

## **RECOMMENDED CPCN CONDITIONS**

**CASE NO. 8997**

**CATOCTIN POWER, LLC**

### **General**

1. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) is considered to be part of this CPCN for the Catoctin Power Project. The application consists of the original application received by the Maryland Public Service Commission (PSC) on February 25, 2004 and subsequent amendments provided in testimony filed by Catoctin Power, LLC (Catoctin Power) on June 3, 2004, August 20, 2004, August 26, 2004, and December 23, 2004. Construction of the facility shall be undertaken in accordance with the CPCN application and subsequent amendments. If there are any inconsistencies between the conditions specified below and the application, the conditions in this CPCN shall take precedence; if CPCN conditions incorporate federal or state laws through paraphrased language, where there is any inconsistency between the paraphrased language and the actual state or federal laws being paraphrased, the applicable federal or state laws shall take precedence.
2. If any provision of this CPCN shall be held invalid for any reason, the remaining provisions shall remain in full force and effect and such invalid provision shall be considered severed and deleted from this CPCN.

### **Air Quality**

#### **I. General Air Quality Requirements**

3. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) is considered to be part of this CPCN for the Catoctin Power Project. The application consists of the original application received by the Maryland Public Service Commission (PSC) on February 25, 2004 and subsequent amendments. Construction of the facility shall be undertaken in accordance with the CPCN application and subsequent amendments. If there are any inconsistencies between the conditions specified below and the application, the conditions in this CPCN shall take precedence. In the application, estimates of dimensions, volumes, emission rates, operating rates, feed rates and hours of operation are not deemed to constitute enforceable numeric limits except to

the extent that they are necessary to make a determination of compliance with applicable regulations.

4. The application for a CPCN includes the application for Prevention of Significant Deterioration (PSD) approval, Nonattainment Area New Source Review (NA-NSR) approval, and air quality construction permits. The CPCN serves as the PSD approval, NA-NSR approval, and air quality construction permit and does not constitute the permit to construct or approvals until such time as Catoctin Power has provided documentation demonstrating that nitrogen oxides (NO<sub>x</sub>) emission offsets totaling at least 249 tons and volatile organic compound (VOC) emission offsets totaling at least 39 tons have been obtained and approved by the Maryland Department of the Environment and are federally enforceable.
5. For air permitting purposes, the Catoctin Power Project shall include: 1) two, GE Model 7FA, natural gas-fired combustion turbines with dry low-NO<sub>x</sub> combustors, duct burners rated at 577 million Btu per hour (MMBtu/hr, higher heating value) heat recovery steam generating units (HRSGs) equipped with selective catalytic reduction (SCR) and oxidation catalyst systems, and a steam turbine, combined plant rated at nominal 600 megawatt; 2) one nominal 1,000-kilowatt, EPA Tier 1-rated diesel-fired emergency diesel generator; 3) one nominal 350-kilowatt, EPA Tier 1-rated diesel-fired emergency diesel generator at the water supply pump house; 4) one 370-horsepower, diesel-fired firewater pump engine; and 4) one multi-cell cooling tower equipped with drift eliminators.
6. Definitions:
  - a) "Commence" as applied to the construction of the Catoctin Power Project means that the owner or operator either has:
    - i. Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or
    - ii. Entered into binding agreements or contractual obligations which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a continuous program of actual construction or modification of the source to be completed within a reasonable time.
  - b) "Startup" shall be defined as the period of time from initiation of combustion firing until the unit reaches at least 60% load. Periods of cold startup shall last no more than 4 hours; periods of warm/hot startup shall last no more than 2 hours.
  - c) "Shutdown" is defined as that period of time that the turbine output is lowered with the intent to shut down, beginning at the point at which the load drops below 60%.

Periods of shutdown shall last no more than 30 minutes.

- d) "Malfunction" is defined as any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in normal or unusual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.
7. Catoctin Power shall construct exhaust stacks for the heat recovery steam generators downstream of the construction turbines with a vertical height of at least 160 feet above ground level.
8. If any provision of this CPCN shall be held invalid for any reason, the remaining provisions shall remain in full force and effect and such invalid provision shall be considered severed and deleted from this CPCN.
9. Representatives of the Maryland Department of the Environment (MDE) and the Frederick County Health Department shall be afforded access to the Catoctin Power facility at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN requirements. Catoctin Power shall provide such assistance as reasonably may be necessary to conduct such inspections and evaluations by such representatives of MDE effectively and safely, which may include but need not be limited to the following:
  - a) inspecting construction authorized under this CPCN;
  - b) sampling any materials stored or processed on site, or any waste, or discharge into the environment;
  - c) inspecting any monitoring or recording equipment required by this CPCN or applicable regulations;
  - d) having access to or copying any records required to be kept by Catoctin Power pursuant to this CPCN or applicable regulations;
  - e) obtaining any photographic documentation and evidence; and
  - f) determining compliance with the conditions and regulations specified in the CPCN.
10. This CPCN constitutes the PSD approval, the NA-NSR approval, and air quality construction permit for the Catoctin Power Project. In accordance with COMAR 26.11.02.04B, the air quality provisions expire if, as determined by MDE, Air and Radiation Management Administration (ARMA):

- a) Construction is not commenced within 18 months after the date of issuance of a final CPCN;
  - b) Construction is substantially discontinued for a period of 18 months or more after it has commenced; or
  - c) Construction is not completed within a reasonable period of time after the issuance of a final CPCN.
11. At least 60 days prior to the anticipated date of start-up of the combustion turbines, Catoctin Power shall submit to ARMA:
- a) An application for a temporary permit to operate; and
  - b) The required documentation confirming the acquisition of nitrogen oxides (NO<sub>x</sub>) allowances from sources approved by ARMA for the first ozone season in which the facility will operate.
12. All requirements pertaining to air quality that apply to Catoctin Power shall apply to all subsequent owners and/or operators of the facility. In the event of any change in control or ownership, Catoctin Power shall notify the succeeding owner/operator of the existence of the requirements of this CPCN pertaining to air quality by letter and shall send a copy of that letter to MDE ARMA.

## **II. Applicable Air Quality Regulations**

### **Facility-wide Requirements**

13. The Catoctin Power facility is subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following regulations:
- a) COMAR 26.11.01.04A-C Requires Catoctin Power to follow test methods in §C of this regulation to determine compliance. ARMA may require Catoctin Power to install, use, and maintain monitoring equipment or employ other methods as specified by ARMA to determine the quantity or quality, or both, of emissions discharged into the atmosphere and to maintain records and make reports on these emissions to ARMA in a manner and on a schedule approved by ARMA or the control officer.
  - b) COMAR 26.11.01.05-1 Emissions Statements – Requires Catoctin Power to submit a certified, facility-wide emissions statement to ARMA by April 1<sup>st</sup> of each year.

- c) COMAR 26.11.01.07C Malfunctions and Other Temporary Increases of Emissions – Requires Catoctin Power to report the onset and the termination of the occurrence of excess emissions, expected to last or actually lasting for 1 hour or more, to ARMA by telephone.
- d) COMAR 26.11.02.19A Fee Schedule – Requires Catoctin Power to pay annual Title V operating permit fees.
- e) COMAR 26.11.03.01 Applicability and General Requirements – Requires Catoctin Power to apply for and obtain a Title V (Part 70) operating permit.
- f) COMAR 26.11.06.02C(1) Visible Emissions – Prohibits Catoctin Power from causing or permitting the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20% opacity. The visible emissions standards in §C of COMAR 26.11.06.02C do not apply to emissions during startup and process modifications or adjustments, or occasional cleaning of control equipment, if: (a) the visible emissions are not greater than 40% opacity; and (b) the visible emissions do not occur for more than 6 consecutive minutes in any 60-minute period.
- g) COMAR 26.11.06.03C(1) Particulate Matter From Unconfined Sources – Prohibits Catoctin Power from causing or permitting emissions from an unconfined source without taking reasonable precautions to prevent particulate matter from becoming airborne.
- h) COMAR 26.11.06.03D Particulate Matter From Materials Handling and Construction – Prohibits Catoctin Power from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.
- i) COMAR 26.11.06.14 Control of PSD Sources – Which prohibits Catoctin Power from constructing, modifying, or operating, or causing to be constructed, modified, or operated, a Prevention of Significant Deterioration (PSD) source, as defined in COMAR 26.11.01.01B(37), which will result in violation of any provision of 40 CFR §52.21, 2002 edition, except that the reviewing authority is the Department instead of the U.S. EPA Administrator unless otherwise specified in 40 CFR §52.1116, and the applicable procedures are those set forth in COMAR 26.11.02.
- j) COMAR 26.11.17.03B(3) Requirements for Major New Sources and Modifications, General Conditions – Requires Catoctin Power to meet the reasonable further progress requirements in §173(a)(1)(A) of the Clean Air Act by obtaining emission

reductions (offsets) of the same pollutant from existing sources in the area of the proposed source, whether or not under the same ownership, at a minimum ratio of 1.3 to 1 for sources of NO<sub>x</sub> and VOCs in Frederick County, Maryland.

14. The Catoctin Power facility is subject to all applicable State-only enforceable air quality requirements including, but not limited to, the following regulations:
  - a) COMAR 26.11.02.13A(2) Sources Subject to Permits to Operate – Requires Catoctin Power to obtain a State Permit to Operate;
  - b) COMAR 26.11.02.19C Information Required to be Maintained by Source – Requires Catoctin Power to maintain records necessary to support the emission certification.
  - c) COMAR 26.11.02.19D Emission Certification – Requires Catoctin Power to certify, as provided at Regulation .02F of this chapter, the actual emissions of regulated air pollutants from all installations at the plant or facility. Certification shall be on a form obtained from ARMA and shall be submitted to ARMA not later than April 1 of the year following the year for which certification is required. An emission certification submitted pursuant to this section and which contains all information required by COMAR 26.11.01.05-1, for NO<sub>x</sub> and VOC, satisfies the requirements of COMAR 26.11.01.05-1.
  - d) COMAR 26.11.06.08 Nuisance – Prohibits Catoctin Power from operating or maintaining a source in such a manner that a nuisance is created.
  - e) COMAR 26.11.06.09 Odors – Prohibits Catoctin Power from causing or permitting the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.
15. The Catoctin Power facility is subject to additional requirements pertaining to PM<sub>2.5</sub> as follows:
  - a) To meet PM<sub>2.5</sub> Lowest Achievable Emission Rate (LAER) requirements:
    - i. PM<sub>2.5</sub> emissions from each of the combustion turbines, and associated duct burners and heat recovery steam generators, except during periods of startup, shutdown, and malfunction, shall not exceed 21.1 pounds per hour on a 3-hour average basis, based on the use of advanced dry low-NO<sub>x</sub> combustion technology and exclusive use of pipeline quality, low sulfur natural gas.
    - ii. The emergency diesel generator at the Catoctin Power facility shall be designed to ensure PM<sub>2.5</sub> emissions do not exceed 1.2 pounds per hour on a 3-hour average basis.

- iii. The emergency diesel generator at the water supply pump house shall be designed to ensure PM2.5 emissions do not exceed 0.4 pounds per hour on a 3-hour average basis.
  - iv. The firewater pump engine shall be designed to ensure PM2.5 emissions do not exceed 0.8 pounds per hour on a 3-hour average basis.
  - v. The cooling tower shall be designed to ensure PM2.5 emissions do not exceed 0.71 pounds per hour on a 24-hour average basis, based on the application of high efficiency drift eliminators to achieve a drift loss rate of at least 0.0005% of recirculating water flow.
- b) Periods of startup and shutdown shall not exceed 680 hours in any consecutive 12-month period for purposes of complying with Conditions 15(a)(i) and 34.
  - c) Catoctin Power shall obtain offsets for PM2.5 emissions at a minimum ratio of 1 to 1. To meet the PM2.5 offset requirement, Catoctin Power shall provide documentation demonstrating that federally enforceable emission offsets totaling at least 164 tons have been obtained and approved by ARMA within 60 days prior to the commencement of operation of the combustion turbines.
  - d) Catoctin Power shall submit a PM2.5 monitoring plan to ARMA at least 60 days prior to anticipated startup of any of the combustion turbines describing the monitoring, emission factors, or other methods that will be used to determine compliance with the limits in Condition 15(a)(i). ARMA shall approve the plan and it will become effective upon startup of the combustion turbines.
  - e) Catoctin Power shall certify actual emissions of PM2.5 from all installations at the facility. Certification shall be submitted to ARMA not later than April 1 of the year following the year for which certification is required.

### Combustion Turbines

- 16. The combustion turbines and associated duct burners and heat recovery steam generators at the Catoctin Power facility are each subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following regulations:
  - a) COMAR 26.11.06.12 Control of NSPS Sources – Prohibits Catoctin Power from constructing, modifying, or operating, or causing to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source as defined in COMAR 26.11.01.01C, which results or will result in violation of the provisions of 40 CFR 60, 2002 edition.

- b) COMAR 26.11.09.05A(1) Visible Emissions – Except as provided in COMAR 26.11.09.05A(3), prohibits Catocin Power from causing or permitting the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is greater than 20% opacity.
  - c) COMAR 26.11.09.08G(2) Control of NO<sub>x</sub> Emissions for Major Stationary Sources, Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent – Limits Catocin Power, as the owner/operator of a CT with a capacity factor greater than 15%, to an hourly average NO<sub>x</sub> emission rate of not more than 42 ppm when burning gas (dry volume at 15% oxygen) or to meeting applicable Prevention of Significant Deterioration limits, whichever is more restrictive.
  - d) COMAR 26.11.09.08B(2) Control of NO<sub>x</sub> Emissions for Major Stationary Sources, Demonstration of Compliance – Requires Catocin Power to demonstrate compliance with 26.11.09.08 using data from continuous emissions monitors (CEMs).
  - e) COMAR 26.11.17.03B(2) Requirements for Major New Sources and Modifications, General Conditions – Requires Catocin Power to meet an emission limitation which specifies the lowest achievable emission rate for the source for emissions of NO<sub>x</sub> and VOCs.
  - f) COMAR 26.11.29 and .30 NO<sub>x</sub> Reduction and Trading Program – Requires Catocin Power to hold an allowance for each ton of NO<sub>x</sub> emissions from the combustion turbines by the reconciliation date of November 30 of each calendar year.
  - g) COMAR 26.11.30.03 NO<sub>x</sub> Reduction and Trading Program – Requires Catocin Power to follow the policies and procedures relating to Maryland’s NO<sub>x</sub> Reduction and Trading Program.
17. The combustion turbines are subject to NSPS 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines, and related provisions of 40 CFR §60.7 and §60.8, which contain various requirements for emission limitations, monitoring, testing, recordkeeping, and reporting, including but not limited to the following:
- a) Standard for NO<sub>x</sub> (40 CFR 60.332(a)(1)) – On and after the date on which the performance test required by 40 CFR §60.8 is completed, Catocin Power shall not cause to be discharged into the atmosphere any gases that contain NO<sub>x</sub> in excess of 75 ppmvd at 15% oxygen on a 1-hr average basis.
  - b) Standard for SO<sub>2</sub> (40 CFR 60.333(b)) – On and after the date on which the performance test required by 40 CFR §60.8 is completed, Catocin Power shall not burn any fuel which contains total sulfur in excess of 0.8 percent by weight.



- c) Monitoring of Operations (40 CFR 60.334(e)-(f)) – Catoctin Power shall use NO<sub>x</sub> CEMS installed, certified, operated, maintained, and quality-assured as described in 40 CFR §60.334(b) to demonstrate compliance with this standard.
- d) Monitoring of Operations (40 CFR 60.334((g))
  - i. The parameters that are continuously monitored as described in Condition 17(c) (from 40 CFR §60.334) and Condition 32 shall be monitored during the performance test required under 40 CFR §60.8, to establish acceptable values and ranges. Catoctin Power may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely.
  - ii. Catoctin Power shall develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO<sub>x</sub> emission controls. The plan shall include the parameter(s) monitored and the acceptable range(s) of the parameter(s) as well as the basis for designating the parameter(s) and acceptable range(s). Any supplemental data that Catoctin Power believes is necessary to clarify or support the plan, such as engineering analyses, design specifications, manufacturer's recommendations and other relevant information shall be included in the plan.
- e) Monitoring of Operations (40 CFR 60.334(h)) – In lieu of monitoring the total sulfur content of the fuel being fired in the turbines, Catoctin Power shall demonstrate that the fuel meets the definition of natural gas in 40 CFR §60.331(u), as demonstrated by one of the methods specified in 40 CFR 60.334(h)(3)(i) or (ii).
- f) Monitoring of Operations (40 CFR 60.334(j)) – Catoctin Power shall submit reports of excess emissions and monitor downtime in accordance with 40 CFR 60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. Periods of excess emissions and monitor downtime for the purposes of reports required by 40 CFR 60.7(c) are as outlined in 40 CFR 60.334(j)(1) for NO<sub>x</sub> and 40 CFR 60.334(j)(2) for SO<sub>2</sub>. All reports required under 40 CFR 60.7(c) shall be postmarked by the 30<sup>th</sup> day following the end of each calendar quarter.
- g) Test Methods and Procedures (40 CFR 60.335)
  - i. Catoctin Power shall conduct performance tests according to applicable requirements in 40 CFR 60.335(a) and 60.335(b)(7);

- ii. Catoctin Power shall determine compliance with the NO<sub>x</sub> emissions limitation in Condition 17(a) according to applicable procedures in 40 CFR 60.335(b)(1)-(3). The 3-run performance test required by 40 CFR 60.8 must be performed within  $\pm 5$  percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice.

### Duct Burners

18. The duct burners associated with the Catoctin Power combustion turbines are subject to NSPS Subpart Da-Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, and related provisions of 40 CFR §60.7 and §60.8, including, but not limited to the following:
  - a) Standard for Particulate Matter (40 CFR 60.42a(a)(1))--On and after the date on which the performance test required to be conducted under 40 CFR §60.8 is completed, Catoctin Power shall not cause to be discharged into the atmosphere from any affected facility any gases which contain filterable particulate matter in excess of 13 ng/J (0.03 lb/million Btu) heat input.
  - b) Standard for Particulate Matter (40 CFR 60.42a(b)) – On and after the date the particulate matter performance test required to be conducted under 40 CFR §60.8 is completed, Catoctin Power shall not cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity;
  - c) Standard for SO<sub>2</sub> (40 CFR 60.43a(b)) – On and after the date the performance test required to be conducted under 40 CFR §60.8 is completed, Catoctin Power shall not cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 86 ng/J (0.20 lb/million Btu) heat input;
  - d) Standard for NO<sub>x</sub> (40 CFR 44a(d)(1)) – On and after the date on which the initial performance test required to be conducted under 40 CFR §60.8 is completed, Catoctin Power shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides (expressed as NO<sub>2</sub>) in excess of 200 nanograms per joule (1.6 pounds per megawatt-hour) gross energy output, based on a 30-day rolling average, except as provided under 40 CFR §60.46a(k)(1), which states that compliance with this NO<sub>x</sub> standard for the duct burners used in combined cycle systems shall be determined by compliance with the following:

- i. The emission rate (E) of NO<sub>x</sub> shall be computed using Equation 1 of this section:

$$E = [(C_{sg} \times Q_{sg}) - (C_{te} \times Q_{te})] / (O_{sg} \times h) \quad (\text{Eq. 1})$$

Where:

E = emission rate of NO<sub>x</sub> from the duct burner, ng/J (lb/Mwh) gross output

C<sub>sg</sub> = average hourly concentration of NO<sub>x</sub> exiting the steam generating unit, ng/dscm (lb/dscf)

C<sub>te</sub> = average hourly concentration of NO<sub>x</sub> in the turbine exhaust upstream from duct burner, ng/dscm (lb/dscf)

Q<sub>sg</sub> = average hourly volumetric flow rate of exhaust gas from steam generating unit, dscm/hr (dscf/hr)

Q<sub>te</sub> = average hourly volumetric flow rate of exhaust gas from combustion turbine, dscm/hr (dscf/hr)

O<sub>sg</sub> = average hourly gross energy output from steam generating unit, J (Mwh)

h = average hourly fraction of the total heat input to the steam generating unit derived from the combustion of fuel in the affected duct burner

- ii. Method 7E of 40 CFR Part 60 Appendix A shall be used to determine the NO<sub>x</sub> concentrations (C<sub>sg</sub> and C<sub>te</sub>). Method 2, 2F or 2G of Appendix A of 40 CFR Part 60, as appropriate, shall be used to determine the volumetric flow rates (Q<sub>sg</sub> and Q<sub>te</sub>) of the exhaust gases. The volumetric flow rate measurements shall be taken at the same time as the concentration measurements.
- iii. Catocin Power shall provide information satisfactory to the Administrator or demonstrate the average hourly gross energy output from the steam generating unit, and the average hourly percentage of the total heat input to the steam generating unit derived from the combustion of fuel in the affected duct burner.
- iv. Compliance with the emissions limits under 40 CFR §60.44a (d)(1) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests.
- e) Compliance Provisions (40 CFR 60.46a(a)-(c)) – NO<sub>x</sub>, PM, and SO<sub>2</sub> limits in this Subpart (herein Condition 18(a)-(d)) shall apply at all times, except during periods of startup, shutdown, or malfunction.
- f) Compliance Provisions (40 CFR 60.46a(e)) – After the initial performance test required under 40 CFR §60.8, compliance with the SO<sub>2</sub> emission limitations under 40 CFR §60.43a and the NO<sub>x</sub> emission limitations under 40 CFR §60.44a is based on the average emission rate for 30 successive boiler operating days. A separate performance test is completed at the end of each boiler operating day after the

initial performance test, and a new 30 day average emission rate for both SO<sub>2</sub> and NO<sub>x</sub> and a new percent reduction for SO<sub>2</sub> are calculated to show compliance with the standards.

- g) Compliance Provisions (40 CFR 60.46a(f)) – For the initial performance test required under 40 CFR §60.8, compliance with the SO<sub>2</sub> emission limitations under 40 CFR §60.43a and the NO<sub>x</sub> emission limitation under 40 CFR § 60.44a is based on the average emission rates for SO<sub>2</sub>, NO<sub>x</sub>, and percent reduction for SO<sub>2</sub> for the first 30 successive boiler operating days. The initial performance test is the only test in which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first boiler operating day of the 30 successive boiler operating days is completed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.
- h) Compliance Provisions (40 CFR 60.46a(g)) – Compliance is determined by calculating the arithmetic average of all hourly emission rates for SO<sub>2</sub> and NO<sub>x</sub> for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction (NO<sub>x</sub> only), or emergency conditions (SO<sub>2</sub> only).
- i) Compliance Provisions (40 CFR 60.46a(i)) – Catoctin Power shall calculate NO<sub>x</sub> emissions by multiplying the average hourly NO<sub>x</sub> output concentration, measured according to the provisions of 40 CFR §60.47a(c), by the average hourly flow rate, measured according to the provisions of 40 CFR §60.47a(l), and divided by the average hourly gross energy output, measured according to the provisions of 40 CFR §60.47a(k).
- j) Emissions Monitoring (40 CFR 60.47a(c)(1)-(2) and (d)-(f)) – A NO<sub>x</sub> emission CEMS operated to meet the ongoing requirements of 40 CFR Part 75, shall be used to meet the requirements of this condition. Catoctin Power shall also meet the requirements of 40 CFR §60.49a. Data reported to meet the requirements of 40 CFR §60.49a shall not include data substituted using the missing data procedures in subpart D of 40 CFR Part 75, nor shall the data have been bias adjusted according to the procedures of 40 CFR Part 75.

Catoctin Power shall install, calibrate, maintain, and operate a CEMS, and record the output of the system, for measuring the oxygen or carbon dioxide content of the flue gases at each location where SO<sub>x</sub> or NO<sub>x</sub> emissions are monitored. CEMS operated under this condition are operated and data recorded during all periods of operation of the affected facility, including periods of startup, shutdown, malfunction or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, and according to procedures in 40 CFR 60.47a.

- k) Compliance Provisions (40 CFR 60.48a(a)) which requires that in conducting the performance tests required in 40 CFR §60.8, Catoctin Power use as reference methods and procedures the methods in Appendix A of 40 CFR Part 60 or the methods and procedures as specified in 40 CFR 60.48a, except as provided in 40 CFR §60.8(b); Subpart Da of 40 CFR 60.48a requires that Catoctin Power determine compliance with the particulate matter, SO<sub>2</sub>, and NO<sub>x</sub> standards through methods and procedures as spelled out in sections 40 CFR 60.48a(b), (c) and (d).
  - l) Reporting Requirements (40 CFR 60.49a) requires Catoctin Power to submit to the Administrator the performance test data for SO<sub>2</sub>, NO<sub>x</sub>, and particulate matter emissions according to the specifications in 40 CFR 60.49a; and 40 CFR 60.49a(f) requires that, for any periods for which opacity, SO<sub>x</sub> or NO<sub>x</sub> emissions data are not available, Catoctin Power must submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.
19. The combustion turbines and associated duct burners and heat recovery steam generators are subject to all applicable permitting provisions of the Acid Rain program under 40 CFR Part 72, including, but not limited to:
- a) Subpart A 72.9(b)(1) requires Catoctin Power, to the extent applicable, to comply with monitoring requirements in 40 CFR Part 75;
  - b) Subpart A 72.9(c) requires Catoctin Power to hold allowances in the unit's compliance subaccount not less than the total annual emissions of SO<sub>2</sub> for the previous year and comply with applicable Acid Rain limits for SO<sub>2</sub>;
  - c) Subpart A 72.9(e) requires Catoctin Power to submit a proposed offset plan if emission limitations are exceeded; and
  - d) Subpart A 72.9(f) requires Catoctin Power, unless otherwise provided, to retain required documents for a period of 5 years from the date that the document was created. Documents may include, but are not limited to, certificates of representation, emissions monitoring information, copies of reports, compliance certifications, and other documentation pertaining to the Acid Rain program.
20. The combustion turbines and associated duct burners and heat recovery steam generators are subject to all applicable monitoring provisions of the Acid Rain program under 40 CFR Part 75, including, but not limited to:
- a) Subpart A 75.4(b) which generally requires Catoctin Power, in accordance with 40 CFR 75.20, to ensure that all applicable monitoring systems for SO<sub>2</sub>, NO<sub>x</sub>, carbon dioxide (CO<sub>2</sub>), and volumetric flow required under 40 CFR Part 75 to be installed

and all certification tests completed not later than 90 days after the date the unit commences commercial operation;

- b) Subpart B 75.10 which generally requires Catoctin Power to measure, as applicable, opacity, SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> emissions; and to ensure that continuous emission monitoring systems required by 40 CFR Part 75 meet the equipment, installation, and performance specifications in 40 CFR Part 75; and are maintained according to the quality assurance and quality control procedures in this part;
- c) Subpart F 75.53(a) which generally requires Catoctin Power to prepare a monitoring plan with sufficient information on applicable continuous opacity or emissions monitoring systems to demonstrate that all SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub> emissions and opacity, as required, are monitored and reported;
- d) Subpart F 75.57(a) which requires Catoctin Power to keep a file for each affected unit of all measurements, data, reports, and other information required by 40 CFR Part 75 in a form suitable for inspection for at least 3 years from the date of each record;
- e) Subpart F 75.57(b)-(f) which require Catoctin Power to record various operations, emissions, and other information, as specified; and
- f) Subpart G 75.60(a) and (b) which generally require Catoctin Power to comply with all reporting requirements, with all signatory requirements of 40 CFR §72.21 of this chapter for all submissions, and with all required certifications and reports.

#### Emergency Diesel Generators and Firewater Pump Engine

21. The emergency diesel generator and the firewater pump engine at the Catoctin Power facility and the emergency diesel generator at the water supply pump house are each subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following regulations:
- a) COMAR 26.11.09.05B(2)-(4) Visible Emissions Stationary Internal Combustion Engine Powered Equipment – Prohibits Catoctin Power from causing or permitting the discharge of emissions from any engine:
    - i. operating at idle at an opacity greater than 10%; or
    - ii. at conditions other than idle at an opacity greater than 40%.

Exceptions:

Condition 21(a)(i) does not apply for a period of 2 consecutive minutes after a

period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system; and does not apply to emissions resulting directly from cold engine startup and warm-up for the following maximum periods: (i) Engines that are idled continuously when not in service: 30 minutes; (ii) All other engines: 15 minutes;

Conditions 21(a)(i) and (ii) do not apply while maintenance, repair, or testing is being performed by qualified mechanics.

- b) COMAR 26.11.09.07A(1)(c) Control of Sulfur Oxides from Fuel Burning Equipment – Prohibits Catoctin Power from burning, selling, or making available for sale any fuel with a sulfur content by weight in excess of 0.3% for distillate fuel oils.
- c) COMAR 26.11.17.03B(2) Requirements for Major New Sources and Modifications, General Conditions – Requires Catoctin Power to meet an emission limitation which specifies the lowest achievable emission rate for the source for emissions of NO<sub>x</sub> and VOCs.

### Cooling Tower

- 22. The cooling tower at the Catoctin Power facility is subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following regulations:
  - a) COMAR 26.11.06.02C(1) Visible Emissions – Prohibits Catoctin Power from causing or permitting the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20% opacity. The visible emissions standards in §C of this regulation do not apply to emissions during startup and process modifications or adjustments, or occasional cleaning of control equipment, if: (a) the visible emissions are not greater than 40% opacity; and (b) the visible emissions do not occur for more than 6 consecutive minutes in any 60-minute period.
  - b) COMAR 26.11.06.03B(1)(a) Particulate Matter (confined sources) – Prohibits Catoctin Power from causing or permitting particulate matter emissions to be discharged from any source in excess of 0.05 gr/scfd (115 kg/dscm).

### III. BACT Requirements

- 23. Catoctin Power shall employ the following Best Available Control Technology (BACT) to control emissions of particulate matter (PM10), carbon monoxide (CO), sulfur

dioxide (SO<sub>2</sub>), and nitrogen oxides (NO<sub>x</sub>) from the combustion turbines and associated duct burners and heat recovery steam generators.

- a) Emissions shall not exceed the following BACT standards, except during periods of startup, shutdown and malfunction:

<u>Pollutant</u>	<u>Emission Limit Not to Exceed:</u>	<u>To be Achieved By:</u>
SO <sub>2</sub>	6.7 pounds per hour on a monthly average basis	Exclusive use of pipeline quality natural gas with a maximum sulfur content of less than 0.01 grain per dry standard cubic foot ("Low Sulfur Natural Gas")
PM10	21.1 pounds per hour on a 3-hour average basis	Advanced DLN combustion design and exclusive use of pipeline quality, Low Sulfur Natural Gas
CO	2.0 ppmvd corrected to 15 percent oxygen* on a 3-hour average basis without duct firing, and 3.0 ppmvd corrected to 15 percent oxygen on a 3-hour average basis when duct firing.	Advanced DLN combustion design and operation of an oxidation catalyst system within the heat recovery steam generator
NO <sub>x</sub>	2.0 ppmvd corrected to 15 percent oxygen on a 1-hour average basis without duct firing, and 2.5 ppmvd corrected to 15 percent oxygen on a 1-hour average basis when duct firing.	Exclusive use of pipeline quality, Low Sulfur Natural Gas; low-NO <sub>x</sub> burners on the duct burners; and operation of a selective catalytic oxidation system within the heat recovery steam generator

\*ppmvd, 15 percent oxygen = parts per million on a dry weight basis, corrected to 15 percent oxygen.

- b) Periods of startup and shutdown shall not exceed 680 hours in any consecutive 12-month period for purposes of complying with Conditions 23 and 34.



24. Catoctin Power shall design the nominal 1,000-kilowatt emergency diesel generator at the Catoctin Power facility to meet the following Best Available Control Technology (BACT) standards for sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>), carbon monoxide (CO), and nitrogen oxides (NO<sub>x</sub>). The generator will be designed to meet Tier 1 offroad diesel engine standards. Emissions from the unit shall be designed to achieve the following BACT emission limits:

<u>Pollutant</u>	<u>Emission Limit Not to Exceed:</u>	<u>To be Achieved By:</u>
SO <sub>2</sub>	0.49 pounds per hour on a 3-hour average basis	Low sulfur (<0.05% sulfur by weight) fuel and a limit on operations of no more than 200 hours during any consecutive 12-month period
PM <sub>10</sub>	1.18 pounds per hour on a 3-hour average basis	Low sulfur (<0.05% sulfur by weight) fuel and a limit on operations of no more than 200 hours during any consecutive 12-month period
CO	25.11 pounds per hour on a 3-hour average basis	Good combustion practices and a limit on operations of no more than 200 hours during any consecutive 12-month period
NO <sub>x</sub>	20.4 pounds per hour on a 3-hour average basis	Good combustion practices and a limit on operations of no more than 200 hours during any consecutive 12-month period

25. Catoctin Power shall design the nominal 350-kilowatt emergency diesel generator at the water supply pump house to meet the following Best Available Control Technology (BACT) standards for sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>), carbon monoxide (CO), and nitrogen oxides (NO<sub>x</sub>) from the emergency diesel generator. The generator will be designed to meet Tier 1 offroad diesel engine standards. Emissions from the unit shall be designed to achieve the following BACT emission limits:

<u>Pollutant</u>	<u>Emission Limit Not to Exceed:</u>	<u>To be Achieved By:</u>
SO <sub>2</sub>	0.17 pounds per hour on a 3-hour average basis	Low sulfur (<0.05% sulfur by weight) fuel and a limit on operations of no more than 200 hours during any consecutive 12-month period
PM <sub>10</sub>	0.41 pounds per hour on a 3-hour average basis	Low sulfur (<0.05% sulfur by weight) fuel and a limit on operations of no more than 200 hours during any consecutive 12-month period
CO	8.8 pounds per hour on a 3-hour average basis	Good combustion practices and a limit on operations of no more than 200 hours during any consecutive 12-month period
NO <sub>x</sub>	7.1 pounds per hour on a 3-hour average basis	Good combustion practices and a limit on operations of no more than 200 hours during any consecutive 12-month period

26. Catoctin Power shall design the firewater pump engine to meet the following Best Available Control Technology (BACT) standards for particulate matter (PM10), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and nitrogen oxides (NO<sub>x</sub>) from the firewater heater engine. Emissions shall be designed to achieve the emission limits:

<u>Pollutant</u>	<u>Emission Limit Not to Exceed:</u>	<u>To be Achieved By:</u>
SO <sub>2</sub>	0.13 pounds per hour on a 3-hour average basis	Low sulfur (<0.05% sulfur by weight) fuel and a limit on operations of no more than 100 hours during any consecutive 12-month period
PM10	0.81 pounds per hour on a 3-hour average basis	Low sulfur (<0.05% sulfur by weight) fuel and a limit on operations of no more than 100 hours during any consecutive 12-month period
CO	2.5 pounds per hour on a 3-hour average basis	Good combustion practices and a limit on operations of no more than 100 hours during any consecutive 12-month period
NO <sub>x</sub>	11.5 pounds per hour on a 3-hour average basis	Good combustion practices and a limit on operations of no more than 100 hours during any consecutive 12-month period

27. Catoctin Power shall design the cooling tower to meet the following Best Available Control Technology (BACT) standards for particulate matter (PM10) from the cooling tower. Emissions shall be designed to achieve the following BACT emission limits:

<u>Pollutant</u>	<u>Emission Limit Not to Exceed:</u>	<u>To be Achieved By:</u>
PM10	0.71 pounds per hour on a 24-hour average basis	High efficiency drift eliminators to achieve a drift loss rate of at least 0.0005% of recirculating water flow
PM	2.81 pounds per hour on a 24-hour average basis	High efficiency drift eliminators to achieve a drift loss rate of at least 0.0005% of recirculating water flow

#### **IV. LAER Requirements**

28. Emissions from the combustion turbines and associated duct burners and heat recovery steam generators shall meet the following Lowest Achievable Emission Rate (LAER) standards, except during periods of startup, shutdown, and malfunction:
  - a) NO<sub>x</sub> emissions shall not exceed 2.0 parts per million on a dry weight basis (ppmvd), corrected to 15 percent oxygen on a 1-hour average basis without duct firing, and 2.5 ppmvd corrected to 15 percent oxygen on a 1-hour average basis when duct firing.
  - b) VOC emissions shall not exceed 0.7 parts per million on a dry weight basis (ppmvd), corrected to 15 percent oxygen, on a 3-hour average basis without duct firing, and 1.3 parts per million on a dry weight basis (ppmvd), corrected to 15 percent oxygen, on a 1-hour average basis when duct firing.
  - c) Periods of startup and shutdown shall not exceed 680 hours in any consecutive 12-month period for purposes of complying with Conditions 28 and 34.
29. Emissions from the emergency diesel generator at the Catoctin Power facility shall be designed to meet the following emission limits to meet Lowest Achievable Emission Rate (LAER) standards:
  - a) NO<sub>x</sub> emissions shall not exceed 20.4 pounds per hour on a 3-hour average basis.
  - b) VOC emissions shall not exceed 1.5 pounds per hour on a 3-hour average basis.
30. Emissions from the emergency diesel generator at the water supply pump house shall be designed to meet the following emission limits to meet Lowest Achievable Emission Rate (LAER) standards:
  - a) NO<sub>x</sub> emissions shall not exceed 7.1 pounds per hour on a 3-hour average basis.
  - b) VOC emissions shall not exceed 0.5 pounds per hour on a 3-hour average basis.
31. Emissions from the firewater pump engine shall be designed to meet the following emission limits to meet Lowest Achievable Emission Rate (LAER) standards:
  - a) NO<sub>x</sub> emissions shall not exceed 11.5 pounds per hour on a 3-hour average basis.
  - b) VOC emissions shall not exceed 0.9 pounds per hour on a 3-hour average basis.

## V. Other Emissions and Operating Restrictions

32. Catoctin Power shall limit emissions of ammonia resulting from unreacted ammonia (ammonia slip) emitted from the SCR to 10 parts per million by volume, dry basis, corrected to 15 percent oxygen. Compliance with the ammonia slip limit shall be determined based on a twenty-four hour block average basis.

- a) Compliance with the ammonia slip limit shall be demonstrated by using the following calculation procedure;

$$\text{ammonia slip ppmvd@15\% O}_2 = ((a-(b \times c/1,000,000)) \times 1,000,000/b) \times d$$

where:

a = ammonia injection rate (lb/hr)/17lb/lb-mole),

b = dry exhaust gas flow rate (lb/hr)/29(lb-mole),

c = change in measured NO<sub>x</sub> concentration ppmv at 15% O<sub>2</sub> across catalyst, and

d = correction factor.

The correction factor shall be derived during compliance testing by comparing the measured and calculated ammonia slip.

- b) Alternatively, permittee may request permission from ARMA to utilize a continuous in-stack ammonia monitor acceptable to ARMA to monitor compliance.
- c) Catoctin Power shall maintain records of ammonia slip monitoring onsite available for review by ARMA upon request.

33. The combustion turbines and associated duct burners and heat recovery steam generators shall be limited to the following:

- a) Operation of each duct burner shall not exceed 577 million Btu per hour (MMBtu/hr, higher heating value) each, and 2,308,000 million Btu during any consecutive 12-month period.
- b) Each duct burner shall operate for no more than 4,000 hours during any consecutive 12-month period.
- c) The duct burners shall not operate during periods of startup or shutdown.

34. Emissions from the combustion turbines and associated duct burners and heat recovery steam generators shall not exceed the following during any consecutive 12-month period, including emissions during periods of startup and shutdown:

<u>Pollutant</u>	<u>Emission Limit (1 combustion turbine)</u>	<u>Emission Limit (2 combustion turbines)</u>
Particulate Matter (PM10)	80.5 tons per year	161.0 tons per year
Particulate Matter (PM)	80.5 tons per year	161.0 tons per year
Particulate Matter (PM2.5)	80.5 tons per year	161.0 tons per year
Sulfur Dioxide (SO <sub>2</sub> )	25.5 tons per year	51.1 tons per year
Nitrogen Oxides (NO <sub>x</sub> )	94.2 tons per year	188.4 tons per year
Carbon Monoxide (CO)	64.9 tons per year	129.8 tons per year
Volatile Organic Compounds (VOCs)	14.9 tons per year	29.8 tons per year
Sulfuric Acid Mist	2.3 tons per year	4.6 tons per year

35. Facility-wide emissions shall be limited to the following in any consecutive 12-month rolling period:

<u>Pollutant</u>	<u>Emission Limit</u>
Particulate Matter (PM10)-	164.4 tons per year
Particulate Matter (PM)-	173.6 tons per year
Particulate Matter (PM2.5)	164.4 tons per year
Sulfur Dioxide (SO <sub>2</sub> )	51.1 tons per year
Nitrogen Oxides (NO <sub>x</sub> )	191.7 tons per year
Carbon Monoxide (CO)	133.3 tons per year
Volatile Organic Compounds (VOC)	30.0 tons per year

## VI. Testing

36. Catoctin Power shall submit a monitoring plan to ARMA at least 60 days prior to anticipated startup of any of the combustion turbines and cooling tower describing the monitoring, emission factors, or other methods that will be used to i) determine compliance with the BACT and LAER limits in Conditions 23, 27 and 28; ii) determine compliance with the ammonia slip limits in Condition 32; and iii) to calculate emissions during startup and shutdown events for purposes of complying with Conditions 23, 27, 28, and 34. ARMA shall approve the plan and it will become effective upon startup.

37. At least 30 days prior to conducting any compliance stack test, Catoctin Power shall submit a test protocol to ARMA for review and approval.
  - a) Compliance stack testing shall be conducted in accordance with ARMA Technical Memorandum (TM) 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January 1991), as amended by Supplement 1 (1 July 1991), 40 CFR 51, 40 CFR 60, or subsequent test protocols approved by ARMA.
  - b) Compliance testing for PM and PM10 emissions from the combustion turbines shall be conducted according to EPA Method 8 and EPA Method 202. As part of the test protocol, Catoctin Power shall present a methodology for PM2.5 emissions.
  - c) Test ports shall be located in accordance with TM 91-01 (January 1991), or subsequent or alternative measures approved by ARMA.
38. Compliance stack testing of the combustion turbines shall be conducted within 180 days after initial startup to quantify pollutant emissions and demonstrate compliance with the emission limits specified in the CPCN for the following pollutants: NO<sub>x</sub>, SO<sub>2</sub>, PM10, PM2.5, and CO.
39. Testing of the combustion turbines shall be performed when operating at a minimum of 90% of the design turbine load for compressor inlet conditions. If testing cannot be performed at the minimum turbine load, then the actual turbine load during testing shall become the allowable permitted turbine load.
40. In accordance with COMAR 26.11.01.04A, Catoctin Power may be required by ARMA to conduct additional stack tests to determine compliance with COMAR Title 26, Subtitle 11. This testing will be done at a reasonable time.
41. Catoctin Power shall meet applicable Compliance Assurance Monitoring Requirements of 40 CFR Part 64 for emissions of NO<sub>x</sub>, CO, and VOCs from the combustion turbines.

## **VII. Recordkeeping and Reporting**

42. Catoctin Power shall submit a report to ARMA to be postmarked by the 30<sup>th</sup> day following the end of each calendar quarter that:
  - a) Summarizes separately the date, time, and duration of each startup, shutdown, or malfunction that occurred at each combustion turbine during the prior period for the purposes of complying with Conditions 15, 23, 28, 34, and 35. The report shall include total monthly and consecutive 12-month total hours of startup, shutdown, and malfunction for each combustion turbine;

- b) Summarizes the monthly and consecutive 12-month total emissions of PM, PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOCs, and sulfuric acid mist separately for each combustion turbine and for total emissions of those pollutants facility-wide.
43. Within 60 days after completing the initial stack tests, Catoctin Power shall provide ARMA copies of the testing results.
44. Final results of each compliance stack test must be submitted to ARMA within 60 days after completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company.
45. Catoctin Power shall furnish written notification to ARMA and EPA of the following events:
- a) the date construction commenced within 30 days after such date;
  - b) the anticipated startup date, not more than 60 or less than 30 days prior to such date;
  - c) the actual startup date within 15 days after such date; and
  - d) the anticipated date of compliance stack testing at least 30 days prior to such date.
46. Catoctin Power shall certify the actual emissions of regulated pollutants from the facility.
- a) Certification shall be on a form obtained from ARMA and shall be submitted to ARMA no later than April 1 of the year following the year for which certification is required.
  - b) The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The certifying individual shall be:
    - i. familiar with each source for which the certification form is submitted; and
    - ii. responsible for the accuracy of the emission information.
47. All records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA.
48. All air quality notifications and reports required by this CPCN shall be submitted to:



Administrator, Compliance Program  
Air and Radiation Management Administration  
1800 Washington Boulevard  
Baltimore, Maryland 21230

49. All notifications and reports required by 40 CFR 60 and Subpart GG, Subpart Da, and the Acid Rain provisions, unless specified otherwise, shall be submitted to:

Regional Administrator, US Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

### **Water Supply**

50. Prior to construction but not later than 18 months following issuance of the CPCN, Catoctin Power shall provide to MDE Water Management Administration, PPRP and the PSC definitive notice selecting which water supply option will be used (i.e., Potomac River water and/or reclaimed water). The approval for the allocation of water will expire if the notice is not provided within 18 months of issuance of the CPCN, unless the time limit is extended for good cause, at the discretion of the MDE Water Management Administration, upon written request to the MDE Water Management Administration. Conditions for two options are provided herein because Catoctin Power has not selected which water supply option will be used. Conditions 51 to 60 will apply if the river water option is selected and Conditions 61 to 66 will apply if the reclaimed water option is selected. Conditions 67 to 76 relative to low flow augmentation storage will apply to both options.

### **I. Water Appropriation for Direct Withdrawal from the Potomac River (if applicable)**

51. This CPCN authorizes Catoctin Power to appropriate and use surface waters of the State. Appropriation means a withdrawal, movement, or diversion of water from its source of natural occurrence. The appropriation will be tracked under MDE Water Management Administration permit number FR2004S022. The surface water appropriation will be subject to the following conditions:
- a) *Allocation.* The surface water withdrawal granted by this appropriation is limited to a daily average of 2,500,000 gallons on a yearly basis and a maximum daily withdrawal of 4,100,000 gallons.
  - b) *Source.* The water shall be withdrawn from the Potomac River.

- c) *Location.* If a right-of-way permit from the C&O Canal National Historical Park is required to access the C&O Canal National Historical Park, the exact point of withdrawal on the Potomac River shall be determined after the National Park Service issues the right-of-way permit. If a right-of-way permit from the National Park Service is not required, the exact point of withdrawal from the Potomac River shall be as agreed upon by Catoclin Power and MDE Water Management Administration. The final approved point of withdrawal will be provided to MDE Water Management Administration concurrent with the notification required under Condition 50. Only one location of water withdrawal will be approved for use.
  - d) *Use.* Catoclin Power may use the water for wet cooling of steam condensers and for fire suppression water.
52. *Initiation of Withdrawal.* Catoclin Power shall notify MDE Water Management Administration by certified mail when withdrawals for the uses specified in this appropriation have been initiated. Appropriation or use of this water shall be initiated within two years after the effective date of issuance of the CPCN. The time limit may be extended for good cause, at the discretion of MDE Water Management Administration, upon written request to MDE Water Management Administration prior to the expiration of the two-year period. Withdrawal associated with plant testing and startup qualifies as initiation.
53. *Change of Operations.* Catoclin Power shall report any anticipated change in appropriation, which may result in a new or different withdrawal, quantity, source, or method of use of water, to MDE Water Management Administration by submission of a modified or amended MDE Water Management Administration permit application.
54. *Triennial Review.* MDE Water Management Administration shall review the appropriation every three years (triennial review). Catoclin Power will be queried by the MDE Water Management Administration every three years regarding water withdrawal under the terms and conditions of this appropriation. Failure of Catoclin Power to return the triennial review query to MDE Water Management Administration may result in suspension or revocation of this appropriation.
55. *Appropriation Renewal or Revision.* This appropriation is for a period of twelve years from the date that the CPCN was issued. In order to renew the appropriation, Catoclin Power shall file a renewal application with MDE Water Management Administration no later than 45 days prior to the expiration. The MDE Water Management Administration shall review an active permit at least once every 3 years, or more frequently at the discretion of the MDE Water Management Administration. During the permit review, the MDE Water Management Administration may modify the permit to adjust the quantity of the water a permittee may appropriate or use or

add a condition to the permit for resource management purposes, including avoidance or mitigation of unreasonable adverse impacts on the environment, public health, or welfare. Condition revisions and additions will be accompanied by issuance of a revised appropriation.

56. *Right of Entry.* Catoctin Power shall allow authorized representatives of MDE Water Management Administration, PPRP and the Public Service Commission staff reasonable access to the facility at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the conditions of this appropriation. Catoctin Power shall provide such assistance as may be necessary to effectively and safely conduct such inspections and evaluations.
57. *Appropriation Suspension or Revocation.* MDE Water Management Administration may suspend or revoke this appropriation upon violation of the conditions of this appropriation by Catoctin Power, or upon violation by Catoctin Power of any applicable regulation promulgated pursuant to Title 5 of the Environment Article, Annotated Code of Maryland (1996 replacement volume) as amended, subject to Catoctin Power's right to an evidentiary hearing and rights of appeal.
58. *Non-Transferable.* This appropriation is not transferable to a new owner unless the new owner acquires prior authorization to continue this appropriation by filing a new application with MDE Water Management Administration. Authorization will be accomplished by issuance of a new appropriation permit by MDE Water Management Administration.
59. *Drought Period Emergency Restrictions.* If MDE Water Management Administration determines that a drought period or emergency exists and Catoctin Power is not complying with COMAR 26.17.07, Catoctin Power may be required by MDE Water Management Administration's to stop or reduce water withdrawal from the Potomac River. Under these circumstances, any cessation or reduction of water withdrawal must continue for the duration of the drought period or emergency, or until MDE Water Management Administration directs Catoctin Power that water withdrawal under standard appropriation conditions may be resumed.
60. Catoctin Power shall conduct the following monitoring activities in support of the surface water appropriation:
  - a) *Flow Measurement.* Catoctin Power shall measure all water withdrawn under this appropriation by a method approved by MDE Water Management Administration.
  - b) *Withdrawal Reports.* Catoctin Power shall submit to MDE Water Management Administration, semi-annually (July-December, no later than January 31 and January-June, no later than July 31), water use records. These records shall show

the total quantity of surface water accepted by the facility each month, and the total quantity of water consumed by the facility each month.

## **II. Wastewater Effluent Use for Cooling (if applicable)**

61. Prior to construction, but not longer than 24 months following issuance of the CPCN, Catoctin Power shall provide to PPRP and the PSC for review and approval final design documentation, including, but not limited to, drawings, materials and equipment specifications, and Standard Operating Procedures (SOPs) related to the proposed means to chlorinate the reclaimed water and maintain the residual chlorine levels for a minimum of six hours prior to the time that the reclaimed water is used in the power plant's cooling water makeup system, water quality monitoring systems, raw water storage, and proposed measures to appropriately manage the delivery of reclaimed water of an unacceptable quality due to an upset condition at the Ballenger Creek Wastewater Treatment Plant (WWTP) or the planned McKinney WWTP, as detailed in Conditions 62 through 64.
62. Catoctin Power shall chlorinate the effluent obtained from the Ballenger Creek WWTP or the planned McKinney WWTP source to sufficiently establish and maintain detectable free chlorine residual in the reclaimed water for a minimum of six hours prior to the time that the reclaimed water is used in the power plant's cooling water makeup system. Catoctin Power shall have the ability to add additional chlorine, if necessary, to reestablish the free chlorine residual for reclaimed water stored on site.
63. Following receipt of reclaimed water from the County WWTP(s) and prior to entry in the on-site water storage tank, Catoctin Power shall at a minimum perform daily sampling and analyses for total suspended solids, pH, turbidity, fecal coliform, and free chlorine residual. These tests shall be performed in accordance with procedures specified in 40 CFR 136, and the results maintained in the facility's operating log. Turbidity values greater than 5 Nephelometric Turbidity Units (NTU) shall result in effluent water unsuitable for use in the cooling water system. Catoctin Power shall submit these analytical data to PPRP for interagency review once per quarter.
64. Whenever exceedances of the 5 NTU threshold occur following the receipt of reclaimed water from the County WWTP (see Condition 63 for monitoring requirements), the following procedures shall apply:
  - a) Catoctin Power shall promptly contact the WWTP to ascertain and document in detail in the operating log the following information: whether an upset condition has occurred and, if so, the nature of the upset, the time when the upset occurred, and the estimated time for correcting the condition.

- b) For minor upsets (defined as those conditions that have already been corrected by the time they are detected at the Catoctin Power Facility), Catoctin Power may either cease the use of the reclaimed water, or continue to use it and resample not more than 8 hours after the initial sampling to confirm that acceptable conditions have been restored. In the event that resampling still results in an exceedance of the 5 NTU turbidity threshold, Catoctin Power shall immediately cease the use of the reclaimed water and implement the proposed measures to appropriately manage the delivery of reclaimed water of an unacceptable quality, as described in the SOP required under Condition 61.
  - c) For any significant upset conditions at the WWTP (defined as those conditions that have not been rectified by the time they are detected at the Catoctin Power Facility), Catoctin Power shall immediately cease the use of the reclaimed water and implement the proposed measures to appropriately manage the delivery of reclaimed water of an unacceptable quality, as described in the SOP required under Condition 61.
65. Where Catoctin Power uses reclaimed water in place of potable water, consistent with specifications outlined by the American Water Works Association (AWWA) in "Guidelines for Distribution of Nonpotable Water," to prevent inadvertent and inappropriate use of the WWTP reclaimed water, Catoctin Power shall ensure the following:
- a) All exposed and aboveground piping, fittings, pumps, valves, etc., associated with the reclaimed water effluent line shall be painted purple "Pantone 512."
  - b) All piping shall be identified using an accepted means of labeling reading, "CAUTION: NONPOTABLE WATER - DO NOT DRINK" or "CAUTION: RECLAIMED WATER - DO NOT DRINK."
  - c) In a fenced area, at least one sign shall be posted on the fence that can be readily seen by all operations personnel using the facility.
66. Catoctin Power shall conduct the following monitoring activities in support of the use of reclaimed water and compliance with consumptive use requirements:
- a) *Flow Measurement.* Catoctin Power shall measure all reclaimed water accepted at the facility by a method approved by MDE Water Management Administration.
  - b) *Water Use Reports.* Catoctin Power shall submit to MDE Water Management Administration, semi-annually (July-December, no later than January 31 and January-June, no later than July 31), water use records. These records shall show

the total quantity of reclaimed water accepted by the facility each month, and the total quantity of water consumed by the facility each month.

### **III. Low Flow Augmentation**

67. *Low Flow Augmentation Storage.* Catoctin Power shall maintain the minimum amount of low flow augmentation storage of 468,000,000 gallons at the Millville and/or Old Standard quarries in Jefferson County, West Virginia. The 468,000,000 gallons of required storage is in accordance with the requirements set forth in COMAR 26.17.07.03.C., and is based on Catoctin Power's estimated maximum consumptive use of 3,630,000 gallons per day, and an estimated travel time of 8 days. Catoctin Power shall provide MDE Water Management Administration with written notification for review and approval if an alternative location is proposed for low flow augmentation storage.
  
68. *Low Flow Augmentation.*
  - a) When Catoctin Power's consumptive use exceeds 1,000,000 gallons per day and (i) the Potomac River water level at the USGS Point of Rocks Gauging Station (01638500) is at or below the 10-year, 7-day low flow (7Q10) of 556,000,000 gallons per day (860 cubic feet per second) at an instantaneous, real-time flow during a calendar day, or (ii) days when the ICPRB Co-Op orders a release of water from Jennings Randolph reservoir, Catoctin shall release augmentation water from either of the two low flow augmentation storage facilities to the Shenandoah River in an amount equivalent to the facility's actual consumptive use during the preceding 24-hour period. If the facility cannot determine the actual consumptive use during the preceding 24-hour period, or the facility was not operating during the previous 24-hour period, Catoctin Power shall release an amount of water equivalent to the maximum consumptive use of 3,630,000 gallons per day. Catoctin Power shall notify MDE Water Management Administration and the ICPRB Co-op within 24 hours after Catoctin Power causes a release from low flow augmentation storage to be made pursuant to this condition, and Catoctin Power shall report the amount of water released from storage and any adjustments made in accordance with the procedures in Condition 73 to both MDE and ICPRB.
  
  - b) If Catoctin Power cannot provide the low flow augmentation required under Condition 68(a), Catoctin Power shall reduce maximum daily consumptive use to 1,000,000 gallons per day or less to comply with the provisions of COMAR 26.17.07.02B. Catoctin Power shall notify MDE Water Management Administration and the ICPRP Co-op within 24 hours if a release from low flow augmentation storage cannot be made at the required time.

- c) If the USGS Point of Rock Gauging Station (01638500) is not active, Catoctin Power shall notify MDE Water Management Administration and the ICPRP Co-op, who will in turn request the USGS to provide an estimate of the river flow.
69. If Catoctin Power elects to use the Millville Quarry as a source of low flow augmentation storage, Catoctin Power shall conduct a baseline study of the daily fluctuation of water levels in the Millville Quarry for the period spanning at least a two month period between June 1 through October 31 to demonstrate the ability to accurately measure drawdown in the quarry. The study shall include, but not be limited to the following:
1. Augmentation water shall be released at a rate of 3.63 million MGD for at least 10 days, 7 of which must be consecutive during the two month test period;
  2. Continuous water level monitoring in the quarry using an instrument accurate to 0.01 ft.;
  3. Measurement of daily precipitation using a rain gauge;
  4. Measurement of river stage at the quarry at USGS gauge 01636500, and upstream of the quarry at the West Virginia Route 9 bridge over the Shenandoah River, or at another upstream location approved by MDE Water Management Administration;
  5. Estimation of the amount of surface water runoff;
  6. Estimation of the amount of monthly evaporation;
  7. Delineation of the watershed that contributes runoff to the quarry; and
  8. Compilation of the daily pumping records for the discharge of the quarry water.

Catoctin Power shall provide a plan of study to MDE Water Management Administration for review and approval, and to PPRP for review, two months prior to the planned implementation of the study. The results of the study shall be used to develop the Standard Operating Procedures (SOPs) required under Condition 70, and shall be provided to MDE Water Management Administration and PPRP for review, concurrent with the SOPs.

70. Catoctin Power shall develop SOPs to accurately measure drawdown in the Millville Quarry during consecutive days of low flow augmentation. The SOPs will be developed based on the information collected during the baseline study conducted under Condition 69. The SOPs shall include procedures for calculating the quantity of augmentation water released each day, with consideration of the amount of daily fluctuations in the water level due to ground water inflow or outflow of water into the quarry (if applicable), precipitation, evaporation and daily pumping by the quarry

operator. The SOPs shall be provided to MDE Water Management Administration for review and approval, and PPRP for review, at least six months prior to the planned release of water from the Millville Quarry for low flow augmentation associated with either withdrawal from the Potomac River or use of reclaimed water from Frederick County. Use of the Millville Quarry for low flow augmentation to comply with COMAR 26.17.07.02B and Condition 68(a) shall not begin until MDE Water Management Administration approves the SOPs. Catoctin Power shall reduce maximum consumptive use to 1,000,000 gallons per day or less to comply with the provisions of COMAR 26.17.07.02B and Condition 68 (a) until the SOPs are approved by MDE Water Management Administration.

71. In the event the results of the baseline study of the Millville Quarry water level fluctuations conducted to comply with Condition 69 indicate the potential for naturally occurring loss of water into the geologic formation during certain periods, MDE Water Management Administration reserves the right to require a study at the Millville Quarry to quantify the potential loss of quarry water to the surrounding geologic formation. The study may include a dye tracer test. Catoctin Power shall provide a plan of study to MDE Water Management Administration for review and approval, and to PPRP for review, two months prior to the planned implementation of the study. The results of the study shall be provided to MDE Water Management Administration for review and approval, and PPRP for review, within two months after completion of the data collection. If the study shows that water losses to the geologic formation during any day are 10% or greater of a daily augmentation volume, Catoctin Power shall submit modified SOPs to account for the impact of such water losses unanticipated by the existing SOPs, on the measurement of released augmentation water. The modified SOPs shall be submitted within sixty days after being notified by MDE Water Management Administration, to MDE Water Management Administration, for review and approval. If Catoctin Power fails to submit modified SOPs within sixty days or fails to submit SOPs that obtain MDE Water Management Administration's approval within 120 days of being notified, Catoctin Power shall reduce maximum consumptive use to 1,000,000 gallons per day or less to comply with the provisions of COMAR 26.17.07.02B and Condition 68(a) until the modified SOPs are approved by MDE Water Management Administration.
72. If Catoctin Power elects to use the Old Standard Quarry as a source of low flow augmentation storage, Catoctin Power shall submit to MDE Water Management Administration and PPRP results of any available analyses conducted by Old Standard Quarry to assess the potential presence of tetrachloroethylene (PCE) in the water. If these analyses are not sufficient to demonstrate whether or not the presence of PCE will adversely affect the use of the quarry for low flow augmentation, Catoctin Power shall conduct or cause a third party to conduct a study of the water quality in the Old Standard Quarry to ensure that the potential presence of PCE in the water will not adversely affect the use of the quarry for low flow augmentation. Catoctin Power



shall provide a plan of study to MDE Water Management Administration for review and approval, and PPRP for review, two months prior to the planned implementation of the study. Any study conducted by Catoctin Power shall include the collection and analysis of multiple samples distributed across the quarry and at depth to determine the presence or absence and distribution of PCE in the water. Catoctin Power shall complete the study within six months prior to using the Old Standard Quarry for augmentation purposes, and provide the results of the study to MDE Water Management Administration for review and approval, and PPRP for review within two months after completing the study.

73. Unless adjusted based on the development of the Standard Operating Procedures described in Condition 70, Catoctin Power shall determine the quantity of augmentation water released each day by calculating the difference in volume in the quarry from which Catoctin releases the augmentation water at the start of the augmentation day and the volume in the quarry at the end of the augmentation day (i.e., 24 hours after augmentation begins). Flow measurements using a totalizing flow meter or pump curves shall be used as secondary information to determine the amount of water released from storage each day. Consideration of rainfall, rainfall entering the quarry, and evaporation will be made using the following methods:
  - a) Evaporation from the quarries shall be calculated based on the assumption that the elevation of the surface water of the quarries will be reduced by 0.25 inches per day during the months of June through September and 0.025 inches per day for the remainder of the year;
  - b) Daily precipitation shall be estimated from rain gauges maintained at each impoundment; and
  - c) Where runoff into an impoundment is excessive during augmentation, Catoctin shall provide records approximating such runoff (such as pump operating records) to demonstrate that such runoff impeded Catoctin's ability to lower the quarry water level the amount necessary to calculate the amount of the daily augmentation release.
74. Catoctin Power shall demonstrate the ability to secure all necessary agreements with the owners of the Millville and/or Old Standard quarries through the submittal of a signed and notarized affidavit indicating that the necessary agreements have been obtained. The signed and notarized affidavit shall be provided to MDE Water Management Administration at least one month in advance of Catoctin Power's initiation of withdrawal from the Potomac River or use of reclaimed water from Frederick County to ensure that the quarry water can be released from storage when required under Condition 68. The signed and notarized affidavit needs to attest that Catoctin Power has entered into agreements to use quarry water for low flow

augmentation for a period of at least twelve years from the date that the CPCN was issued.

75. Catoctin Power shall secure all necessary permits and approvals that are required under federal, state or local laws and regulations to satisfy Catoctin's obligations under COMAR 26.17.07, and provide MDE Water Management Administration copies of all necessary permits and approvals, within at least one month in advance of initiation of water releases from storage for the purpose of satisfying the augmentation requirements under Condition 68.
76. MDE Water Management Administration shall renew the approval for providing low flow augmentation twelve years from the date that the CPCN was issued. In order to renew the appropriation, Catoctin Power shall file a renewal application with MDE Water Management Administration no later than 45 days prior to the expiration. The MDE Water Management Administration shall review an active permit at least once every three years, or more frequently at the discretion of the MDE Water Management Administration. During the permit review, the MDE Water Management Administration may modify the augmentation requirements to adjust the quantity of water that may be stored to satisfy the requirements of COMAR 26.17.07, or add a condition to the permit for resources management purposes, including avoidance or mitigation of unreasonable adverse impacts on the environment, public health or welfare. Condition revisions and additions will be accompanied by issuance of an approval letter. As part of the renewal process, MDE Water Management Administration shall evaluate the frequency and duration of low flow events that have occurred in the Potomac River, coupled with the growth in demand for water resources in the Washington D.C. metropolitan area, during the past 12 years to ensure that the amount of storage required under Condition 67 remains adequate to satisfy the requirements of COMAR 26.17.07. In order to renew this approval, Catoctin Power shall demonstrate that all necessary agreements with the quarry owners have been extended for the extension period through the issuance of a signed and notarized affidavit. In order to renew this approval, Catoctin Power shall demonstrate that all necessary permits and approvals are in place.

#### Wastewater Discharge

77. The CPCN is not an authorization to discharge wastewater to waters of the state. Catoctin Power shall obtain a discharge permit from the Maryland Department of Environment under the National Pollutant Discharge Elimination System (NPDES) for the Catoctin Power Facility. If the water supply option selected includes a Potomac River water withdrawal, the NPDES permit application shall include the information required by USEPA's Phase I final rule regarding Section 316(b) of the Clean Water Act, including site-specific engineering design drawings (sufficient to meet the 316(b) permitting requirements) of the cooling water intake structure.

78. Catoctin Power shall obtain applicable state and federal dredge-and-fill and waterway construction permits for the Potomac River intake and discharge site, if that water supply option is chosen for implementation.

### **Stormwater Management**

79. As directed by MDE Water Management Administration, Catoctin Power shall prepare a Stormwater Pollution Prevention Plan, incorporating best management practices to prevent runoff of contaminated stormwater.

### **Terrestrial and Aquatic Ecology**

80. Construction and operation of the power facility and associated linear facilities shall be undertaken in accordance with this CPCN and shall comply with all applicable local, State, and Federal regulations, including by not limited to the following:
- a) Nontidal Wetlands – COMAR 26.23 applies to activities conducted in nontidal wetlands
  - b) Water Quality and Water Pollution Control – COMAR 26.09.01 through COMAR 26.08.04 applies to discharges to surface water and maintenance of surface water quality
  - c) Erosion and Sediment Control – COMAR 26.09.01 applies to the preparation, submittal, review, approval, and enforcement of erosion and sediment control plans
81. All portions of the power plant and rights-of-way disturbed during construction shall be stabilized immediately after the cessation of construction activities within that portion of the power plant or right-of-way, followed by seed application, except in actively cultivated lands, in accordance with the best management practices presented in the MDE document 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control, said document having been approved by Frederick County. In wetlands and wetland buffers, seed application shall consist of the following species: annual ryegrass (*Lolium multiflorum*), millet (*Setaria italica*), barley (*Horedum spp.*), oats (*Uniola spp.*), and/or rye (*Secale cereale*). Other non-persistent vegetation may be acceptable, but must be approved by MDE Water Management Administration. Kentucky 31 fescue shall not be used in wetlands or buffers.

### **Linear Facilities**

82. This CPCN applies to the transmission line interconnection and pipeline linear facilities (including natural gas and water pipelines) as presented in Catoctin Power's application (including amendments and supplements) and direct testimony in this

proceeding. If any other configuration for transmission interconnection or natural gas pipeline linear facilities is proposed, including collocating a new transmission line along an existing right-of-way, an amended CPCN will be required.

83. Catoctin Power shall provide to PPRP and PSC detailed plans regarding the routes for water supply and effluent pipelines prior to construction but no later than 3 months after the NPS issues a right-of-way permit. The notification shall include plans showing the routes, and procedures for the installation of the pipelines.
84. Catoctin Power shall provide as-built details on the following to PPRP and PSC in accordance with COMAR 20.80.04.02: engineering and construction plans of any transmission facilities and pipeline linear facilities, including dimensions and location of on-site transformers and switchgear; rights-of-way width; length and total acreage of the rights-of-way.
85. Catoctin Power shall reduce tree clearing or trimming within the transmission line and pipeline linear facilities rights-of-way, to the extent practicable when constructing and maintaining the transmission line and pipeline linear facilities. In agricultural areas, grasses will be planted in areas disturbed during construction along streams where acceptable to the property owners. If the agricultural areas along streams are wetlands or wetland buffers, only grasses listed in Condition 81 shall be used. If agricultural areas along streams are uplands, the following grass species may be used: blue joint grass (*Calamagrostis canadensis*), switchgrass (*Panicumvirgatum*), little bluestem (*Schizachyrium scoparium*), or indian grass (*Sorghastrum nutans*).
86. Catoctin Power shall advise the PSC and PPRP that copies of contract specifications for clearing, construction, and rehabilitation of the rights-of-way are available thirty (30) days prior to the beginning of construction. Catoctin Power shall provide the same advisement to the PSC and PPRP for contract specifications for maintenance when made available to bidders. During any clearing of the right-of-way, Catoctin Power and its contractors shall leave tree roots and stumps in place, except where such roots and stumps interfere with structure locations, access roads, or other components of the transmission line or pipeline linear facilities. Cleared trees may be cut and windrowed along the edge of the right-of-way for wildlife habitat where acceptable to the property owner. Brush may be shredded and distributed on the cleared right-of-way as a ground cover to stabilize the soil surface.
87. If Catoctin Power selects a water supply that places a pump house and other appurtenances on the property of the C&O National Historical Park, Catoctin Power shall obtain an easement or right-of-way from the National Park Service, in accordance with the requirements of the National Park Service, to obtain an easement or right-of-way to access the Potomac River for the purpose of constructing a water intake structure and pipeline to withdraw water, a wastewater effluent pipeline and

diffuser to discharge wastewater, and any other ancillary facilities.

88. If Catoctin Power determines the need to place a pump house and other appurtenances on the property of the State Highway Administration in the US Route 15 corridor underneath or adjacent to the Route 15 bridge, Catoctin Power shall address environmental and socioeconomic impacts to the C&O Canal National Historical Park, in accordance with the requirements of applicable federal, state and local laws.
89. If Catoctin Power constructs a pipeline along US 15 between the Potomac River and US 340, Catoctin Power shall enter into an agreement via a Memorandum of Understanding (MOU) or a Letter of Agreement (LOA) with the State Highway Administration (SHA). The MOU or LOA shall state that Catoctin Power will be financially responsible for the relocation of the pipeline if any future improvements to US 15 are required.
90. Catoctin Power or its contractors shall employ jack and bore or similar methods instead of open trench excavation at all road and rail crossings (other than local road crossings) during the construction of the natural gas and water pipelines.
91. Prior to construction, Catoctin Power shall conduct Phase I archeological surveys of the selected pipeline corridors in accordance with Maryland Historical Trust standards and recommendations, and submit a Phase I archeological identification report to the MHT. If cultural resources are identified in surveys, Catoctin Power shall either avoid the sites or conduct Phase II evaluations in accordance with MHT standards and recommendations. If sites are unavoidable and MHT determines from the Phase II evaluations that they are eligible for the Maryland Register of Historic Properties, and if these properties will be adversely affected by the undertaking, Catoctin Power shall consult with the MHT to develop a treatment plan. When preservation in place of such archeological properties is either technically or economically infeasible, Catoctin Power shall implement an archeological data recovery plan that is satisfactory in form and in substance to the MHT.
92. Catoctin Power shall develop a detailed visual impact mitigation and landscaping plan for all above ground facilities associated with the water supply and discharge pipelines and submit it to PPRP and the PSC for review and approval prior to commencing construction of the facility. The plan shall address, at a minimum, specific steps that will be taken to mitigate visual impact of above-ground facilities on the Chesapeake and Ohio (C&O) Canal National Historical Park and on the Potomac River.
93. Catoctin Power shall work closely with DNR Power Plant Research Program to prepare a forest planting plan to 1) mitigate for incremental nitrogen deposition from the Catoctin facility and, 2) mitigate forest losses associated with the construction of linear facilities. For mitigation of nitrogen deposition, Catoctin Power shall prepare a

plan detailing methods and specifications for establishment of a total of 40 acres of forest to be planted on State land. Either on or off-site reforestation is acceptable, but areas must be identified as appropriate by tools developed by DNR to evaluate the suitability of riparian buffer planting and extensions of the green infrastructure (important natural habitat areas). Locations within Frederick County, especially those within close proximity to the project site should be prioritized. In addition, Catoctin Power shall replace the trees removed for construction of the linear facilities related to the project by assuming that at least one additional acre shall be planted for each acre of forest removed during construction. The plan shall provide details on why selected sites are most appropriate for mitigation and establishment of forest resources. At a minimum, planting plans, specifications, and monitoring schedules for all sites shall be included in the plan. A draft forest planting plan shall be submitted to PPRP at least six months prior to anticipated commercial operation.

### **Cultural Resources**

94. Catoctin Power shall submit to Maryland Historical Trust (MHT) a copy of training programs, or guidelines provided to inspectors or contractors, to identify and/or protect unforeseen archeological sites that may be revealed during construction of the power plant and associated facilities. If such archeological sites or relics are identified in the project area, Catoctin Power, in consultation with and as approved by MHT, shall develop and implement a plan for avoidance and protection, data recovery, or destruction without recovery of the properties adversely affected by the project.

### **Traffic**

95. During peak construction (defined as construction during which site employment exceeds 100 persons) Catoctin Power shall monitor the performance of the intersection of English Muffin Way and New Design Road during both the morning and afternoon peak periods to determine whether significant delays are occurring when construction traffic volumes are greatest. If significant delays are observed, Catoctin Power, in consultation with the Frederick County Department of Highways and Transportation, shall take appropriate steps to reduce congestion at this intersection, such as retaining a traffic control specialist to manage traffic in the intersection or staggering shift schedules to reduce the peak number of construction workers arriving at or leaving the site.
96. Catoctin Power shall instruct its contractors during construction to avoid the Manor Woods Road through the Buckeystown Historic District as the primary means of access to the site.
97. Catoctin Power shall designate a truck route connecting US 15 to the site access driveway via Mountville Road, Ballenger Creek Pike (MD 351) and Manor Woods Road. Trucks transporting aqueous ammonia to the facility shall use the designated truck route and

Catoctin Power shall include this condition in all contracts with suppliers and contractors.

98. During construction of the facility, Catoctin Power shall require all combination unit trucks, and all single unit trucks with a GCW of 26,000 lbs or more to use the designated truck route. Once the facility is in operation, Catoctin Power shall require all combination unit trucks other than trucks transporting aqueous ammonia to the facility, and all other single unit trucks with a GCW of 26,000 lbs or more, to use the designated truck route or alternatively to travel north from Manor Woods Road on either Ballenger Creek Pike or New Design Road in order to access local freeways. Catoctin Power shall include this condition in all contracts with suppliers and contractors.
99. The pavement dimensions of the commercial entrance to the facility will be 30 feet in width and a 30 foot minimum radius.
100. Prior to construction, Catoctin Power will obtain a Driveway Entrance Apron Permit from the Frederick County Division of Public Works.
101. Catoctin Power shall pay for all costs associated with the design and construction of the entrance and driveway improvements according to Frederick County standards, specifications and general guidelines.
102. Catoctin Power shall conduct a Traffic Impact Study (TIS) for its heavy truck usage during construction. The study shall consider impacts to State roads that will carry heavy truck traffic to the construction site, including I-270, MD 85 and US 15.

### **Visual Quality**

103. Catoctin Power shall develop a detailed visual impact mitigation plan that addresses, at a minimum, specific steps that will be taken to minimize visual impact of the proposed facility. The plan shall specifically address the visibility of the Catoctin Power facility from St. Mathew's Evangelical Lutheran Church. The plan shall be in substantial conformity with the Site Plan drawings reviewed by the Frederick County Planning Commission. The plan shall be submitted to PPRP and the PSC for approval, and subject to the authority of Frederick County Division of Permitting and Development Review ("DPDR") to review any substantive changes that Catoctin Power may request to the design shown on the Site Plan drawings for verification that such substantive changes comply with Frederick County zoning requirements.
104. Catoctin Power shall develop a lighting distribution plan that will mitigate intrusive night lighting and avoid undue glare onto adjoining properties. Catoctin Power shall coordinate development of the plan with PPRP and the Frederick County Division of Planning, and nearby residents. Catoctin Power shall submit the plan to PPRP and the PSC for review and approval prior to operation of the facility.

## **Land Use**

105. Catoctin Power shall design the facility in substantial conformity with the Site Plan drawings reviewed by the Frederick County Planning Commission provided that Frederick County Division of Permitting and Development Review (“DPDR”) shall have authority to review any substantive changes that Catoctin Power may request to the design shown on the Site Plan drawings for verification that such substantive changes comply with Frederick County zoning requirements.

## **Emergency Preparedness and Security**

106. Catoctin Power shall provide to PPRP and the PSC copies of its security procedures, in particular those procedures addressing site and plant safety and security during construction and operation of the power plant. The procedures should address issues such as how Catoctin Power plans to control vehicle and construction worker access and protect any vulnerable assets from being threatened from outside the perimeter of the property. The procedures should also identify how local, state, and federal agencies would be coordinated in the event of a large-scale emergency. Security procedures should consider the effects of any proposed measures on the surrounding community and mitigate adverse effects to the maximum extent possible.
107. Catoctin Power shall provide a gate-controlled emergency access point to the site from West Frederick Avenue southwest of the generation building.
108. Catoctin Power shall conduct a detailed assessment of the emergency response capabilities of the Carroll Manor Volunteer Fire Company. Should additional or special equipment be required to provide adequate emergency services for the power plant, Catoctin Power shall reimburse the Carroll Manor Volunteer Fire Company or the appropriate agency for these expenses as long as they related to the need to provide adequate emergency services for the power plant.

## **Noise**

109. During the construction of the Catoctin facility, Catoctin Power or its contractors shall provide written notification to nearby residents of the expected schedule for steam venting activities that could produce high-intensity noise incidents. This advance notification must be provided at least 24 hours before steam venting begins, and must be distributed to residents living within 1 mile of the point where the steam venting will occur.
110. Catoctin Power shall design, construct, and operate the facility so as to comply with applicable Frederick County zoning requirements regarding allowable noise levels



and with the State of Maryland noise regulations. Before construction begins, Catoctin Power shall verify that the analysis of noise impacts presented in the CPCN application adequately represents the predicted noise impacts of the actual equipment to be installed at the site. If changes in configuration or equipment type occur during the detailed facility design, and these changes materially alter the facility's predicted noise characteristics, then Catoctin Power shall provide an updated noise impact analysis to the PSC, PPRP and MDE's Noise Control Program.

111. Catoctin Power shall confirm noise levels at the boundaries of the facility, after the plant is operational, to verify results of the predictive analysis. The scope of work for the noise study shall be provided to MDE's Noise Control Program for review and approval within ninety (90) days prior to anticipated commercial operation. The noise study shall include monitoring at Eastalco property boundaries near residential properties. Measurements will be taken while the plant is operating at full load, to represent maximum noise emissions. Results of the noise study shall be provided to the PSC, PPRP and MDE's Noise Control Program within six months after a) the Catoctin Power facility begins commercial operation, or b) MDE's Noise Control Program approves Catoctin Power's proposed scope of work for the noise study, whichever is later.
112. If the results of the post-construction noise study indicate that the operation of the facility is creating an exceedance of the Maryland noise standards or Frederick County zoning ordinance, Catoctin Power shall take corrective action in consultation with MDE's Noise Control Program.

### **Miscellaneous**

113. At least 2 months prior to construction, Catoctin Power shall provide to PPRP and PSC a Phase I Environmental Site Assessment (ESA), dated no earlier than two calendar years prior to the date of construction, and a Health and Safety Plan for the construction phase of the project. The Phase I ESA shall be conducted in conformance with the minimum requirements of ASTM Standard E 1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". The Health and Safety Plan shall comply with appropriate Occupational Safety and Health Administration (OSHA) guidelines to ensure worker protection during construction of the facility.
114. Informational copies of the reports required regarding change of ownership, major milestones, stack test protocols, stack testing and transportation, as described in Conditions 11, 12, 36, 43, 44, 45, and 89 shall be sent to the Power Plant Research Program at:  
Power Plant Assessment Division  
Department of Natural Resources  
Tawes State Office Building, B-3

580 Taylor Avenue  
Annapolis, Maryland 21401