



STATE OF MARYLAND

June 30, 2004

The Honorable Kenneth Schisler  
Chairman  
Public Service Commission  
6 St. Paul Center  
Baltimore, Maryland 21202

RE: Case No. 8888, In the Matter of the Application of Mirant Dickerson Development, LLC for a Certificate of Public Convenience and Necessity to Modify its Existing Generating Station H in Dickerson, Montgomery County, Maryland.

Dear Chairman Schisler:

In accordance with requirements of the Power Plant Siting Act of 1971, codified in Section 3-306 of the Natural Resources Article and the process described in Sections 7-207 and 7-208 of the Public Utility Companies Article, we are enclosing our final recommendations in Case Number 8888 on behalf of the Departments of Natural Resources, Environment, Agriculture, Transportation, Business and Economic Development, Planning, and the Maryland Energy Administration. Our recommendations and proposed conditions relate to the application for a Certificate of Public Convenience and Necessity (CPCN) for Mirant Dickerson Development, LLC to Modify its existing Generating Station H in Dickerson, Montgomery County, Maryland.


The Dickerson power plant consists of three 182 megawatt (MW) coal-fired units, two 147 megawatt gas- and oil-fired simple cycle combustion turbines (CTs), and one small emergency/peaking CT. Mirant is proposing to convert the existing simple cycle units to a combined cycle unit by adding heat recovery steam generators and a steam turbine-generator, and to construct a second combined cycle unit. The primary fuel for this operation will be natural gas with distillate oil as backup. The proposed changes will increase the electrical generating capacity of the facility by 740 megawatts. Mechanical draft cooling towers will be used for condenser cooling. Auxiliary systems will include a new water treatment system, expansion of the existing stormwater management system, an auxiliary boiler, an additional oil storage tank, new water storage tanks, and new rail spurs and unloading facilities to supply distillate fuel oil and ammonia. This expansion has been the subject of lengthy negotiations between Maryland, Mirant and the Federal Environmental Protection Agency. These outstanding issues have now been resolved and the State is prepared to move forward to conclude this case.

Our evaluation of the environmental impacts of the proposed power plant is described and evaluated in the document entitled "Environmental Review of the Proposed Combined Cycle Facility at Mirant's Dickerson Site", which has been filed with the Commission as an exhibit in this proceeding. Based on our review of the application and associated environmental information we have concluded that the proposed Dickerson site is suitable for expansion and that the plant can be constructed and operated in accordance with all applicable environmental regulations, provided the certificate incorporates the attached updated recommendations as conditions to the CPCN.

Sincerely,



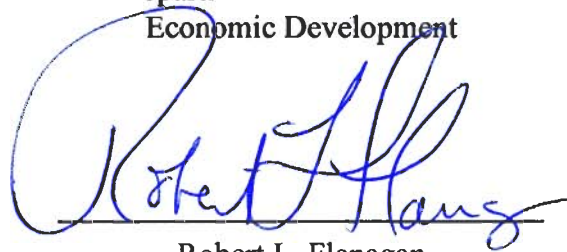
Lewis R. Riley  
Department of Agriculture



Aris Melissaratos  
Department of Business and  
Economic Development



Audrey E. Scott  
Department of Planning



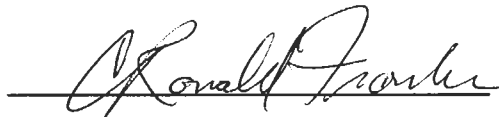
Robert L. Flanagan  
Department of Transportation



Michael Richard  
Maryland Energy Administration



Kendl P. Philbrick  
Department of the Environment



C. Ronald Franks  
Department of Natural Resources

## Air Quality

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

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 Mirant Dickerson Development, LLC (Mirant) Dickerson Generating Station Expansion. The application consists of the original application received by the Maryland Public Service Commission (PSC) on 23 May 2001 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.
2. The application for a CPCN includes the application for Prevention of Significant Deterioration (PSD) approval and air quality construction permits. The CPCN serves as the construction permit.
3. For air permitting purposes, the Dickerson Generating Expansion Project shall include the addition of: heat recovery steam generators (HRSGs) to two (2) existing GE 7F combustion turbines, referred to as Unit 4; two (2) GE 7FA combustion turbines with heat recovery steam generators, referred to as Unit 5; one (1) auxiliary steam boiler with a heat input of 60 million British thermal units per hour (MMBtu/hr); one (1) additional 10,000,000-gallon aboveground distillate fuel oil storage tank; and two (2) cooling towers. The Unit 4 and Unit 5 combustion turbines will be equipped with selective catalytic reduction (SCR) systems for control of nitrogen oxides (NO<sub>x</sub>), and oxidation catalyst systems for control of carbon monoxide (CO) and volatile organic compound (VOCs) during combined cycle operation. The existing Dickerson facility includes three nominal 180 megawatt (MW) coal-fired boilers, identified as Units 1, 2 and 3, and support facilities. Units 1, 2 and 3 will be equipped with separated overfire air (SOFA) systems as part of this project to reduce NO<sub>x</sub> emissions.
4. Definitions:
  - a) "Commence" as applied to the construction of the Dickerson Generating Expansion 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.
- 5. Mirant shall construct exhaust stacks for the Unit 5 construction turbines at a minimum height of 130 feet above ground level for use during simple cycle operation.
- 6. Mirant shall construct exhaust stacks for Unit 4 and 5 at a minimum height of 190 feet above ground level for use during combined cycle operations.
- 7. 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.
- 8. Representatives of the Maryland Department of the Environment (MDE) and the Montgomery County Health Department shall be afforded access to the Dickerson property at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN. Mirant shall provide such assistance as 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 Mirant 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.
- 9. This CPCN constitutes the PSD approval and air quality construction permit for the Dickerson Generating Station Expansion 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.
10. At least 60 days prior to the anticipated date of start-up of Unit 4 and Unit 5, Mirant shall submit to ARMA an application for a temporary permit to operate.
11. All requirements pertaining to air quality that apply to Mirant shall apply to all subsequent owners and/or operators of the facility. In the event of any change in control or ownership, Mirant 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**

12. Mirant 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 which requires Mirant to follow test methods described in §C to determine compliance;
  - b) COMAR 26.11.01.05-1 which requires Mirant to submit to MDE by April 1 of each year an emissions statement for the previous calendar year that meets the requirements of this regulation;
  - c) COMAR 26.11.01.07C which requires Mirant to report excess emissions that are expected to last or actually last for one hour or more;
  - d) COMAR 26.11.06.02C(2) which prohibits the discharge of emissions from any installation, other than water in an uncombined form, which is visible to human observers;

Exception: Does not apply to emissions during start-up and process modifications or adjustments, or occasional cleaning of control equipment if:

- i) The visible emissions are not greater than 40 percent opacity; and
- ii) The visible emissions do not occur for more than 6 consecutive minutes in any 60 minute period.

- e) COMAR 26.11.06.03D which requires reasonable precautions to prevent any particulate matter from becoming airborne as a result of material being handled, transported, or stored;
- f) COMAR 26.11.09.05A(2) which prohibits Mirant from discharging emissions, other than water in an uncombined form, which is visible to human observers from fuel burning equipment;

Exception: Does not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:

- i) The visible emissions are not greater than 40 percent opacity; and
  - ii) The visible emissions do not occur for more than 6 consecutive minutes in any 60 minute period.
- g) For Units 4 and 5, and the auxiliary boiler: COMAR 26.11.09.07A(1)(c) which prohibits Mirant from burning fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent;
  - h) For Unit 4 and Unit 5, COMAR 26.11.09.08B(1)(c): which requires the control of NO<sub>x</sub> emissions to 0.25 lb/MMBtu which satisfies Reasonably Available Control Technology (RACT);
  - i) For the auxiliary boiler: COMAR 26.11.09.08E, which contains reporting, recordkeeping, maintenance, and training requirements for fuel burning sources with a rated heat input capacity of 100 MMBtu per hour or less;
  - j) COMAR 26.11.09.08B(2)(a)(i) and (ii) which require Mirant to demonstrate compliance with the NO<sub>x</sub> emission standard for Units 4 and 5 through continuous emissions monitoring (CEM) data or stack tests using Method 7 or Method 7E of the test methods referenced in COMAR 26.11.01.04C(1) or other test methods approved by MDE and the U.S. Environmental Protection Agency (EPA);
  - k) COMAR 26.11.29 and .30 which require that Mirant hold an allowance for each ton of NO<sub>x</sub> emissions from Units 1-5 by the reconciliation date of November 30 of each calendar year;
  - l) COMAR 26.11.30 which requires that Mirant follow the policies and procedures relating to Maryland's NO<sub>x</sub> Reduction and Trading Program; and
  - m) COMAR 26.11.06.14 which prohibits the construction, modification, or operation of a source in violation of the requirements of 40 CFR 52.21: Prevention of Significant Deterioration.

13. The Mirant Dickerson Expansion Project 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) which requires Mirant to have in current effect a State Permit to Operate from the Department prior to the commencement of operations of the Units 4 and 5 Expansion Project;
  - b) COMAR 26.11.02.19C which requires Mirant to maintain records necessary to support the emission certification;
  - c) COMAR 26.11.02.19D which requires Mirant to certify the actual emissions of the regulated pollutants from the entire Dickerson facility; and
  - d) COMAR 26.11.06.08 and .09 which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.
14. The Units 4 and 5 combustion turbines are subject to 40 CFR Subpart GG – Standards of Performance for Stationary Gas Turbines, related provisions of 40 CFR §60.7 and §60.8, which contain various provisions for emission limitations, monitoring, testing, recordkeeping, and reporting, including but not limited to the following:

- a) Standard for Nitrogen Oxides (40 CFR §60.332)  
On or after the completion of performance testing conducted under §60.8, Mirant shall not cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain nitrogen oxides in excess of:

$$STD = (0.0075 \times (14.4/Y)) + F$$

Where:

STD = allowable NO<sub>x</sub> emissions (percent by volume at 15 percent oxygen and on a dry basis)

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO<sub>x</sub> emission allowance for fuel-bound nitrogen as defined in 40 CFR §60.332(a)(3):

<u>Fuel-Bound Nitrogen (percent by weight)</u>	<u>F (NO<sub>x</sub> percent by volume)</u>
$N < 0.015$	0
$0.015 < N < 0.1$	0.04(N)
$0.1 < N < 0.25$	$0.004 + 0.0067(N - 0.1)$
$N > 0.25$	0.005

Therefore:

For Unit 4, NO<sub>x</sub> shall not exceed 99 parts per million by volume at 15% oxygen on a dry weight basis (ppmvd @15%), based on a 1-hour average, when firing natural gas, or 98 ppmvd @15%, based on a 1-hour average, when firing fuel oil.

For Unit 5, NO<sub>x</sub> shall not exceed 110 parts per million by volume at 15% oxygen on a dry weight basis (ppmvd @15%), based on a 1-hour average, when firing natural gas, or 101 ppmvd @15%, based on a 1-hour average, when firing fuel oil.

b) Standard for Sulfur Oxides (40 CFR §60.333)

On or after the completion of performance testing conducted under §60.8, Mirant shall comply with one or the other of the following conditions:

- i) Mirant shall not cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.
- ii) Mirant shall not burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight.

c) Monitoring of Operations (40 CFR §60.334)

i) Mirant shall monitor sulfur content and nitrogen content of the fuel being fired in the turbines. The frequency of determination of these values shall be as follows:

(A) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.

(B) If the turbine is supplied its fuel without intermediate bulk storage, the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the EPA Administrator before they can be used to comply with Paragraph (b) of 40 CFR §60.334.

ii) For the purpose of reports required under §60.7(c), periods of excess emissions that shall be reported are defined as follows:

(A) Nitrogen oxides. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with §60.332 by the performance test required in §60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in §60.8. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under §60.335(a).

(B) Sulfur dioxide. Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent.

d) Test Methods (40 CFR §60.335)

i) To compute the nitrogen oxides emissions, Mirant shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the EPA Administrator to determine the nitrogen content of the fuel being fired.

ii) In conducting the performance tests required in §60.8, Mirant shall use as reference methods and procedures the test methods in Appendix A of 40 CFR Part 60, or other methods and procedures as specified in this Subpart GG, except as provided for in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of §60.335.

iii) Mirant shall determine compliance with the nitrogen oxides and sulfur dioxide standards in §§60.332 and 60.333(a) as follows:

(A) The nitrogen oxides (NO<sub>x</sub>) emission rate shall be computed for each run using the following equation:

$$\text{NO}_x = (\text{NO}_{x_o})(P_r/P_o)^{0.5} e^{19(\text{H}_o - 0.00633)} (288^\circ\text{K}/T_a)^{1.53}$$

where:

NO<sub>x</sub> = emission rate of NO<sub>x</sub> at 15 percent O<sub>2</sub> and ISO standard ambient conditions, ppm by volume.

NO<sub>x\_o</sub> = observed NO<sub>x</sub> concentration, ppm by volume at 15 percent O<sub>2</sub>.

P<sub>r</sub> = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.

$P_o$  = observed combustor inlet absolute pressure at test, mm Hg.

$H_o$  = observed humidity of ambient air, g H<sub>2</sub>O/g air.

$e$  = transcendental constant, 2.718.

$T_a$  = ambient temperature, K.

- (B) The monitoring device of §60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with §60.332 at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer.
- (C) Method 20 shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NO<sub>x</sub> emissions shall be determined at each of the load conditions specified in paragraph (c)(2) of 40 CFR §60.335.
- iv) Mirant shall determine compliance with the sulfur content standard in §60.333(b) (herein as Condition 14(b)(ii)) as follows: ASTM D 2880-71, 78, or 96 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80 or 90 (Reapproved 1994), D 3031-81, D 4084-82 or 94, or D 3246-81, 92, or 96 shall be used for the sulfur content of gaseous fuels (incorporated by reference-see §60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the EPA Administrator.
- v) To meet the requirements of §60.334(b) (herein as Condition 14(c)(i)), Mirant shall use the methods specified in paragraphs (a) and (d) of 40 CFR §60.335 (herein Conditions 14(d)(i) and 14(d)(iv)) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
- vi) Mirant may use the following as alternatives to the reference methods and procedures specified in this section:
- (A) Instead of using the equation in 40 CFR §60.335(c)(1), manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in §60.8 to ISO standard day conditions. These factors are developed for each gas turbine model they manufacture in terms of combustion inlet pressure, ambient air

pressure, ambient air humidity, and ambient air temperature. They shall be substantiated with data and must be approved for use by the EPA Administrator before the initial performance test required by §60.8. Notices of approval of custom ambient condition correction factors will be published in the Federal Register.

15. The duct burners associated with Units 4 and 5 are subject to 40 CFR Subpart Da – Standards of Performance for Electric Utility Steam Generating Units for which Construction is Commenced after September 18, 1978, including, but not limited to:
  - a) Subpart Da 60.42a(a) which limits particulate matter emissions to 0.03 lb per MMBtu (13 ng/J);
  - b) Subpart Da 60.42a(b) which limits Mirant to 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity;
  - c) Subpart Da 60.43a(b)(2) which limits SO<sub>2</sub> emissions to 0.20 lb per MMBtu (86 ng/J) with zero percent reduction;
  - d) Subpart Da 60.44a(d)(1) which limits NO<sub>x</sub> emissions to 1.6 lb per megawatt-hour (200 ng/J);
  - e) Subpart Da 60.46a(c) which states that the PM and NO<sub>x</sub> emission limits listed above apply at all times except during periods of startup, shutdown, or malfunction, and the SO<sub>2</sub> emission limits apply at all times except during periods of startup, shutdown, or when emergency conditions exist;
  - f) Subpart Da 60.46a(e) which requires that after the initial performance test, compliance with the sulfur dioxide emission limitations and percentage reduction requirements under Sec. 60.43a and the nitrogen oxides emission limitations under Sec. 60.44a be based on the average emission rate for 30 successive duct burner operating days. A separate performance test is to be completed at the end of each duct burner operating day after the initial performance test, and a new 30 day average emission rate for both sulfur dioxide and nitrogen oxides and a new percent reduction for sulfur dioxide are to be calculated to show compliance with the standards;
  - g) Subpart Da 60.46a(f) which requires that for the initial performance test required under Sec. 60.8, compliance with the sulfur dioxide emission limitations and percent reduction requirements and the nitrogen oxides emission limitation is based on the average emission rates for sulfur dioxide, nitrogen oxides, and percent reduction for sulfur dioxide for the first 30 successive duct burner 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 EPA Administrator. The initial performance test is to be scheduled so that the first duct burner operating day of the 30 successive duct burner 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) Subpart Da 60.46a(g) which requires that 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 duct burner operating days, except for data obtained during startup, shutdown, malfunction (NO<sub>x</sub> only), or emergency conditions (SO<sub>2</sub> only). Compliance with the percentage reduction requirement for SO<sub>2</sub> is determined based on the average inlet and average outlet SO<sub>2</sub> emission rates for the 30 successive duct burner operating days;
- i) Subpart Da 60.46a(i) which requires that Mirant calculate NO<sub>x</sub> emissions by multiplying the average hourly NO<sub>x</sub> output concentration by the average hourly flow rate, and divided by the average hourly gross energy output. Compliance with the emissions limits for NO<sub>x</sub>, is to be determined using either of the procedures described in paragraphs 60.46a(k)(1) and (2);
- j) Subpart Da 60.47a(o), which states that Mirant is not required to install or operate a continuous emissions monitoring system to measure NO<sub>x</sub> emissions; a wattmeter to measure gross electrical output; meters to measure steam flow, temperature, and pressure; and a continuous flow monitoring system to measure the flow of exhaust gases discharged to the atmosphere;
- k) Subpart Da 60.48a(a) which requires that in conducting the performance tests required in Sec. 60.8, Mirant use as reference methods and procedures the methods in appendix A of this part or the methods and procedures as specified in this section, except as provided in Section 60.8(b);
- l) Subpart Da 60.48a which requires that Mirant 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 60.48a(b), (c) and (d);
- m) Subpart Da 60.49a which requires Mirant to submit to the EPA Administrator the performance test data for sulfur dioxide, nitrogen oxides, and particulate matter emissions to the Administrator, according to the specifications in this subsection; and
- n) Subpart Da 60.49a(f) which requires that, for any periods for which opacity, sulfur dioxide or nitrogen oxides emissions data are not available, Mirant 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.

16. The auxiliary boiler is subject to 40 CFR Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, which contains various

provisions for emission limitations, monitoring, testing, recordkeeping, and reporting, including, but not limited to:

- a) Mirant shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by 40 CFR 60.7. This notification shall include:
  - i) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility;
  - ii) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 40 CFR 60.42c, or 40 CFR 60.43c; and
  - iii) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

17. Units 4 and 5 are subject to all applicable Acid Rain provisions under 40 CFR Part 72, including, but not limited to:

- a) Subpart A 72.9(b)(1) which requires Mirant, to the extent applicable, to comply with monitoring requirements in Part 75;
- b) Subpart A 72.9(c) which requires Mirant to hold allowances in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide (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) which requires Mirant to submit a proposed offset plan if emission limitations are exceeded; and
- d) Subpart A 72.9(f) which requires Mirant, 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.

18. Units 4 and 5 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 requires Mirant, in accordance with Sec. 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 this part 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 Mirant 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 this part meet the equipment, installation, and performance specifications in

this part; and are maintained according to the quality assurance and quality control procedures in this part;

- c) Subpart F 75.53(a) which requires Mirant 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 Mirant to keep a file for each affected unit of all measurements, data, reports, and other information required by this part 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 Mirant to record various operations, emissions, and other information, as specified; and
- f) Subpart G 75.60(a) and (b) which generally require Mirant to comply with all reporting requirements, with all signatory requirements of §72.21 of this chapter for all submissions, and with all required certifications and reports.

### **III. BACT Requirements**

19. Mirant shall employ Best Available Control Technology (BACT) to control emissions of sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>), carbon monoxide (CO), and particulate matter (PM10) from the Dickerson Expansion Project as follows:

- a) BACT for Unit 5 prior to the heat recovery steam generator becoming operational shall be the use of natural gas fuel with limited operation on low sulfur (0.05% sulfur content by weight or less) distillate fuel oil, and application of good combustion practices to ensure that emissions do not exceed the levels identified in Table 1.
- b) BACT on Units 4 and 5 after the heat recovery steam generators become operational, shall be the use of natural gas fuel with operation on low sulfur (0.05% sulfur content by weight or less) distillate fuel oil limited to 250 hours during simple cycle operation and 720 hours during combined cycle operation, operation of an oxidation catalyst, and application of good combustion practices, to ensure that emissions do not exceed the levels identified in Table 2.

- c) BACT for the auxiliary boiler shall be the use of distillate fuel oil with a sulfur content of 0.05% or less, use of distillate fuel oil for no more than 970 hours per year, and application of good combustion controls to achieve emissions rates that do not exceed the following on a 3-hour average basis:

CO: 9 lb/hr when firing both natural gas and distillate fuel

PM10: 0.6 lb/hr when firing natural gas and 3 lb/hr when firing distillate fuel

SO<sub>2</sub>: 0.34 lb/hr when firing natural gas and 3.1 lb/hr when firing distillate fuel

- d) BACT for all installed cooling towers shall be the installation and operation of mist eliminators designed to meet a PM10 emission rate of 0.001 percent of the cooling tower recirculating water flow.

20. Short term emission limits contained in Condition 19 do not apply during periods of startup, shutdown, or malfunction as defined in 40 CFR 60.2.

#### **IV. National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines Requirements**

21. The Mirant Unit 5 combustion turbines are subject to 40 CFR 63 Subpart YYYY– “National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines” and related General Provisions in 40 CFR §63.1 through §63.15. These requirements include, but are not limited to the following:

- a) Emissions and Operating Limitations [40 CFR §63.6100]:
  - i) The concentration of formaldehyde shall not exceed 91 parts per billion by volume dry basis (ppbvd) at 15 percent oxygen.
  - ii) During periods when the combustion turbines are using an oxidation catalyst, Mirant shall maintain the four-hour rolling average of the catalyst inlet temperature within the range suggested by the catalyst manufacturer.
  - iii) During periods when the combustion turbines are not using an oxidation catalyst, Mirant must maintain all operating limitations approved by the U.S. EPA Administrator.
  - iv) Mirant shall be in compliance with the emissions and operating limitations at all times except during startup, shutdown and malfunctions (§63.6104(a)).
  - v) Mirant shall operate and maintain the combustion turbines, oxidation catalysts or other air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction (§63.6105(b)).

b) Performance Testing Requirements [40 CFR §63.6110]:

- i) Mirant shall conduct an initial performance test, as specified in §63.6110(a), to demonstrate compliance with the formaldehyde limitation in Condition 21.a.i within 180 calendar days after startup of the affected source (as specified in §63.6095(a)(2)).
- ii) Mirant shall conduct annual performance tests, as specified in §63.6115, to demonstrate compliance with the formaldehyde limitation in Condition 21.a.i.
- iii) Initial and annual performance tests shall be conducted according to the requirements of the General Provisions at §63.7(e)(1) and other applicable provisions.

iv) As stated in Table 3 to Subpart YYYY of Part 63:

- (A) Mirant shall use Test Method 320 of 40 CFR Part 63, Appendix A, or other methods approved by the Administrator to conduct the initial and annual formaldehyde performance tests.
- (B) The formaldehyde concentration must be corrected to 15 percent oxygen, dry basis.
- (C) Results of the test shall consist of the average of three, 1-hour runs.
- (D) Tests must be conducted within 10 percent of 100 percent load.
- (E) Select sampling port locations and number of traverse points, and determine oxygen concentration and moisture content as specified in Table 3 to Subpart YYYY.
- (F) Mirant shall petition the Administrator for operating limitations which shall be monitored to demonstrate compliance with the formaldehyde limitation in Condition 21.a.i. These operating parameters shall be monitored during the initial performance test and continuously thereafter (under §63.6120(e)). Alternatively, Mirant may petition the Administrator for approval of no additional operating limitations, as outlined in §63.6120(g).

c) Monitoring Requirements [§63.6125]

- i) When operating the oxidation catalyst, Mirant shall monitor on a continuous basis the catalyst inlet temperature to demonstrate that the unit is maintaining the 4-hour rolling average of the inlet temperature within the range suggested by the catalyst manufacturer.
- ii) When operating without an oxidation catalyst, Mirant shall continuously monitor any parameters specified in Mirant's approved petition to the Administrator.

iii) Mirant shall monitor and record distillate oil usage rates daily for all new and existing stationary combustion turbines (Dickerson Units 4 and 5) with a non-resettable hour meter to measure the number of hours that distillate oil is fired.

d) Continuous Compliance Requirements [§63.6135]

i) Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), Mirant shall conduct all parametric monitoring at all times that the combustion turbines are operating.

e) Notifications, Reports, Records [§63.6145]

i) Mirant shall submit all of the notifications in §§63.7(b) and (c), 63.8(3), 63.8(f)(4), and 63.9(b) and (h) that apply to Dickerson.

ii) Mirant shall submit an Initial Notification no later than 120 days after startup [§63.6145(c)].

iii) Mirant shall submit a notification of intent to conduct an initial performance test at least 60 calendar days before the initial performance test is scheduled to begin as required in §63.7(b)(1) [§63.6145(e)].

iv) Mirant shall submit the Notification of Compliance Status according to the requirements of §63.9(h)(2)(ii), including the performance test results, before the close of business on the 60<sup>th</sup> calendar day following completion of the performance test [§63.6145(f)].

v) Mirant shall submit a semi-annual compliance report according to Table 6 of §63 Subpart YYYY according the schedules outlined in §63.6150.

vi) Mirant shall submit an annual report under §63.6150(e) describing the number of hours of distillate oil firing by each new or existing stationary combustion turbine at the Dickerson Station; operating limits provided in the federally enforceable permit; any deviations from these limits; and any problems or errors suspected with the meters.

vii) Mirant shall report each instance in which the units did not meet any emissions or operating limitation, and each instance in which the Company did not meet the General Provision requirements in Table 7 of §63 Subpart YYYY [§63.6140(b)].

viii) Mirant shall maintain the following records under §63.6155; the records shall be kept, according to §63.6160 in such a manner that they can be readily accessed and are suitable for inspection according to §63.10(b)(1); The records must be

maintained for five years following the date of each occurrence, measurement, maintenance, correction action, report or record; Mirant shall maintain the most recent 2 years of records on site or the records must be accessible on site:

- (A) A copy of each notification and report submitted by Mirant to comply with this subpart;
- (B) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii);
- (C) Records of the occurrence and duration of each startup, shutdown, or malfunction as required in §63.10(b)(2)(i);
- (D) Records of the occurrence and duration of each malfunction of the air pollution control equipment, if application, as required in §63.10(b)(2)(ii);
- (E) Records of all maintenance on the air pollution control equipment as required in §63.10(b)(iii).

f) Other Requirements [§63.6165]

- i) Mirant shall meet all applicable General Provisions of §63.1 through §63.15, as outlined in Table 7 of §63 Subpart YYYY, including but limited to performance testing requirements; monitoring, recordkeeping, and notification requirements; requirements related to Startup, Shutdown, and Malfunction (SSM) Plans; and notification requirements.

## V. Other Emissions and Operating Restrictions

- 22. Until such time as the heat recovery steam generator becomes operational on Unit 4, Mirant shall continue to operate the Station H CTs under conditions established under the CPCN issued in 1988 under PSC Case 8063 or subsequent permitting or regulatory requirements.
- 23. Unit 4 shall be limited to the following after the heat recovery steam generator becomes operational:
  - a) Operation of a selective catalytic reduction (SCR) system, resulting in a maximum NO<sub>x</sub> emission rate not to exceed 4.5 parts per million at 15 percent oxygen on a 3-hour rolling average basis based on valid 40 CFR Part 75 CEM data from the outlet of the device

during natural gas combined cycle firing. The 3-hour rolling average NO<sub>x</sub> limit does not apply during periods of startup, shutdown, or malfunctions as defined in 40 CFR 60.2.

- b) Operation in simple cycle mode for no more than 500 hours during any consecutive on a 12-month period, of which no more than 250 hours of operation is firing distillate fuel oil;
  - c) Operation in combined cycle mode while firing distillate fuel oil of no more than 720 hours during any consecutive 12-month period;
  - d) Operation in simple cycle mode when firing distillate fuel oil shall be limited as follows:
    - i) Subject to condition 23(b), the CTs can generate electricity using distillate fuel oil during the ozone season (May 1 through September 30) when natural gas fuel delivery service is interrupted or curtailed by the supplier due to shortages;
    - ii) Subject to condition 23(b), the CTs can generate electricity using distillate fuel oil during the ozone season (May 1 through September 30) when PJM declares an emergency, as defined below, or when PJM dispatches the CTs to stabilize the transmission system;
    - iii) For the purposes of condition 23(d)(ii), a PJM system emergency is operation during reserve shortages and refers to Maximum Emergency Generation as defined in PJM Manual M-13, Emergency Operations, Section 2 dated May 1, 2003, and subsequent versions. Any changes affecting the definition of emergency conditions for the purposes of this permit must have the prior approval of ARMA, if the change can affect allowable emissions. Mirant shall submit annual reports to ARMA that describe the times, durations, and circumstances of any operations under emergency conditions, including dispatch of the CTs to stabilize the transmission system, and identify whether each declared emergency condition applied to Mirant alone or to any other part of the PJM Interconnection; and
    - iv) Mirant shall provide MDE with written verification from its natural gas supplier in each instance where natural gas service to Dickerson is interrupted. Such verification shall be provided to MDE no later than 30 days after the end of the calendar year.
  - e) Operation of the duct burners shall be limited to periods when Unit 4 is operated in combined cycle mode and firing natural gas; and
  - f) Operation of each duct burner shall not exceed 688,800 MMBtu during any consecutive 12-month period.
24. Unit 5 shall be limited to the following prior to the heat recovery steam generator becoming operational:

- a) Operating for no more than 1,500 hours during any consecutive 12-month rolling period, of which no more than 500 hours of operation is firing distillate fuel oil; and
- b) Operation in simple cycle mode when firing distillate fuel oil shall be limited as follows:
  - i) Subject to condition 24(a), the CTs can generate electricity using distillate fuel oil during the ozone season (May 1 through September 30) when natural gas fuel delivery service is interrupted or curtailed by the supplier due to shortages;
  - ii) Subject to condition 24(a), the CTs can generate electricity using distillate fuel oil during the ozone season (May 1 through September 30) when PJM declares a system emergency, as defined below, or when PJM dispatches the CTs to stabilize the transmission system;
  - iii) For the purposes of condition 24(b)(ii), a PJM system emergency is operation during reserve shortages and refers to Maximum Emergency Generation as defined in PJM Manual M-13, Emergency Operations, Section 2 dated May 1, 2003, and subsequent versions. Any changes affecting the definition of emergency conditions for the purposes of this permit must have the prior approval of ARMA, if the change can affect allowable emissions. Mirant shall submit annual reports to ARMA that describe the times, durations, and circumstances of any operations under emergency conditions, including dispatch of the CTs to stabilize the transmission system, and identify whether each declared emergency condition applied to Mirant alone or to any other part of the PJM Interconnection; and
  - iv) Mirant shall provide MDE with written verification from its natural gas supplier in each instance where natural gas service to Dickerson is interrupted. Such verification shall be provided to MDE no later than 30 days after the end of the calendar year.

25. Pollutant emissions from Unit 5 shall not exceed the following for any consecutive 12-month period prior to the heat recovery steam generator becoming operational:

<b>Pollutant</b>	<b>Emission Limit</b>
Nitrogen Oxides (NO <sub>x</sub> )	215 tons per year
Volatile Organic Compounds (VOC)	<25 tons per year
Sulfur Dioxide (SO <sub>2</sub> )	59 tons per year
Particulate Matter (PM10)	18 tons per year
Carbon Monoxide (CO)	62 tons per year

26. Unit 5 shall be limited to the following after the heat recovery steam generator becomes operational:

- a) Operation of a selective catalytic reduction (SCR) system, resulting in a maximum NO<sub>x</sub> emission rate not to exceed 3.5 parts per million at 15 percent oxygen on a 3-hour rolling average basis based on valid 40 CFR Part 75 CEM data from the outlet of the device

during natural gas combined cycle firing. The 3-hour rolling average NO<sub>x</sub> limit does not apply during periods of startup, shutdown, or malfunctions as defined in 40 CFR 60.2.

- b) Operation in simple cycle mode for no more than 500 hours during any consecutive 12-month period, of which no more than 250 hours of operation is firing distillate fuel oil;
- c) Operation in simple cycle mode when firing distillate fuel oil shall be limited as follows:
  - i) Subject to condition 26(b), the CTs can generate electricity using distillate fuel oil during the ozone season (May 1 through September 30) when natural gas fuel delivery service is interrupted or curtailed by the supplier due to shortages;
  - ii) Subject to condition 26(b), the CTs can generate electricity using distillate fuel oil during the ozone season (May 1 through September 30) when PJM declares a system emergency, as defined below, or when PJM dispatches the CTs to stabilize the transmission system;
  - iii) For the purposes of condition 26(c)(ii), a PJM system emergency is operation during reserve shortages and refers to Maximum Emergency Generation as defined in PJM Manual M-13, Emergency Operations, Section 2 dated May 1, 2003, and subsequent versions. Any changes affecting the definition of emergency conditions for the purposes of this permit must have prior approval from ARMA. Mirant shall submit annual reports to ARMA that describe the times, duration, and circumstances of any operations under emergency conditions and identify whether each declared emergency condition applied to Mirant alone or to any other part of the PJM Interconnection; and
  - iv) Mirant shall provide MDE with written verification from its natural gas supplier in each instance where natural gas service to Dickerson is interrupted. Such verification shall be provided to MDE no later than 30 days after the end of the calendar year.
- d) Operation in combined cycle mode while firing distillate fuel oil for no more than 720 hours for any consecutive 12-month period;
- e) Operation of the duct burners shall be limited to periods when Unit 5 is operated in combined cycle mode and firing natural gas; and
- f) Operation of each duct burner shall not exceed 688,800 MMBtu for any consecutive 12-month rolling period.

27. Once the heat recovery steam generators become operational, emissions from Unit 4 and Unit 5, and the auxiliary boiler and the cooling tower combined in tons per year shall not exceed the following for any consecutive 12-month period:

<b>Pollutant</b>	<b>Emission Limit</b>
Nitrogen Oxides (NO <sub>x</sub> )	841 tons per year
Volatile Organic Compounds (VOC)	<25 tons per year
Sulfur Dioxide (SO <sub>2</sub> )	332 tons per year
Particulate Matter (PM10)	347 tons per year
Carbon Monoxide (CO)	205 tons per year

28. Short-term emission limits contained in Tables 1 and 2 do not apply during periods of start-up, shutdown, or malfunction as defined in 40 CFR 60.2.

29. Mirant shall implement control measures on existing Units 1, 2, and 3 such that there will be no net increase of NO<sub>x</sub> emissions from the Dickerson source. For the purposes of this condition, net emission increase is defined in accordance with 40 CFR 52.21(b)(3).

30. To avoid triggering Nonattainment Area New Source Review for NO<sub>x</sub> emissions, Mirant shall install and operate separated overfire air (SOFA) systems on existing Dickerson coal-fired boilers Unit 1, Unit 2, and Unit 3 prior to commencing operation of equipment covered by this CPCN. Emissions of NO<sub>x</sub> from each of the these units individually shall not exceed 0.36 pounds per MMBtu on a 30-day rolling average basis once SOFA systems become operational.

## **VI. Testing**

31. At least 30 days prior to conducting any compliance stack test, Mirant shall submit a test protocol to ARMA for review and approval. 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. Test ports shall be located in accordance with TM 91-01 (January 1991), or subsequent or alternative measures approved by ARMA.

32. Mirant shall install the SOFA system on either existing Units 1, 2 and/or 3 and shall demonstrate, by a method approved by ARMA, that the unit is achieving the maximum emission rate of 0.36 pounds per MMBtu at least 60 days prior to operation of the Unit 5 combustion turbines in simple cycle mode.

33. Mirant shall install the SOFA systems on the remaining two Units, and shall demonstrate, by a method approved by ARMA, that the units are in compliance with the emission rate of 0.36 pounds per MMBtu at least 60 days prior to commencement of operation of the heat recovery steam generators on Units 4 and 5.
34. Compliance stack testing of Unit 5 in simple cycle mode shall be conducted within 180 days of initial start-up of the unit 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, and CO.
35. Compliance stack testing of Units 4 and 5 in combined cycle mode shall be conducted within 180 days of initial start-up of the heat recovery steam generators 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, and CO.
36. Compliance stack testing of the auxiliary boiler shall be conducted within 180 days of initial start-up 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, and CO.

## **VII. Recordkeeping and Reporting**

37. Within 45 days of the end of each calendar quarter, Mirant shall submit to ARMA quarterly reports that contain for each combustion turbine, the auxiliary boiler, the distillate fuel oil storage tanks, and the cooling towers, monthly summaries of construction progress.
38. Testing of NO<sub>x</sub> from Dickerson Units 1, 2 and 3 shall be performed when operating at a minimum of 90% of the design load. If testing cannot be performed at the minimum load, then the actual load during testing shall become the allowable permitted load.
39. Testing of Units 4 and 5 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. Within 60 days of completing the initial stack tests, Mirant shall provide ARMA copies of the testing results.
41. In accordance with COMAR 26.11.01.04A, Mirant may be required to conduct additional stack tests at any time as may be prescribed by ARMA.
42. Final results of each compliance stack test must be submitted to ARMA within 60 days of completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company.

43. Mirant 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 start-up date, not more than 60 or less than 30 days prior to such date;
  - c) the actual start-up date within 15 days after such date; and
  - d) the anticipated date of compliance stack testing at least 30 days prior to such date.
44. Mirant 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.
45. All records and logs 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.
46. All air quality notifications and reports required by this CPCN shall be submitted to:
- Administrator, Compliance Program  
Air and Radiation Management Administration  
1800 Washington Blvd.  
Baltimore, Maryland 21230
47. All notifications and reports required by 40 CFR 60 and Subpart GG, Subpart Da, Subpart Dc, and 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

**Table 1**  
**BACT Emission Limitations for Condition 19(a)**

Air Emission Source	Fuel	Duct Firing	Emission Rate (lb/hr)			
			PM10	SO <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub>	CO
<b>Unit 5</b>						
Simple Cycle	Natural Gas	No	9	12	1.5	32.2
Simple Cycle	Fuel Oil	No	17	106	5.4	72.4

Emission limitations are based on a 3-hour average.

**Table 2**  
**BACT Emission Limitations for Condition 19(b)**

Air Emission Source	Fuel	Duct Firing	Emission Rate per CT (lb/hr)			
			PM10	SO <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub>	CO
<b>Unit 4</b>						
Combined Cycle	Natural Gas	No	23	11	1.4	8.4
Combined Cycle	Natural Gas	Yes	26	11	1.7	11.5
Combined Cycle	Fuel Oil	No	41	92	4.4	8.5
Simple Cycle	Natural Gas	No	21	11	1.4	84.2
Simple Cycle	Fuel Oil	No	22	92	4.4	85.3
<b>Unit 5</b>						
Combined Cycle	Natural Gas	No	11	12	1.5	3.2
Combined Cycle	Natural Gas	Yes	15	12	1.8	7.6
Combined Cycle	Fuel Oil	No	39	106	5.4	7.2
Simple Cycle	Natural Gas	No	9	12	1.5	32.2
Simple Cycle	Fuel Oil	No	17	106	5.4	72.4

Emission limitations are based on a 3-hour average.

## Water Appropriation

48. This CPCN authorizes Mirant 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 WMA permit number MO19668017(07). 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 8.1 million gallons on a yearly basis and a maximum daily withdrawal of 10.1 million gallons. Consumptive use is limited to a daily average of 6.6 million gallons on a yearly basis and a maximum daily consumptive use of 8.3 million gallons.
  - b) *Use.* The water is to be used for wet cooling of steam condensers, makeup to the heat recovery steam generators (HRSGs), makeup water for air inlet chillers, fire protection water, potable water, construction support, and plant service water for equipment cleaning and maintenance and general plant washdown.
  - c) *Source.* The water shall be withdrawn from the Potomac River.
  - d) *Location.* The point of withdrawal shall be on the existing discharge canal of the once-through cooling system at the Dickerson Generating Station in Montgomery County, Maryland.
49. *Initiation of Withdrawal.* Mirant shall notify MDE WMA by certified mail when withdrawals for the uses specified in this appropriation have been initiated. This appropriation shall expire if water withdrawal is not commenced 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 WMA, upon written request to MDE WMA prior to the expiration of the two-year period. Withdrawal associated with plant construction qualifies as initiation.
50. *Change of Operations.* Mirant shall report any anticipated change in appropriation, which may result in a new or different withdrawal, quantity, source, or place of use of water, to MDE WMA by submission of a new application.
51. *Triennial Review.* MDE WMA shall review the appropriation every three years (triennial review). Mirant will be queried every three years regarding water withdrawal under the terms and conditions of this appropriation. Failure to return the triennial review query will result in suspension or revocation of this appropriation.
52. *Appropriation Renewal.* This appropriation will expire twelve years from the date that the CPCN was issued. In order to renew the appropriation, Mirant shall file a renewal application with MDE WMA no later than 45 days prior to the expiration. MDE WMA may at any time (including triennial review or when a change application is submitted) revise any condition of this appropriation or add additional conditions concerning the character,

amount, means and manner of the appropriation, which may be necessary to properly protect, control and manage the water resources of the state. Condition revisions and additions will be accompanied by issuance of a revised appropriation.

53. *Right of Entry.* Mirant shall allow authorized representatives of MDE WMA and the Public Service Commission staff access to the facility to conduct inspections and evaluations necessary to assure compliance with the conditions of this appropriation. Mirant shall provide such assistance as may be necessary to effectively and safely conduct such inspections and evaluations.
54. *Appropriation Suspension or Revocation.* MDE WMA may suspend or revoke this appropriation upon violation of the conditions of this appropriation, or upon violation of any regulation promulgated pursuant to Title 5 of the Environment Article, Annotated Code of Maryland (1996 replacement volume) as amended.
55. *Non-Transferable.* This appropriation is only transferable to a new owner if the new owner acquires prior authorization to continue this appropriation by filing a new application with MDE WMA. Authorization will be accomplished by issuance of a new appropriation permit by MDE WMA.
56. *Drought Period Emergency Restrictions.* If MDE WMA determines that a drought period or emergency exists, Mirant may be required under MDE WMA's direction to stop or reduce water withdrawal from the Potomac River. Any cessation or reduction of water withdrawal must continue for the duration of the drought period or emergency, or until MDE WMA directs Mirant that water withdrawal under standard appropriation conditions may be resumed.
57. *Consumptive Use Restrictions.* When directed by MDE WMA, Mirant shall reduce maximum daily consumptive use to 1 million gallons per day or less to comply with the provisions of COMAR 26.07.02B.
58. Mirant shall conduct the following monitoring activities in support of the surface water appropriation:
  - a) *Flow Measurement.* Measure all water withdrawn under this appropriation by a method approved by MDE WMA.
  - b) *Withdrawal Reports.* Submit to MDE WMA, semi-annually (July-December, no later than January 31 and January-June, no later than July 31), water withdrawal records. These records shall show the total quantity of water withdrawn each month under this appropriation, and the total quantity of water consumed.

## **Terrestrial and Aquatic Ecology**

59. Construction and operation of the power facility and transmission line shall be undertaken in accordance with this CPCN and shall comply with all applicable local, State, and Federal regulations, including but not limited to the following:
- a) Nontidal Wetlands - COMAR 08.05.04 applies to activities conducted in nontidal wetlands.
  - b) Water Quality and Water Pollution Control - COMAR 26.08.01 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.
60. 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 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, and as approved by Montgomery 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.
61. Mirant shall work closely with DNR PPRP, DNR Division of Forestry, and Montgomery County to prepare a forest conservation plan to mitigate for forest losses caused by the proposed construction. The plan will detail methods and specifications for establishment of a total of 7 acres of forest. A draft forest conservation plan shall be submitted to DNR PPRP, DNR Division of Forestry, and Montgomery County for review and approval. Plan implementation shall commence before the facility begins commercial operation.
62. This CPCN is not an authorization to discharge wastewater to waters of the State. Mirant shall obtain a modification to its discharge permit under the National Pollutant Discharge Elimination System (NPDES) for the Dickerson Generating Station. As directed by MDE WMA, Mirant shall prepare a Stormwater Pollution Prevention Plan, incorporating best management practices to prevent runoff of contaminated stormwater.

## **Emergency Preparedness**

63. Mirant shall prepare an updated Spill Prevention, Control and Countermeasures Plan and obtain an Oil Operations Permit from MDE to cover the increased amount of fuel oil storage and handling at the Dickerson site.

64. If the concentration of aqueous ammonia solution used for emissions control is 20 percent or greater and ammonia storage capacity exceeds 10,000 pounds, Mirant shall prepare a Risk Management Program (RMP) to address accidental release prevention as required by 40 CFR Part 68. All reports and notifications required by 40 CFR Part 68 must be submitted electronically to: RMP\*Submit, RMP Reporting Center, P.O. Box 3346, Merrifield, VA 22116-3346.
65. Mirant shall provide to PPRP and the PSC copies of its security procedures, in particular those procedures to ensure site and plant safety and security during construction and operation of the power plant. The procedures should address issues such as how Mirant plans to control vehicle and construction worker access to the site and to 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.

### **Cultural Resources**

66. Mirant shall establish Archeological Protection Zones for the Benjamin and Charles Shreve Farm and the Shreve House in order to protect these historic resources from inadvertent damage from construction activities. Mirant shall erect temporary protective fencing around the sites during construction.
67. Mirant 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, Mirant, 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**

68. During construction, Mirant shall retain a Traffic Management Specialist to manually control vehicle movements at the intersection of Martinsburg Road with MD 28.
69. Mirant shall monitor the performance of the intersection of MD 28 and MD 109 to determine whether significant delays are occurring when construction traffic volumes are greatest. If significant delays are observed, Mirant shall take appropriate steps to reduce congestion at this intersection, such as working with State Highway Administration to adjust the timing of the traffic signal or staggering shift schedules to reduce the peak number of construction workers leaving the site in the afternoon.
70. Mirant shall instruct its contractors and employees to use MD 28 to Martinsburg Road as the

primary means of access to the site, and to avoid using the portion of Martinsburg Road to the south of the main plant entrance as an alternate route to the facility.

### **Noise Levels**

71. Mirant shall design, construct, and operate the facility so as to comply with applicable Montgomery County and State of Maryland noise regulations. Before construction begins, Mirant 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 Dickerson 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 Mirant shall provide an updated noise impact analysis.
72. Mirant shall monitor 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 monitoring shall be provided to MDE's Noise Control Program and to Montgomery County for review and approval, within one year after the issuance of this CPCN. The noise study shall include monitoring at facility site boundaries near residential properties. Measurements will be taken while the plant is operating at full load, to represent maximum noise emissions. Results shall be provided within six months after Units 4 and 5 begin commercial operation.
73. If the results of the noise monitoring conducted in Condition 71 indicate that the operation of Units 4 and 5 is creating an exceedance of the Maryland or Montgomery County noise standards, Mirant shall take corrective action in consultation with MDE's Noise Control Program and Montgomery County.

### **Visual Quality**

74. Mirant shall develop a detailed visual impact mitigation plan 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 minimize visual impact of the proposed facility. The plan shall specifically address the visibility of Mirant's oil storage tanks from Martinsburg Road and consider the use of earthen berms and vegetation to screen them from view. The plan shall also discuss how intrusive night lighting will be minimized.
75. Mirant shall install plume abated mechanical draft cooling towers for the combined cycle portions of Units 4 and 5.

## Other

76. Mirant shall work closely with PPRP to prepare and execute a program of land preservation and/or reforestation to reflect a partial mitigation of the environmental impact from the project. The mitigation project will achieve one or more of the following objectives: 1) provide a nutrient reduction benefit to the Chesapeake Bay, 2) result in a net reduction of greenhouse gases leading to the establishment of potential carbon credits, or 3) protect important State terrestrial ecological assets.
77. Mirant will provide a minimum of 20 million gallons of water storage, the first 10 million gallons to be available when the Unit 4 HRSG and steam turbine commence commercial operation. The second 10 million gallons will be available when the Unit 5 HRSG and steam turbine commence commercial operation.

After the Unit 5 HRSG and steam turbine commence commercial operation, Mirant will provide an additional 10 million gallons of water storage, not to exceed a total of 40 million gallons for the project, if, due to Potomac River water limitations, Mirant experiences a loss of 40 hours of generating availability when the PJM East hourly integrated load is more than 90% of the PJM East annual peak demand during any one year.

78. Informational copies of the reports required regarding change of ownership, major milestones, stack test protocols, stack testing, water withdrawals, archeological recovery guidelines, and noise studies as described in Conditions 11, 31, 40, 43, 49, 50, 52, 58, 67, 71, and 72 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