COMS data must be reduced to six-minute averages. A six-minute average is valid only if it contains data from at least five minutes within the averaging period. COMS data shall be reduced and calculated as outlined in Minn. R. 7017.1200, subp. 3.
5.0		CD	Minn. R. 7017.1210, subp. 1	QA Plan Required: Implement a written quality assurance plan which covers each COMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain the written procedures listed in Minn. R. 7017.1210, subp. 1. The plan shall include the manufacturer's spare parts list for each COMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list.
6.0		CD	40 CFR Section 60.13(a); Minn. R. 7017.1210	COMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each COMS according to the QA/QC procedures in Minn. R. 7017.1210.
7.0		CD	40 CFR Section 60.13(d)(1-2); Minn. R. 7017.1210, subp. 2	COMS Daily Calibration Drift Check: The Calibration Drift shall be quantified and recorded at zero (low-level) and upscale (high-level) calibration drift at least once daily according to the procedures listed in 40 CFR Section 60.13(d)(2) and Part 60, Appendix B, PS 1. The zero and upscale calibration levels must be determined using the span value specified in the applicable requirement. If the applicable requirement does not specify a span value, as span value of 60, 70, or 80 percent opacity must be used unless an alternative span value is approved by the commissioner. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for COMS.
8.0		CD	Minn. R. 7017.1210, subp. 4	COMS Attenuator Calibration: The Permittee shall semiannually have an independent testing company conduct calibrations of each of the neutral density filters used in the calibration error audit according to the procedure in 40 CFR pt. 60, Appendix B.
9.0		CD	Minn. R. 7017.1210, subp. 3	COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Audits are to be at least three months apart but no more than eight months apart except that a calibration error audit need not be conducted during any semi-annual period in which the emission unit operated less than 24 hours. The calibration error audit shall be conducted according to the procedures in 40 CFR pt. 60, Appendix B, Performance Specification No. 1.
10.0		CD	Minn. R. 7017.1130	Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.





## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 006 Non-NSPS CEMS

**Associated Items:** MR 011 Boiler 11 (Wood Fired) NOx

MR 013 Boiler 11 (Wood Fired) CO

MR 014 Boiler 11 (Wood Fired) O2 (bias adjustment)

MR 015 Boiler 7 CO2

MR 016 Boiler 7 SO2

MR 017 Boiler 9 CO2

MR 018 Boiler 9 SO2

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	Additional requirements can be found in Table B.
2.0		CD	Minn. R. 7017.1090, subp. 1	<p>Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. No data record is required for the diluent monitors.</p> <p>Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.</p>
3.0		CD	Minn. R. 7017.1160, subp. 1 and 2	<p>Monitoring Data: All data points collected by a CEMS shall be used to calculate individual hourly emission averages unless another applicable requirement requires more frequent averaging. In order for an hour of data to be considered, it must contain the following minimum number of data points:</p> <p>A. four data points, equally spaced, if the emission unit operated during the entire hour;</p> <p>B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance;</p> <p>C. one data point if the emission unit operated for 15 minutes or less during the hour.</p>
4.0		CD	Minn. R. 7017.1170, subp. 2	QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR Part 60, Appendix F, section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list.
5.0		CD	Minn. R. 7017.1170, subp. 3	Requirement: CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily according to the procedures listed in Minn. R. 7017.1170, subp. 3(A) and 40 CFR Section 60.13(d)(1) for each pollutant concentration, each diluent monitor, and for each monitor range. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. If no span value is specified in the applicable requirement or in a compliance document, the Permittee shall use a span value equivalent to 1.5 times the emission limit. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS. Follow the procedures in 40 CFR pt. 60, Appendix F.
6.0		CD	Minn. R. 7017.1170, subp. 4	Cylinder Gas Audit: due before end of each calendar half-year following CEM Certification Test, except that a CGA is not required during any calendar half year in which a RATA was performed. The CGAs shall be conducted at least three months apart but no more than eight months apart. A CGA shall be conducted according to the procedures in 40 CFR pt. 60, Appendix F, section 5.1.2. If the monitored emission unit was operated for less than 24 hours during the calendar half year, a CGA is not required for that calendar half year.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

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7.0		CD	Minn. R. 7017.1170, subp. 5	CEMs Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. A RATA is not required in any calendar year if a RATA conducted in the previous year demonstrated a relative accuracy value of less than 15 percent or if the associated emissions unit operated less than 48 hours during the calendar year. If the exception is used, the next RATA shall be conducted during the first half of the following calendar year. RATAs shall be conducted at least 3 months apart according to 40 CFR pt. 60, Appendix F, section 5.1.1.C
8.0		CD	Minn. R. 7017.1180, subp. 2	Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA).
9.0		CD	Minn. R. 7007.1130	Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 007 Enclosed Wood Unloading System

**Associated Items:** CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

EU 007 Enclosed Wood Unloading

EU 017 Bucket Elevator

EU 018 Conveyor 2

SV 006 Enclosed Wood Unloading Area

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	Minn. R. 7011.0715, subp. 1(A)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.0020 grains/dry standard cubic foot at the stack (SV006).
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.0020 grains/dry standard cubic foot at the stack (SV006).
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000	Opacity: less than or equal to 0 percent opacity at the stack (SV006).
6.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent
7.0		CD	hdr	CONTROL REQUIREMENTS
8.0		CD	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	The Permittee shall operate and maintain the fabric filter (CE010) at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment when the emission unit is in operation.  See Subject Item GP003 for specific fabric filter operating requirements.
9.0		CD	hdr	PERFORMANCE TESTING
10.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 10/03/2007, to measure PM10 and opacity of emissions from SV006. The emissions tests shall be conducted at an interval not to exceed 60 months between test dates. The next test is due before 10/31/2012.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 008 Wood Conveying System

**Associated Items:** CE 013 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

EU 009 Wood Conveyor System

EU 019 Conveyor 3

SV 009 Wood Conveyor

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	Minn. R. 7011.0715, subp. 1(A)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.0020 grains/dry standard cubic foot at the stack (SV009).
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.0020 grains/dry standard cubic foot at the stack (SV009).
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	Opacity: less than or equal to 0 percent at the stack (SV009).
6.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent
7.0		CD	hdr	CONTROL REQUIREMENTS
8.0		CD	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	The Permittee shall operate and maintain the fabric filter (CE013) at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment when the emission unit is in operation.  See Subject Item GP003 for specific fabric filter operating requirements.
9.0		CD	hdr	PERFORMANCE TESTING
10.0		S/A	Minn. R. 7017.2020, subp. 1	Initial Performance Test: due before 10/31/2012, to measure PM10 and opacity of emissions from SV009.
11.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Initial Performance Test for PM10 and opacity emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval of the MPCA.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 009 Wood Transfer/Metering Bin System

**Associated Items:** CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

EU 010 Wood Transfer/Metering Bin

EU 020 Conveyor 4

EU 021 Conveyor 5

SV 010 Wood Transfer Metering Bin

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	Minn. R. 7011.0715, subp. 1(A)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.0020 grains/dry standard cubic foot at the stack (SV010).
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.0020 grains/dry standard cubic foot at the stack (SV010).
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	Opacity: less than or equal to 0 percent at the stack (SV010).
6.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent
7.0		CD	hdr	CONTROL REQUIREMENTS
8.0		CD	Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000	The Permittee shall operate and maintain the fabric filter (CE014) at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment when the emission unit is in operation.  See Subject Item GP003 for specific fabric filter operating requirements.
9.0		CD	hdr	PERFORMANCE TESTING
10.0		S/A	Minn. R. 7017.2020, subp. 1	Initial Performance Test: due before 10/31/2012, to measure PM10 and opacity of emissions from SV010.
11.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Initial Performance Test for PM10 and opacity emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval of the MPCA.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** GP 010 Ash Loadout

**Associated Items:** FS 005 Wood Ash Loadout

FS 006 Coal Fly Ash Loadout

	NC/ CA	Type	Citation	Requirement
1.0		CD	Title I Condition: 40 CFR Section 52.21(k) Ambient Impacts Analysis	Ash shall be wetted prior to loadout.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** EU 001 Boiler #7

**Associated Items:** CE 001 Centrifugal Collector - Medium Efficiency

CE 002 Electrostatic Precipitator - High Efficiency

GP 001 Boilers 7 and 9 SO<sub>2</sub> limits

GP 002 Boilers 7, 9, and 10 and makeup air heater NO<sub>x</sub> cap

MR 006 Boiler 7 Opacity

MR 015 Boiler 7 CO<sub>2</sub>

MR 016 Boiler 7 SO<sub>2</sub>

SV 002 Boiler No. 7

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND OPERATING LIMITS [See Subject Items GP001 and GP002 for additional applicable emission limits for sulfur dioxide and nitrogen oxides.]
2.0		LIMIT	Minn. R. 7011.0510, subp. 1	Total Particulate Matter: less than or equal to 0.60 lbs/million Btu heat input using 3-hour Average
3.0		LIMIT	Title I Condition: 40 CFR 52.21(k); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.30 lbs/million Btu heat input using 3-hour Average
4.0		LIMIT	Minn. R. 7011.0510, subp. 1	Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 3-hour Average when combusting coal
5.0		LIMIT	Minn. R. 7011.0510, subp. 2	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.
6.0		LIMIT	Minn. R. 7017.2025, subp. 3; Minn. R. 7017.2025, subp. 3a	Steam Flow: less than or equal to 79420 lbs/hour using 8-hour Block Average , unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA- approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change.  Readings shall be taken every 15 minutes of operation and used to calculate the 8-Hour Block Average. The readings may be taken from the SO <sub>2</sub> CEMS data, or may be independently taken.
7.0		CD	Minn. R. 7007.0800, subp. 2	Fuels Allowed: subbituminous coal, and bituminous coal. (Natural gas was removed as an allowable fuel, at the request of the Permittee.)
8.0		CD	40 CFR Part 63, Subpart DDDDD	Comply with 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated and amended.
9.0		CD	hdr	CONTROL REQUIREMENTS (See Subject Items CE001 and CE002 for additional control equipment operating requirements, including CAM requirements)
10.0		CD	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the electrostatic precipitator (CE002) any time that EU001 is in operation, within the manufacturer's printed guidelines. The Permittee shall document periods of non-operation of the control equipment.
11.0		CD	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain CE 001 any time that EU001 is in operation. The Permittee shall document periods of non-operation of the control equipment.
12.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain CE002 such that it achieves an overall control efficiency for PM < 10 micron: greater than or equal to 95 percent control efficiency
13.0		LIMIT	Minn. R. 7007.0800, subp. 2	The Permittee shall operate and maintain CE002 such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 95 percent control efficiency
14.0		CD	hdr	MONITORING REQUIREMENTS



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

15.0		CD	Minn. R. 7007.0800, subp. 2	Emission Monitoring: The Permittee shall use a COMS on SV 002 to measure opacity emissions from EU001. See Subject Item GP005 and Table B for specific COMS requirements.
16.0		CD	Minn. R. 7007.0800, subp. 2	Emissions Monitoring: The Permittee shall use a SO2 CEMS on SV002 to measure SO2 emissions from EU001. See Subject Item GP006 and Table B for specific CEMS requirements.
17.0		CD	hdr	RECORDKEEPING
18.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5	Fuel Usage Recordkeeping: by the 15th day of each month, the Permittee shall record the EU 001 fuel usage (for each permitted fuel) for the previous calendar month. The monthly values shall be used in the NOx emissions calculation equation (Equation 1) in the total facility section of this permit.
19.0		CD	Minn. R. 7007.0800, subp. 2	Each day, calculate and record the three (3) 8-hour block average steam flows for the previous day.  A day may be defined as a calendar day, or as another 24 hour period of the Permittee's choice. However it is defined, it must be consistently used in that way for the boiler.
20.0		CD	hdr	PERFORMANCE TESTING
21.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 12/09/2005 to measure Total Particulate Matter emissions while burning coal. The tests shall be conducted at an interval not to exceed 60 months between test dates. The next test is due before 11/30/2015.
22.0		S/A	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	Performance Test: due before end of each 60 months starting 12/09/2005 for PM10 emissions while burning coal. The tests shall be conducted at an interval not to exceed 60 months between test dates. The next test is due before 11/30/2015.
23.0		S/A	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000	Performance Test: due before end of each 24 months starting 01/01/2007 to measure NOx emissions while burning coal. The NOx tests is for the purpose of determining the NOx emission factor (EF1) for use in Equation 1 in the GP002 section of the permit. The next test is due before October 31, 2012.
24.0		CD	Minn. R. 7017.2025, subp. 2(A) and 3(B)	Boiler Alternative Operating Conditions for Performance Testing:  Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing.  In no case will the new operating rate limit be higher than allowed by an existing permit condition.
25.0		CD	Minn. R. 7017.2025, subp. 3(B)	Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:  If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following:  (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate.  (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate.  In no case will the new operating rate limit be higher than allowed by an existing permit condition.
26.0		CD	Minn. R. 7007.0800, subp. 2	STET (Short Term Emergency and Testing) Operating hours limit:  The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.





## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

27.0		CD	Minn. R. 7007.0800, subp. 2	<p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>If performance test results demonstrate compliance at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test.</p> <p>If performance test results demonstrate compliance at greater than 80% of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p>
28.0		CD	Minn. R. 7017.2020, subp. 4	<p>The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001-7017.2060.</p>



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** EU 003 Boiler #9

**Associated Items:** CE 003 Electrostatic Precipitator - High Efficiency

GP 001 Boilers 7 and 9 SO<sub>2</sub> limits

GP 002 Boilers 7, 9, and 10 and makeup air heater NO<sub>x</sub> cap

MR 008 Boiler 9 Opacity

MR 017 Boiler 9 CO<sub>2</sub>

MR 018 Boiler 9 SO<sub>2</sub>

SV 003 Boiler No. 9

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND FUEL TYPE LIMITS [See Subject Items GP001 and GP002 for additional applicable emission limits for sulfur dioxide and nitrogen oxides.]
2.0		LIMIT	Minn. R. 7011.0510, subp. 1	Total Particulate Matter: less than or equal to 0.60 lbs/million Btu heat input using 3-hour Average
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.30 lbs/million Btu heat input using 3-hour Average
4.0		LIMIT	Minn. R. 7011.0510, subp. 1	Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 3-hour Average when combusting coal
5.0		LIMIT	Minn. R. 7011.0510, subp. 2	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.
6.0		CD	Minn. R. 7007.0800, subp. 2	Fuels Allowed: subbituminous coal, bituminous coal, and oily cellulose-based sorbents (including oily rags).
7.0		LIMIT	Minn. R. 7007.0800, subp. 2	Fuel Usage: less than or equal to 500 lbs/year using 12-month Rolling Sum , of oily cellulose-based sorbents (including oily rags)
8.0		CD	40 CFR Part 63, Subpart DDDDD	Comply with 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated and amended.
9.0		CD	hdr	CONTROL REQUIREMENTS (See Subject Item CE003 for additional control equipment operating requirements, including CAM requirements)
10.0		CD	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the electrostatic precipitator (CE003) any time that EU003 is in operation, within the manufacturer's printed guidelines. The Permittee shall document periods of non-operation of the control equipment.
11.0		LIMIT	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for PM < 10 micron: greater than or equal to 95 percent control efficiency
12.0		LIMIT	Minn. R. 7007.0800, subp. 2	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 95 percent control efficiency
13.0		CD	hdr	CONTINUOUS MONITORING REQUIREMENTS
14.0		CD	Minn. R. 7007.0800, subp. 2	Emission Monitoring: The Permittee shall use a COMS to measure opacity emissions from EU003. See Subject Item GP005 and Table B for specific COMS requirements.
15.0		CD	Minn. R. 7007.0800, subp. 2	Emissions Monitoring: The Permittee shall use a SO <sub>2</sub> CEMS to measure SO <sub>2</sub> emissions from EU003. See Subject Item GP006 and Table B for specific CEMS operating requirements.
16.0		CD	hdr	RECORDKEEPING



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

17.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5	Fuel Usage Recordkeeping: by the 15th day of each month the Permittee shall record the type and quantity of fuels burned in EU003 during the previous month. The monthly records for coal shall be used in the NOx emission calculation equation (Equation 1) in the total facility section of this permit.
18.0		CD	Minn. R. 7007.0800, subp. 2	By the 15th day of each month, calculate the quantity of oily cellulose-based sorbents combusted during the previous 12 months.
19.0		CD	hdr	PERFORMANCE TESTING REQUIREMENTS
20.0		S/A	Title I Condition: 40 CFR 52.21(k); Minn. R. 7007.3000	Performance Test: due before end of each 60 months starting 12/09/2005 for PM10 emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates. The next test is due before 9/30/2015.
21.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 12/09/2005 to measure Total Particulate Matter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates. The next test is due before 9/30/2015.
22.0		S/A	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000;	Performance Test: due before end of each 24 months starting 02/07/2006 to measure NOx emissions while burning coal. The NOx test is for the purpose of determining the NOx emission factor (EF3) for use in Equation 1 in the GP002 section of the permit. The next test is due before 1/31/2012.
23.0		CD	Minn. R. 7017.2025, subp. 2(A) and 3(B)	Boiler Alternative Operating Conditions for Performance Testing:  Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing.  In no case will the new operating rate limit be higher than allowed by an existing permit condition.
24.0		CD	Minn. R. 7017.2025, subp. 3(B)	Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:  If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following:  (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate.  (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate.  In no case will the new operating rate limit be higher than allowed by an existing permit condition.
25.0		CD	Minn. R. 7007.0800, subp. 2	STET (Short Term Emergency and Testing) Operating hours limit:  The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

26.0		CD	Minn. R. 7007.0800, subp. 2	<p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>If performance test results demonstrate compliance at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test.</p> <p>If performance test results demonstrate compliance at greater than 80% of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p>
27.0		CD	Minn. R. 7017.2020, subp. 4	<p>The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001-7017.2060.</p>



# COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** EU 004 Boiler #10

**Associated Items:** CE 004 Modified Furnace or Burner Design

CE 005 Flue Gas Recirculation

CE 006 Low Excess - Air Firing

GP 002 Boilers 7, 9, and 10 and makeup air heater NOx cap

MR 005 Boiler 10 NOx

MR 010 Boiler 10 CO2 (bias adjustment)

SV 004 Natural Gas Boiler 10

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND FUEL TYPE LIMITS
2.0		LIMIT	40 CFR Section 60.42Da(a)(1); 40 CFR Section 60.48Da(c); Minn. R. 7011.0560	Total Particulate Matter: less than or equal to 0.030 lbs/million Btu heat input . This limit applies at all times except during periods of startup, shutdown, or malfunction.  Based on equipment capacity and allowed fuels, PTE is approximately 0.0075 lb/MMBtu.
3.0		LIMIT	40 CFR Section 60.42Da(b); Minn. R. 7011.0560	Opacity: less than or equal to 20 percent opacity using 6 Minute Average except for one 6-minute period per hour of not more than 27 percent opacity.
4.0		LIMIT	40 CFR Section 60.43Da(b)(2); 40 CFR Section 60.48Da(c); Minn. R. 7011.0560	Sulfur Dioxide: less than or equal to 0.20 lbs/million Btu heat input using 30-day Rolling Average . This limit applies at all times except during periods of startup or shutdown.  Based on equipment capacity and allowed fuels, PTE is approximately 0.0006 lb/MMBtu.
5.0		LIMIT	40 CFR Section 60.44Da(a)(1); 40 CFR Section 60.48Da(c); Minn. R. 7011.0560	Nitrogen Oxides: less than or equal to 0.20 lbs/million Btu heat input using 30-day Rolling Average . This limit applies at all times except during periods of startup, shutdown, or malfunction.
6.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 0.10 lbs/million Btu heat input using 30-day Rolling Average
7.0		CD	Minn. R. 7007.0800, subp 2	Fuels Allowed: Natural gas only.
8.0		CD	40 CFR Part 63, Subpart DDDDD	Comply with 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated and amended.
9.0		CD	hdr	CONTINUOUS EMISSIONS MONITORING
10.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; 40 CFR Section 60.49Da(c); Minn. R. 7011.0560	Emissions Monitoring: The Permittee shall use a NOx CEMS to measure NOx emissions from EU 004, and record the output of the system. See Subject Item GP004 and Table B for specific CEMS requirements.
11.0		CD	40 CFR Section 60.49Da(d); Minn. R. 7011.0560	Emissions Monitoring: The owner or operator shall operate and maintain a CO2 or O2 analyzer at the location of the NOx CEMS, and record the output of the NOx CEMS. See Subject Item GP004 and Table B for specific CEMS requirements.
12.0		CD	hdr	RECORDKEEPING
13.0		CD	40 CFR Section 60.7(f); Minn. R. 7007.0800, subp. 5	Recordkeeping: The owner or operator must retain records of all CEMS/COMS monitoring data and support information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** EU 005 Makeup Air Heater

**Associated Items:** GP 002 Boilers 7, 9, and 10 and makeup air heater NOx cap

MR 005 Boiler 10 NOx

MR 010 Boiler 10 CO2 (bias adjustment)

SV 004 Natural Gas Boiler 10

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(1)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.
2.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(2)	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.
3.0		CD	Minn. R. 7007.0800, subp 2	Fuels Allowed: Natural gas only.



# COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** EU 006 Boiler #11 (Wood Fired)

**Associated Items:** CE 007 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

CE 008 Selective Noncatalytic Reduction for NOX

CE 009 Electrostatic Precipitator - High Efficiency

MR 011 Boiler 11 (Wood Fired) NOx

MR 012 Boiler 11 (Wood Fired) Opacity

MR 013 Boiler 11 (Wood Fired) CO

MR 014 Boiler 11 (Wood Fired) O2 (bias adjustment)

SV 005 Boiler #11 (Wood Fired)

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	40 CFR Section 60.43b(h)(1); Minn. R. 7011.0565	Total Particulate Matter: less than or equal to 0.030 lbs/million Btu heat input using 3-hour Average . This limit applies at all times except during times of startup, shutdown or malfunction.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.025 lbs/million Btu heat input using 3-hour Average
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.025 lbs/million Btu heat input using 3-hour Average
5.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14	PM < 10 micron: less than or equal to 0.019 lbs/million Btu heat input using 3-hour Average
6.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14	PM < 2.5 micron: less than or equal to 0.014 lbs/million Btu heat input using 3-hour Average
7.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14	Carbon Monoxide: less than or equal to 280 tons using 365-day Rolling Sum
8.0	NC	LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 0.58 lbs/million Btu heat input using 8-hour Block Average .  "Eight-hour block average" means the average of all hourly emission rates when the emissions unit is operating over three discrete eight-hour periods beginning at midnight.
8.1	CA	CD	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	The Permittee shall submit an Emission Control Plan (Plan) to achieve compliance with the CO BACT emission limit, within 60 days of the effective date of Amendment No. 1 of the Stipulation Agreement. Include for the Agency's review a summary of the unit's history of CO BACT compliance, the actions that have already been taken in the attempt to achieve compliance, the success of those actions, and a complete evaluation of supplemental natural gas firing and other options as needed to control CO emissions during startup events and during process problems including fuel flow interruptions. The Plan shall also include an implementation schedule.
9.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 0.15 lbs/million Btu heat input based on a 30-day rolling average.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

10.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14	Nitrogen Oxides: less than or equal to 120 tons using 365-day Rolling Sum
11.0		LIMIT	40 CFR Section 60.43b(f); Minn. R. 7011.0565	Opacity: less than or equal to 20 percent based on a 6-minute average, except for one 6-minute period per hour of not more than 27 percent opacity.  This limit applies at all times, except during periods of startup, shutdown or malfunction.
12.0		CD	hdr	OPERATING LIMITS
13.0		LIMIT	Minn. R. 7017.2025, subp. 3	Steam Flow: less than or equal to 123,304 lbs/hour using 8-hour Block Average , unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA- approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change.  Readings shall be taken every 15 minutes of operation and used to calculate the 8-Hour Block Average for the wood fired boiler.
14.0		CD	Minn. R. 7007.0800, subp. 2	Ammonia Slip: Limited to less than or equal to 25 ppm. If the ammonia slip exceeds this level, the SNCR system shall be adjusted to reduce the ammonia slip to less than 25 ppm, or shut down until repairs are made and normal operating conditions are achieved.  Compliance shall be determined by monitoring the injection temperature and reagent feed rate. The minimum temperature window and maximum feed rate shall be determined by the performance testing required below.
15.0		CD	Minn. R. 7007.0800, subp. 2	Fuel use limited to untreated wood, such as, but not limited to, logging waste, trees, brush, etc.  Untreated wood is defined as any wood that has not been subject to any chemical treatment or coating. Examples are:  1) untreated residuals from manufacturing processes such as furniture, cabinet, and pallet making and other wood product manufacture; 2) construction waste; 3) urban and park tree trimming and forest residuals; 4) wood from trees downed by storms; 5) trees removed for urban development; 6) trees grown specifically to be used as fuel; and 7) trees removed as part of a timber management plan.
16.0		CD	40 CFR Part 63, Subpart DDDDD	Comply with 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated and amended.
17.0		CD	40 CFR Section 60.11(d)	At all times, including periods of startup, shutdown, and malfunction, owners or operators shall, to the extent practical, maintain and operate EU 006 (the affected facility), including the associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions.
18.0		CD	hdr	CONTROL REQUIREMENTS (See Subject Items CE007, CE008, and CE009 for additional control equipment operating requirements, including CAM requirements)
19.0		CD	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment (CE007 and CE008) at any time that EU006 is in operation. The Permittee shall document periods of non-operation of the control equipment.
20.0		CD	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	The Permittee shall operate and maintain the electrostatic precipitator (CE009) any time that EU006 is in operation, within the manufacturer's printed guidelines. The Permittee shall document periods of non-operation of the control equipment.
21.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	The Permittee shall operate and maintain CE009 such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 96 percent control efficiency
22.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	The Permittee shall operate and maintain CE009 such that it achieves an overall control efficiency for PM < 10 micron: greater than or equal to 95 percent control efficiency





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23.0		LIMIT	Minn. R. 7007.0800, subp. 2	The Permittee shall operate and maintain CE009 such that it achieves an overall control efficiency for PM < 2.5 micron: greater than or equal to 94 percent control efficiency
24.0		CD	hdr	CONTINUOUS MONITORING REQUIREMENTS
25.0		CD	Title I Condition: 40 CFR Section 52.21(j) (BACT) and Minn. R. 7007.3000	Install, maintain, and operate a continuous monitor to measure the CO emissions. See Subject Item GP006 and Table B for specific CEMS requirements.
26.0		CD	40 CFR Section 60.48b(a); Minn. R. 7011.0565; Minn. R. 7017.0200	Install, maintain, and operate a continuous monitor to measure the opacity of stack emissions. See Subject Item GP005 and Table B for specific COMS requirements.
27.0		CD	Title I Condition: 40 CFR Section 52.21 (BACT) and Minn. R. 7007.3000; Minn. R. 7017.0200	Install, operate and maintain a continuous monitor to measure stack nitrogen oxides emissions. Installation, operation and maintenance shall be in accordance with 40 CFR Section 60.15 and 40 CFR 60, Appendix B. See Subject Item GP004 and Table for specific CEMS requirements.
28.0		CD	hdr	RECORDKEEPING
29.0		CD	40 CFR Section 60.7(b)	Keep all records readily available and on site for a period of 5 years.  Maintain relevant records of each startup, shutdown, or malfunction of operation equipment and the occurrence and duration of each malfunction of the required air pollution control and monitoring equipment.
30.0		CD	40 CFR Section 60.7(f)	Maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection.
31.0		CD	Title I Condition: To avoid classification as major modification under 40 CFR 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR 52.21; Minn. R. 7007.0800, subps. 2, 4 and 5	CO Calculation and Recordkeeping - Rolling Sum.  The Permittee shall calculate and record the CO emissions from EU 006 (SV 005) for each day and the previous 364 days (365-day rolling sum). All CO emissions from EU 006 shall be included in the calculation of the rolling sum.
32.0		CD	Title I Condition: To avoid classification as major modification under 40 CFR 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR 52.21; Minn. R. 7007.0800, subps. 2, 4 and 5	NOx Calculation and Recordkeeping - Rolling Sum.  The Permittee shall calculate and record the NOx emissions from EU 006 (SV 005) for each day and the previous 364 days (365-day rolling sum). All NOx emissions from EU 006 shall be included in the calculation of the rolling sum.
33.0		CD	Minn. R. 7007.0800, subp. 2	Steam Flow Calculation and Recordkeeping.  Each day, calculate and record the three (3) 8-hour block average steam flows for the previous day.  A day may be defined as a calendar day, or as another 24 hour period of the Permittee's choice. However it is defined, it must be consistently used in that way for the boiler.
34.0		CD	hdr	PERFORMANCE TESTING
35.0		S/A	Title I Condition: 40 CFR 52.21(j) (BACT) and Minn. R. 7007.3000; 40 CFR Section 60.43b(c)(1); Minn. R. 7011.0565	Performance Test: due before end of each 60 months starting 02/23/2012 to measure PM emissions from EU 006. The performance tests shall be conducted at an interval not to exceed 60 months between tests. The next test required under this condition shall be conducted by 02/23/2017.
36.0		S/A	Title I Condition: 40 CFR 52.21(j) (BACT) and Minn. R. 7007.3000	Performance Test: due before end of each 60 months starting 02/23/2012 to measure PM10 emissions from EU 006. The performance tests shall be conducted at an interval not to exceed 60 months between tests. The next test required under this condition shall be conducted by 02/23/2017.
37.0		S/A	Minn. R. 7017.2020, subp. 1; Minn. R. 7007.0800, subp. 5	Initial Performance Test: due 180 days after Permit Issuance to measure PM2.5 emissions from EU 006.



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38.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Initial Performance Test for PM2.5 emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval of the MPCA.
39.0		S/A	Minn. R. 7007.0800, subp. 2	Performance Test: due before end of each 24 months starting 11/19/2009 for Ammonia Slip. Test must be conducted simultaneously with a PM10/PM2.5 test. The next test is due before 11/30/2011.
40.0		CD	40 CFR Section 60.46b(d-e); Minn. R. 7011.0565	Performance tests and procedures under 40 CFR Section 60.46b(d) must be followed.
41.0		CD	Minn. R. 7017.2025, subp. 2(A) and 3(B)	<p>Boiler Alternative Operating Conditions for Performance Testing:</p> <p>Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p>
42.0		CD	Minn. R. 7017.2025, subp. 3(B)	<p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following:</p> <p>(1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate.</p> <p>(2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p>
43.0		CD	Minn. R. 7007.0800, subp. 2	<p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.</p>
44.0		CD	Minn. R. 7007.0800, subp. 2	<p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>If performance test results demonstrate compliance at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test.</p> <p>If performance test results demonstrate compliance at greater than 80% any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p>



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** CE 001 Centrifugal Collector - Medium Efficiency

**Associated Items:** EU 001 Boiler #7

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND OPERATIONAL LIMITS
2.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the collector in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
3.0		CD	hdr	RECORDKEEPING AND MONITORING REQUIREMENTS
4.0		CD	Minn. R. 7007.0800, subps. 4, 5 & 14	Periodic Inspections: At least semiannually, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** CE 002 Electrostatic Precipitator - High Efficiency

**Associated Items:** EU 001 Boiler #7

	NC/ CA	Type	Citation	Requirement
1.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Operation and Maintenance of ESP: The Permittee shall operate and maintain the ESP in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and review by MPCA staff.
2.0		CD	Title I Condition: 40 CFR Section 52.21(k) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5.	The Permittee shall record the total power input to CE002 once each day of operation of EU001. If the total power input is below the minimum described below, take corrective action (as outlined in the O&M Plan for the facility) within 24 hours of discovery to return to the minimum power input. This is considered an excursion as defined in 40 CFR Section 64.1. Make a record of all corrective actions taken.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(k) and Minn. R. 7007.3000; Minn. R. 7017.20205, subp. 3; Minn. R. 7007.0800, subp. 5.	Total Power Input: greater than or equal to 6.0 kilowatts using 3-hour Block Average , unless a new minimum total power input is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum power input is required to be set, it will be based on the average power input recorded during the most recent MPCA approved performance test where compliance for Total Particulate Matter and/or Particulate Matter less than 10 microns emissions was demonstrated. If the three-hour rolling average total secondary power input drops below the minimum limit, this shall be reported as a deviation.
4.0		LIMIT	40 CFR Section 64.3; Minn. R. 7017.0200	Opacity: less than or equal to 17.0 percent opacity using 3-hour Rolling Average . Opacity in excess of this limit shall be considered an excursion under 40 CFR Section 64.6(c)(2), for purposes of the PM limit for EU001. This applies for all types and qualities of fuel burned in EU001.
5.0		LIMIT	40 CFR Section 64.3; Minn. R. 7017.0200	Opacity: less than or equal to 10.0 percent opacity using 3-hour Rolling Average . Opacity in excess of this limit shall be considered an excursion under 40 CFR Section 64.6(c)(2), for purposes of the PM10 limit for EU001. This applies for all types and qualities of fuel burned in EU001.
6.0		CD	40 CFR Section 64.4(b)(4)(ii); Minn. R. 7017.0200	Continuous Monitoring: The Permittee shall continuously, or at a minimum once every 15 minutes, monitor the opacity of the ESP exhaust. [See Subject Item GP005 for specific COMS operating requirements.]
7.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Monitoring Equipment: The necessary monitoring equipment must be installed, in use, and properly maintained, including maintaining the necessary parts for routine repairs of the monitoring equipment, whenever operation of the monitored control equipment is required.
8.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Periodic Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. If it is not possible to perform this inspection because the boiler experienced no downtime during the calendar quarter, this should be noted in the written inspection record.
9.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
10.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Annual Calibration: The Permittee shall calibrate the total power input monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.
11.0		CD	40 CFR Section 64.7(d); Minn. R. 7017.0200	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: <ul style="list-style-type: none"> <li>- the monitored opacity, averaged over any 3-hour period, exceeds 17%; or</li> <li>- the total power input is below the required operating level; or</li> <li>- the ESP or any of its components are found during the inspections to need repair.</li> </ul> Corrective actions shall return operation to within the permitted range/level and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken for the ESP.



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12.0		CD	40 CFR Section 64.7(e); Minn. R. 7017.0200	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing opacity which is considered and excursion, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes.
13.0		CD	40 CFR Section 64.7(a)(2); Minn. R. 7017.0200	<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit, and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64:</p> <p>1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and</p> <p>2) Summary information on the number, duration, and cause for monitor downtime incidents.</p>
14.0		CD	40 CFR Section 64.9(b); Minn. R. 7017.0200	The Permittee shall maintain records of monitoring data, monitor performance, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** CE 003 Electrostatic Precipitator - High Efficiency

**Associated Items:** EU 003 Boiler #9

	NC/ CA	Type	Citation	Requirement
1.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Operation and Maintenance of ESP: The Permittee shall operate and maintain the ESP in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and review by MPCA staff.
2.0		CD	Title I Condition: 40 CFR Section 52.21(k) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5.	The Permittee shall record the total power input to CE003 once each day of operation of EU003. If the total power input is below the minimum described below, take corrective action (as outlined in the O&M Plan for the facility) within 24 hours of discovery to return to the minimum power input. This is considered an excursion as defined in 40 CFR Section 64.1. Make a record of all corrective actions taken.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(k) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5.	Total Power Input: greater than or equal to 8.0 kilowatts using 3-hour Block Average , unless a new minimum total power input is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum power input is required to be set, it will be based on the average power input recorded during the most recent MPCA approved performance test where compliance for Total Particulate Matter and/or Particulate Matter less than 10 microns emissions was demonstrated. If the three-hour rolling average total secondary power input drops below the minimum limit, this shall be reported as a deviation.
4.0		LIMIT	40 CFR Section 64.3; Minn. R. 7017.0200	Opacity: less than or equal to 23.0 percent opacity using 3-hour Rolling Average . Opacity in excess of this limit shall be considered an excursion under 40 CFR Section 64.6(c)(2), for purposes of the PM limit for EU003. This applies for all types and qualities of fuel burned in EU003.
5.0		LIMIT	40 CFR Section 64.3; Minn. R. 7017.0200	Opacity: less than or equal to 29.0 percent opacity using 3-hour Rolling Average . Opacity in excess of this limit shall be considered an excursion under 40 CFR Section 64.6(c)(2), for purposes of the PM10 limit for EU003. This applies for all types and qualities of fuel burned in EU003.
6.0		CD	40 CFR Section 64.4(b)(4)(ii); Minn. R. 7017.0200	Continuous Monitoring: The Permittee shall continuously, or at a minimum once every 15 minutes, monitor the opacity of the ESP exhaust. [See Subject Item GP005 for specific COMS operating requirements.]
7.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Monitoring Equipment: The necessary monitoring equipment must be installed, in use, and properly maintained, including maintaining the necessary parts for routine repairs of the monitoring equipment, whenever operation of the monitored control equipment is required.
8.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Periodic Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. If it is not possible to perform this inspection because the boiler experienced no downtime during the calendar quarter, this should be noted in the written inspection record.
9.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
10.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Annual Calibration: The Permittee shall calibrate the total power input monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.
11.0		CD	40 CFR Section 64.7(d); Minn. R. 7017.0200	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: <ul style="list-style-type: none"> <li>- the monitored opacity, averaged over any 3-hour period, exceeds 23%; or</li> <li>- the total power input is below the required operating level; or</li> <li>- the ESP or any of its components are found during the inspections to need repair.</li> </ul> Corrective actions shall return operation to within the permitted range/level and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken for the ESP.



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12.0		CD	40 CFR Section 64.7(e); Minn. R. 7017.0200	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing opacity which is considered and excursion, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes.
13.0		CD	40 CFR Section 64.7(a)(2); Minn. R. 7017.0200	<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit, and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64:</p> <p>1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and</p> <p>2) Summary information on the number, duration, and cause for monitor downtime incidents.</p>
14.0		CD	40 CFR Section 64.9(b); Minn. R. 7017.0200	The Permittee shall maintain records of monitoring data, monitor performance, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** CE 007 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

**Associated Items:** EU 006 Boiler #11 (Wood Fired)

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND OPERATIONAL LIMITS
2.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the collector in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
3.0		CD	hdr	RECORDKEEPING AND MONITORING REQUIREMENTS
4.0		CD	Minn. R. 7007.0800, subps. 4, 5 & 14	Periodic Inspections: At least semiannually, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.





## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** CE 008 Selective Noncatalytic Reduction for NOX

**Associated Items:** EU 006 Boiler #11 (Wood Fired)

	NC/ CA	Type	Citation	Requirement
1.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	The Permittee shall operate and maintain the SNCR in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
2.0		CD	Title I Condition: 40 CFR 52.21(j)(BACT); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14	The Permittee shall record the urea feed rate and injection temperature once each day of operation of EU006. If the feed rate is above the maximum listed in this permit, or if the temperature is below the minimum listed in this permit, take corrective action (as outlined in the O & M plan) within 24 hours of discovery. This is considered an excursion s defined in 40 CFR Section 64.1. Record the time and date of each reading and all corrective actions taken.
3.0		CD	Title I Condition: 40 CFR 52.21(j); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14	Injection Temperature: greater than or equal to 80 degrees Fahrenheit using 3-hour Block Average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA- approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change.
4.0		CD	Title I Condition: 40 CFR 52.21(j); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14	Maximum Urea Feed Rate: less than or equal to 3.1 gallons/hr using 3-hour Block Average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change.
5.0		CD	Minn. R. 7007.0800, subp. 2	The SNCR system will be adjusted or may be shut down when the ammonia slip exceeds the limit set at EU006, until such time as the system is returned to normal operation.
6.0		CD	40 CFR Section 64.7(a); Minn. R. 7007.0800, subp. 2; Minn. R. 7017.0200	SNCR monitoring: The NOX CEMS (MR011) for the emission unit (EU006) shall be used to assess proper operation of the SNCR.
7.0		CD	40 CFR Section 64.3(b)(4)(ii); Minn. R. 7017.0200	Continuous Monitoring: The Permittee shall continuously, or at a minimum once every 15 minutes, monitor the NOX emissions in the exhaust.  See Subject Item GP004 for specific CEMS operating requirements.
8.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording the Urea Feed Rate and Injection Temperature as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored SNCR is in operation.
9.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Periodic Inspections: At least semiannually, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.
10.0		CD	40 CFR Section 64.7(d); Minn. R. 7017.0200	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:  - The recorded urea feed rate is outside the required operating range; or - The recorded injection temperature is outside the required operating range; or - The SNCR or any of its components are found during the inspections to need repair.  Corrective actions shall return the Urea feed rate to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the SNCR. The Permittee shall keep a record of the type and date of any corrective action taken.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

11.0		CD	40 CFR Section 64.7(e); Minn. R. 7017.0200	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing opacity which is considered and excursion, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes.
12.0		CD	40 CFR Section 64.7(a)(2); Minn. R. 7017.0200	<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit, and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64:</p> <p>1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and</p> <p>2) Summary information on the number, duration, and cause for monitor downtime incidents.</p>
13.0		CD	40 CFR Section 64.9(b); Minn. R. 7017.0200	The Permittee shall maintain records of monitoring data, monitor performance, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** CE 009 Electrostatic Precipitator - High Efficiency

**Associated Items:** EU 006 Boiler #11 (Wood Fired)

	NC/ CA	Type	Citation	Requirement
1.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Operation and Maintenance of ESP: The Permittee shall operate and maintain the ESP in accordance with the O & M Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and review by MPCA staff.
2.0		CD	Title I Condition: 40 CFR Section 52.21(j) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5.	The Permittee shall record the total power input to CE009 once each day of operation of EU006. If the total power input is below the minimum described below, take corrective action (as outlined in the O&M Plan for the facility) within 24 hours of discovery to return to the minimum power input. This is considered an excursion as defined in 40 CFR Section 64.1. Make a record of all corrective actions taken.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21(j) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5.	Total Power Input: greater than or equal to 42.0 kilowatts using 3-hour Block Average , unless a new minimum total power input is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum power input is required to be set, it will be based on the average power input recorded during the most recent MPCA approved performance test where compliance for Total Particulate Matter and/or Particulate Matter less than 10 microns emissions was demonstrated. If the three-hour rolling average total secondary power input drops below the minimum limit, this shall be reported as a deviation.
4.0		LIMIT	40 CFR Section 64.3; Minn. R. 7017.0200	Opacity: less than or equal to 29.0 percent opacity using 3-hour Rolling Average . Opacity in excess of this limit shall be considered an excursion under 40 CFR Section 64.6(c)(2), for purposes of the PM limit for EU006. This applies for all types and qualities of fuel burned in EU006.
5.0		LIMIT	40 CFR Section 64.3; Minn. R. 7017.0200	Opacity: less than or equal to 26.0 percent . Opacity in excess of this limit shall be considered an excursion under 40 CFR Section 64.6(c)(2), for purposes of the PM10 limit for EU006. This applies for all types and qualities of fuel burned in EU006
6.0		LIMIT	40 CFR Section 64.3; Minn. R. 7017.0200	Opacity: less than or equal to 34.0 percent . Opacity in excess of this limit shall be considered an excursion under 40 CFR Section 64.6(c)(2), for purposes of the PM2.5 limit for EU006. This applies for all types and qualities of fuel burned in EU006
7.0		CD	40 CFR Section 64.4(b)(4)(ii); Minn. R. 7017.0200	Continuous Monitoring: The Permittee shall continuously, or at a minimum once every 15 minutes, monitor the opacity of the ESP exhaust. [See Subject Item GP005 for specific COMS operating requirements.]
8.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Monitoring Equipment: The necessary monitoring equipment must be installed, in use, and properly maintained, including maintaining the necessary parts for routine repairs of the monitoring equipment, whenever operation of the monitored control equipment is required.
9.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Periodic Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. If it is not possible to perform this inspection because the boiler experienced no downtime during the calendar quarter, this should be noted in the written inspection record.
10.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
11.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Annual Calibration: The Permittee shall calibrate the total power input monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

12.0		CD	40 CFR Section 64.7(d); Minn. R. 7017.0200	<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"><li>- the monitored opacity, averaged over any 3-hour period, exceeds 23%; or</li><li>- the total power input is below the required operating level; or</li><li>- the ESP or any of its components are found during the inspections to need repair.</li></ul> <p>Corrective actions shall return operation to within the permitted range/level and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken for the ESP.</p>
13.0		CD	40 CFR Section 64.7(e); Minn. R. 7017.0200	<p>Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing opacity which is considered and excursion, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes.</p>
14.0		CD	40 CFR Section 64.7(a)(2); Minn. R. 7017.0200	<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit, and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64:</p> <ol style="list-style-type: none"><li>1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and</li><li>2) Summary information on the number, duration, and cause for monitor downtime incidents.</li></ol>
15.0		CD	40 CFR Section 64.9(b); Minn. R. 7017.0200	<p>The Permittee shall maintain records of monitoring data, monitor performance, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.</p>



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** FS 009 Truck Traffic

	NC/ CA	Type	Citation	Requirement
1.0		CD	Title I Condition: 40 CFR Section 52.21(k), Ambient Impacts Analysis	<p>Under dry pavement conditions, if the temperature is less than 32 degrees F, sweeping of all traffic areas is required after every 32 trucks.</p> <p>Under dry pavement conditions, if the temperature is greater than 32 degrees F, sweeping and flushing are required after every 32 trucks.</p> <p>Sweeping and/or flushing is not required if the pavement is wet, or snow or ice covered.</p>



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 005 Boiler 10 NOx

**Associated Items:** CM 004 Boiler 10: 0.105 lbs NOx/mmBtu, EU004, 30 DRA

EU 004 Boiler #10

EU 005 Makeup Air Heater

GP 004 NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.
2.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 006 Boiler 7 Opacity

**Associated Items:** CM 005 Boiler 7: 20% Opacity, EU001, 6-min ave.

EU 001 Boiler #7

GP 005 Opacity Monitors

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1220	COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a Calibration Error Audit was conducted.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 008 Boiler 9 Opacity

**Associated Items:** CM 006 Boiler 9: 20% Opacity, EU003, 6-min ave.

EU 003 Boiler #9

GP 005 Opacity Monitors

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1220	COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a Calibration Error Audit was conducted.





## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 010 Boiler 10 CO2 (bias adjustment)

**Associated Items:** CM 004 Boiler 10: 0.105 lbs NOx/mmBtu, EU004, 30 DRA

EU 004 Boiler #10

EU 005 Makeup Air Heater

GP 004 NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.
2.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 011 Boiler 11 (Wood Fired) NOx

**Associated Items:** EU 006 Boiler #11 (Wood Fired)

GP 006 Non-NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.
2.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 012 Boiler 11 (Wood Fired) Opacity

**Associated Items:** EU 006 Boiler #11 (Wood Fired)

GP 005 Opacity Monitors

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1220	COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a Calibration Error Audit was conducted.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 013 Boiler 11 (Wood Fired) CO

**Associated Items:** EU 006 Boiler #11 (Wood Fired)

GP 006 Non-NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.
2.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 014 Boiler 11 (Wood Fired) O2 (bias adjustment)

**Associated Items:** EU 006 Boiler #11 (Wood Fired)

GP 006 Non-NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.
2.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 015 Boiler 7 CO2

**Associated Items:** CM 001 Boiler 7: 2.5 lbs SO2/mmBtu, EU001, 1-hr ave.

CM 003 Boiler 7 & 9: 1.6 lbs SO2/mmBtu, EU001 & EU003, 1-hr ave.

EU 001 Boiler #7

GP 001 Boilers 7 and 9 SO2 limits

GP 006 Non-NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.
2.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 016 Boiler 7 SO<sub>2</sub>

**Associated Items:** CM 001 Boiler 7: 2.5 lbs SO<sub>2</sub>/mmBtu, EU001, 1-hr ave.

CM 003 Boiler 7 & 9: 1.6 lbs SO<sub>2</sub>/mmBtu, EU001 & EU003, 1-hr ave.

EU 001 Boiler #7

GP 001 Boilers 7 and 9 SO<sub>2</sub> limits

GP 006 Non-NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.
2.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.



## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 017 Boiler 9 CO2

**Associated Items:** CM 002 Boiler 9: 2.5 lbs SO2/mmBtu, EU003, 1-hr ave.

CM 003 Boiler 7 & 9: 1.6 lbs SO2/mmBtu, EU001 & EU003, 1-hr ave.

EU 003 Boiler #9

GP 001 Boilers 7 and 9 SO2 limits

GP 006 Non-NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.
2.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.





## COMPLIANCE PLAN **CD-01**

Facility Name: Virginia Department of Public Utilities

Permit Number: 13700028 - 010

**Subject Item:** MR 018 Boiler 9 SO<sub>2</sub>

**Associated Items:** CM 002 Boiler 9: 2.5 lbs SO<sub>2</sub>/mmBtu, EU003, 1-hr ave.

CM 003 Boiler 7 & 9: 1.6 lbs SO<sub>2</sub>/mmBtu, EU001 & EU003, 1-hr ave.

EU 003 Boiler #9

GP 001 Boilers 7 and 9 SO<sub>2</sub> limits

GP 006 Non-NSPS CEMS

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7017.1180, subp. 3	Relative Accuracy Test Audit (RATA) Results Summary: due before end of each calendar year starting 01/18/2012 if a RATA was conducted. The Results Summary is due 30 days after the end of the calendar quarter in which the RATA was completed.
2.0		S/A	Minn. R. 7017.1180, subp. 1	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter starting 01/18/2012 in which a CGA was conducted.

## **Attachment 3**

### **Points Calculator**

## Points Calculator

1) AQ Facility ID No.: 13700028  
 2) Facility Name: Virginia Department of Public Utilities  
 3) Small business? y/n? n  
 4) DQ Numbers (including all rolled) : 3891  
 5) Date of each Application Received: 4/9/2012  
 6) Final Permit No. 13700028-010  
 7) Permit Staff RMC  
 8) "Work completed" in which .xls file (i.e. unit 2b, unit 1a, biofuels)?

Total Points	45
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Application Type	DQ No.	Qty.	Points	Total Points	Details
Administrative Amendment			1	0	
Minor Amendment			4	0	
Applicability Request			10	0	
Moderate Amendment			15	0	
Major Amendment	3891	1	25	25	
Individual State Permit (not reissuance)			50	0	
Individual Part 70 Permit (not reissuance)			75	0	

### Additional Points

Modeling Review			15	0	
BACT Review			15	0	
LAER Review			15	0	
CAIR/Part 75 CEM analysis			10	0	
NSPS Review			10	0	
NESHAP Review			10	0	
Case-by-case MACT Review			20	0	
Netting			10	0	
Limits to remain below threshold	3891	2	10	20	
Plantwide Applicability Limit (PAL)			20	0	
AERA review			15	0	
Variance request under 7000.7000			35	0	
Confidentiality request under 7000.1300			2	0	
EAW review					
Part 4410.4300, subparts 18, item A; and 29			15	0	
Part 4410.4300, subparts 8, items A & B; 10, items A to C; 16, items A & D; 17, items A to C & E to G; and 18, items B & C			35	0	
Part 4410.4300, subparts 4; 5 items A & B; 13; 15; 16, items B & C; and 17 item D			70	0	
			Add'l Points	20	

Avoid PSD for PM10, PM2.5, CO, & NOx; avoid EAW for CO

### NOTES:

Fee for major amendment paid (25 pts, \$7125) with submittal of original permit application (DQ# 3811, submitted 1/19/2012).

# **Attachment 4**

## **CAM Plans**

# Compliance Assurance Monitoring Plan Electrostatic Precipitator for Particulate Matter Control

## I. Background

### A. Source Information

**Facility:** Virginia Public Utilities  
618 2<sup>nd</sup> Street South  
Virginia, MN 55792

**Emission Unit(s) Description:** Boiler 11  
**Emission Unit(s) ID:** EU006  
**Stack ID:** SV005  
**APCD ID:** CE007  
CE008  
CE009

### B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

**Regulation:** Permit 13700028-008, MN Rule 7011.0510, subpart 1  
**Emissions Limit:** Particulate Matter (PM): 0.025 lb/MMBtu  
**Current monitoring requirements:** None.

**C. Control Technology:** Electrostatic precipitator (ESP).

## II. Monitoring Approach

**Table 1. Monitoring Approach**

I. Indicator Measurement Approach	Opacity.
	The opacity measured in each boiler stack by the continuous opacity monitoring (COM) system is used as a surrogate for PM emissions.
II. Indicator Range	An excursion is defined as a 1-hour average opacity greater than 29%. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The opacity is measured using the instrumentation the manufacturer provided with the COM system.
B. Verification of Operational Status	NA – The COM system is already installed.
C. QA/QC Practices and Criteria	COM system installed and operated according to manufacturer's instructions.
D. Monitoring Frequency	The opacity is measured continuously.
Data Collection Procedures	The data acquisition system (DAS) records the opacity one minute data electronically.
Averaging period	Continuous opacity readings are reduced to 6 minute averages for opacity measurements, and further reduced to hourly averages for comparison to the indicator range listed above.

### III. Monitoring Approach Justification

#### (a) Background

The pollutant-specific emission unit#EU006 is a biomass-fired boiler. It is rated at 135,000 pounds of steam per hour.

EU006 operates typically ~10 months of the year. It has a 6 week major maintenance completed annually.

EU006 is subject New Source Performance Standards (NSPS) and is equipped with an ESP to control PM emissions. Continuous Opacity, CO and NOx emission monitors are installed on the boiler stack.

#### (b) Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes, a discharge electrode and a collection electrode. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection electrodes. The particulate matter is separated from the gas stream by retention on the collection electrode. Particulate is removed from the collection plates by shaking or rapping the plates.

Rather than monitoring PM emissions by measuring the performance of the ESP directly, advantage is taken of the installed COM system which has opacity monitors located on each stack. To develop a correlation between opacity and PM emissions, PM emissions data obtained from the most recent performance test (conducted in November, 2010) were compared with concurrent opacity data reported by the COM system (see Table 2).

First, the performance test results report PM emissions at 16 percent of the allowable PM emission limits of 0.025 lb/MM Btu for this emission unit. In other words, this ESP has a medium margin of compliance with the PM limit.

Second, as seen from Table 2, the performance test results show PM emissions of 0.004 lb/MM Btu with concurrent opacity measurements from the COM system (averaged over the one-hour test periods) ranging from 5.5 to 5.7 percent. Because the available performance test data show that each boiler meets the particulate limit of 0.6 lb/MM Btu when the opacity is below 29 percent, opacity is monitored as an indicator that the boiler is continuing to operate properly.

#### (c) Rationale for Selection of Indicator Ranges

An excursion will be defined as an hourly average opacity greater than 30 percent. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

The indicator range was selected based upon the fact that hourly average opacities of up to 5.6 percent were observed while the maximum measured PM emission rate was just 16 percent of the allowable PM emission rate. It is believed that hourly average opacities less than or equal to 29 percent will provide a reasonable assurance of ongoing compliance with the PM emission limit of 0.025 lb/MM Btu.

# Compliance Assurance Monitoring Plan Electrostatic Precipitator for PM<sub>10</sub> Control

## I. Background

### A. Source Information

**Facility:** Virginia Public Utilities  
618 2<sup>nd</sup> Street South  
Virginia, MN 55792

**Emission Unit(s) Description:** Boiler 11  
**Emission Unit(s) ID:** EU006  
**Stack ID:** SV005  
**APCD ID:** CE007  
CE008  
CE009

### B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

**Regulation:** Permit 13700028-009, MN Rule 7011.0510, subpart 1  
**Emissions Limit:** Particulate Matter<sub>10</sub> (PM<sub>10</sub>): 0.019 lb/MMBtu  
**Current monitoring requirements:** None.

**C. Control Technology:** Electrostatic precipitator (ESP).

## II. Monitoring Approach

**Table 1. Monitoring Approach**

I. Indicator Measurement Approach	Opacity.
	The opacity measured in each boiler stack by the continuous opacity monitoring (COM) system is used as a surrogate for PM <sub>10</sub> emissions.
II. Indicator Range	An excursion is defined as a 3-hour average opacity greater than 26%. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness B. Verification of Operational Status C. QA/QC Practices and Criteria D. Monitoring Frequency Data Collection Procedures  Averaging period	The opacity is measured using the instrumentation the manufacturer provided with the COM system.
	NA – The COM system is already installed.
	COM system installed and operated according to manufacturer's instructions.
	The opacity is measured continuously.
	The data acquisition system (DAS) records the opacity one minute data electronically.
	Continuous opacity readings are reduced to 6 minute averages for opacity measurements, and further reduced to hourly averages for comparison to the indicator range listed above.

### III. Monitoring Approach Justification

#### (a) Background

The pollutant-specific emission unit#EU006 is a biomass-fired boiler. It is rated at 135,000 pounds of steam per hour.

EU006 operates typically ~10 months of the year. It has a 6 week major maintenance completed annually.

EU006 is subject New Source Performance Standards (NSPS) and is equipped with an ESP to control PM emissions. Continuous Opacity, CO and NOx emission monitors are installed on the boiler stack.

#### (b) Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes, a discharge electrode and a collection electrode. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection electrodes. The particulate matter is separated from the gas stream by retention on the collection electrode. Particulate is removed from the collection plates by shaking or rapping the plates.

Rather than monitoring PM<sub>10</sub> emissions by measuring the performance of the ESP directly, advantage is taken of the installed COM system which has opacity monitors located on each stack. To develop a correlation between opacity and PM<sub>10</sub> emissions, PM<sub>10</sub> emissions data obtained from the most recent performance test (conducted in November, 2010) were compared with concurrent opacity data reported by the COM system (see Table 2).

First, the performance test results report PM<sub>10</sub> emissions at 17 percent of the allowable PM<sub>10</sub> emission limits of 0.019 lb/MM Btu for this emission unit. In other words, this ESP has a medium margin of compliance with the PM<sub>10</sub> limit.

Second, as seen from Table 2, the performance test results show PM<sub>10</sub> emissions of 0.007-0.017 lb/MM Btu with concurrent opacity measurements from the COM system (averaged over the one-hour test periods) ranging from 28 to 68 percent. Because the available performance test data show that each boiler meets the particulate limit of 0.014 lb/MM Btu when the opacity is below 26 percent, opacity is monitored as an indicator that the boiler is continuing to operate properly.

#### (c) Rationale for Selection of Indicator Ranges

An excursion will be defined as an hourly average opacity greater than 26 percent. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

The indicator range was selected based upon the fact that hourly average opacities of up to 68 percent were observed while the maximum measured PM<sub>10</sub> emission rate was just 5.9 percent of the allowable PM<sub>10</sub> emission rate. It is believed that hourly average opacities less than or equal to 26 percent will provide a reasonable assurance of ongoing compliance with the PM<sub>10</sub> emission limit of 0.019 lb/MM Btu. Biomass fuel is analyzed on a regular basis for heat and ash content with minimal variation in quality. Hence, this plan has been determined to be applicable for all fuel qualities.



# Compliance Assurance Monitoring Plan Electrostatic Precipitator for PM<sub>2.5</sub> Control

## I. Background

### A. Source Information

**Facility:** Virginia Public Utilities  
618 2<sup>nd</sup> Street South  
Virginia, MN 55792

**Emission Unit(s) Description:** Boiler 11  
**Emission Unit(s) ID:** EU006  
**Stack ID:** SV005  
**APCD ID:** CE007  
CE008  
CE009

### B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

**Regulation:** Permit 13700028-009, MN Rule 7011.0510, subpart 1  
**Emissions Limit:** Particulate Matter<sub>2.5</sub> (PM<sub>2.5</sub>): 0.014 lb/MMBtu  
**Current monitoring requirements:** None.

**C. Control Technology:** Electrostatic precipitator (ESP).

## II. Monitoring Approach

**Table 1. Monitoring Approach**

I. Indicator Measurement Approach	Opacity.
	The opacity measured in each boiler stack by the continuous opacity monitoring (COM) system is used as a surrogate for PM <sub>2.5</sub> emissions.
II. Indicator Range	An excursion is defined as a 3-hour average opacity greater than 34%. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness B. Verification of Operational Status C. QA/QC Practices and Criteria D. Monitoring Frequency Data Collection Procedures  Averaging period	The opacity is measured using the instrumentation the manufacturer provided with the COM system.
	NA – The COM system is already installed.
	COM system installed and operated according to manufacturer's instructions.
	The opacity is measured continuously.
	The data acquisition system (DAS) records the opacity one minute data electronically.
	Continuous opacity readings are reduced to 6 minute averages for opacity measurements, and further reduced to hourly averages for comparison to the indicator range listed above.

### III. Monitoring Approach Justification

#### (a) Background

The pollutant-specific emission unit#EU006 is a biomass-fired boiler. It is rated at 135,000 pounds of steam per hour.

EU006 operates typically ~10 months of the year. It has a 6 week major maintenance completed annually.

EU006 is subject New Source Performance Standards (NSPS) and is equipped with an ESP to control PM emissions. Continuous Opacity, CO and NO<sub>x</sub> emission monitors are installed on the boiler stack.

#### (b) Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes, a discharge electrode and a collection electrode. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection electrodes. The particulate matter is separated from the gas stream by retention on the collection electrode. Particulate is removed from the collection plates by shaking or rapping the plates.

Rather than monitoring PM<sub>2.5</sub> emissions by measuring the performance of the ESP directly, advantage is taken of the installed COM system which has opacity monitors located on each stack. To develop a correlation between opacity and PM<sub>2.5</sub> emissions, PM<sub>2.5</sub> emissions data obtained from the most recent engineering test (conducted in January, 2012) were compared with concurrent opacity data reported by the COM system (see Table 2).

First, the performance test results report PM<sub>2.5</sub> emissions at an average of 16.67 percent of the allowable PM<sub>2.5</sub> emission limits of 0.014 lb/MM Btu for this emission unit. In other words, this ESP has a medium margin of compliance with the PM<sub>2.5</sub> limit.

Second, as seen from Table 2, the performance test results show PM<sub>2.5</sub> emissions of 0.001-0.003 lb/MM Btu with concurrent opacity measurements from the COM system (averaged over the test periods) ranging from 7.7 % to 8.6%. Because the available performance test data show that each boiler meets the particulate limit of 0.014 lb/MM Btu when the opacity is below 34 percent, opacity is monitored as an indicator that the boiler is continuing to operate properly.

#### (c) Rationale for Selection of Indicator Ranges

An excursion will be defined as an hourly average opacity greater than 34 percent. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

The indicator range was selected based upon the fact that hourly average opacities of up to 8.6 percent were observed while the maximum measured PM<sub>2.5</sub> emission rate was just an average of 16.67 percent of the allowable PM<sub>2.5</sub> emission rate. It is believed that hourly average opacities less than or equal to 34 percent will provide a reasonable assurance of ongoing compliance with the PM<sub>2.5</sub> emission limit of 0.014 lb/MM Btu. Biomass fuel is analyzed on a regular basis for heat and ash content with minimal variation in quality. Hence, this plan has been determined to be applicable for all fuel qualities.