

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA, )  
                                )  
                                )  
Plaintiff                    )  
                                )  
v.                             ) Civil Action No.: 14-13580  
                                )  
CONSUMERS ENERGY COMPANY, )  
                                )  
                                )  
Defendant.                 )  
                                )  
                                )

CONSENT DECREE

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APPENDIX A – ENVIRONMENTAL MITIGATION PROJECTS

APPENDIX B – APPORTIONMENT OF NO<sub>x</sub> OR SO<sub>2</sub> MASS EMISSIONS AT UNITS WITH  
COMMON STACKS

WHEREAS, Plaintiff, the United States of America (“the United States”), on behalf of the United States Environmental Protection Agency (“EPA”), is concurrently filing a Complaint and a Consent Decree, for injunctive relief and civil penalties pursuant to Sections 113(b)(2) and 167 of the Clean Air Act (“CAA” or the “Act”), 42 U.S.C. §§ 7413(b)(2) and 7477, alleging that Defendant, Consumers Energy Company (“Consumers”) violated the Prevention of Significant Deterioration (“PSD”) provisions of Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, the requirements of Title V of the Act, 42 U.S.C. §§ 7661-7661f, and the PSD and opacity provisions of the federally enforceable Michigan State Implementation Plan (“Michigan SIP”);

WHEREAS, on March 30, 2007, and October 17, 2008, EPA issued Notices of Violation and Findings of Violation (“NOV/FOV”) to Consumers with respect to alleged violations of the CAA;

WHEREAS, the United States provided Consumers and the State of Michigan with actual notice pertaining to Consumers’ alleged violations, in accordance with Section 113 of the Act, 42 U.S.C. § 7413;

WHEREAS, in the Complaint, Plaintiff alleges, *inter alia*, that Consumers made major modifications to major emitting facilities, failed to obtain the necessary permits and install and operate the controls necessary under the Act to reduce sulfur dioxide (“SO<sub>2</sub>”), oxides of nitrogen (“NO<sub>x</sub>”), and/or particulate matter (“PM”) emissions, and failed to meet established opacity standards, at certain electricity generating stations located in Michigan, and that such emissions can damage human health and the environment;

WHEREAS, in the Complaint, Plaintiff alleges claims upon which relief can be granted against Consumers under Sections 113 and 167 of the Act, 42 U.S.C. §§ 7413 and 7477;

WHEREAS, the United States and Consumers (collectively, the "Parties") have agreed that settlement of this action is in the best interest of the Parties and in the public interest, and that entry of this Consent Decree without further litigation is the most appropriate means of resolving this matter;

WHEREAS, the Parties anticipate that the installation and operation of pollution control equipment and practices pursuant to this Consent Decree, refueling of certain facilities with natural gas and/or the retirement of certain facilities required by this Consent Decree, will achieve significant reductions of SO<sub>2</sub>, NO<sub>x</sub>, and PM emissions and improve air quality;

WHEREAS, the Parties have agreed, and this Court by entering this Consent Decree finds, that this Consent Decree has been negotiated in good faith and at arm's length and that this Consent Decree is fair, reasonable, in the public interest, and consistent with the goals of the Act;

WHEREAS, the Parties agree that the United States' filing of the Complaint and entry into this Consent Decree constitute diligent prosecution by the United States, under Section 304(b)(1)(B) of the CAA, 42 U.S.C. § 7604(b)(1)(B), of all matters alleged in the Complaint and addressed by this Consent Decree through the Date of Lodging of this Consent Decree;

WHEREAS, Consumers has cooperated in the resolution of these matters;

WHEREAS, Consumers denies the violations alleged in the Complaint, and nothing herein shall constitute an admission of liability; and

WHEREAS, the Parties have consented to entry of this Consent Decree without trial of any issues;

NOW, THEREFORE, without any admission of fact or law, it is hereby ORDERED, ADJUDGED, AND DECREED as follows:

**I. JURISDICTION AND VENUE**

1. This Court has jurisdiction over this action, the subject matter herein, and the Parties consenting hereto, pursuant to 28 U.S.C. §§ 1331, 1345, 1355, and 1367, and pursuant to Sections 113 and 167 of the Act, 42 U.S.C. §§ 7413 and 7477. Venue is proper under Section 113(b) of the Act, 42 U.S.C. § 7413(b), and under 28 U.S.C. § 1391(b) and (c), because violations alleged in the Complaint are alleged to have occurred in, and Consumers conducts business in, this judicial district. Consumers consents to and shall not challenge entry of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree. Except as expressly provided for herein, this Consent Decree shall not create any rights in or obligations of any party other than the Parties to this Consent Decree. Except as provided in Section XXVI (Public Comment) of this Consent Decree, the Parties consent to entry of this Consent Decree without further notice.

**II. APPLICABILITY**

2. Upon entry, the provisions of this Consent Decree shall apply to and be binding upon the United States, and upon Consumers and any successors, assigns, or other entities or persons otherwise bound by law.

3. Consumers shall provide a copy of this Consent Decree to all vendors, suppliers, consultants, contractors, agents, and any other company or other organization retained as of or after the Date of Entry to perform any of the work required by this Consent Decree. Notwithstanding any retention of contractors, subcontractors, or agents to perform any work required under this Consent Decree, Consumers shall be responsible for ensuring that all work is performed in accordance with the requirements of this Consent Decree. In any action to enforce

this Consent Decree, Consumers shall not assert as a defense the failure of its officers, directors, employees, servants, agents, or contractors to take actions necessary to comply with this Consent Decree, unless such failure is determined to be a Force Majeure Event in accordance with Section XV (Force Majeure) of this Consent Decree.

### **III. DEFINITIONS**

4. For the purposes of this Consent Decree, every term expressly defined by this Section shall have the meaning given that term herein. Every other term used in this Consent Decree that is also a term used under the Act or in a federal regulation implementing the Act shall mean in this Consent Decree what such term means under the Act or those regulations.

5. A "30-Day Rolling Average Emission Rate" for a Unit shall be expressed in lb/mmBTU and calculated in accordance with the following procedure: first, sum the total pounds of NO<sub>x</sub> or SO<sub>2</sub> emitted from the Unit during the current Unit Operating Day and the previous 29 Unit Operating Days; second, sum the total heat input to the Unit in mmBTU during the current Unit Operating Day and the previous 29 Unit Operating Days; and third, divide the total number of pounds of NO<sub>x</sub> or SO<sub>2</sub> emitted during the 30 Unit Operating Days by the total heat input during the 30 Unit Operating Days. A new 30-Day Rolling Average Emission Rate shall be calculated for each new Unit Operating Day. Each 30-Day Rolling Average Emission Rate shall include all emissions that occur during all periods within any Unit Operating Day, including emissions from startup, shutdown, and Malfunction, except as otherwise provided by Section XV (Force Majeure).

6. A "90-Day Rolling Average Emission Rate" for a Unit shall be expressed in lb/mmBTU and calculated in accordance with the following procedure: first, sum the total

pounds of NO<sub>x</sub> or SO<sub>2</sub> emitted from the Unit during the current Unit Operating Day and the previous 89 Unit Operating Days; second, sum the total heat input to the Unit in mmBTU during the current Unit Operating Day and the previous 89 Unit Operating Days; and third, divide the total number of pounds of NO<sub>x</sub> or SO<sub>2</sub> emitted during the 90 Unit Operating Days by the total heat input during the 90 Unit Operating Days. A new 90-Day Rolling Average Emission Rate shall be calculated for each new Unit Operating Day. Each 90-Day Rolling Average Emission Rate shall include all emissions that occur during all periods within any Unit Operating Day, including emissions from startup, shutdown, and Malfunction, except as otherwise provided by Section XV (Force Majeure).

7. A "365-Day Rolling Average Emission Rate" for a Unit shall be expressed in lb/mmBTU and calculated in accordance with the following procedure: first, sum the pounds of the pollutant in question emitted from the Unit during the most recent Unit Operating Day and the previous 364 Unit Operating Days; second, sum the total heat input to the Unit in mmBTU during the most recent Unit Operating Day and the previous 364 Unit Operating Days; and third, divide the total number of pounds of the pollutant emitted during the 365 Unit Operating Days by the total heat input during the 365 Unit Operating Days. A new 365-Day Rolling Average Emission Rate shall be calculated for each new Unit Operating Day. Each 365-Day Rolling Average Emission Rate shall include all emissions that occur during all periods of operation, including startup, shutdown, and Malfunction, except as otherwise provided by Section XV (Force Majeure).

8. "Baghouse" means a full stream (fabric filter or membrane) particulate emissions control device. Full stream is defined as capturing the entire stream of exhaust gas with no concurrent by-pass.

9. "Boiler Island" means a Unit's (a) fuel combustion system (including bunker, coal pulverizers, crusher, stoker, and fuel burners); (b) combustion air system; (c) steam generating system (firebox, boiler tubes, and walls); and (d) draft system (excluding the stack), all as further described in "Interpretation of Reconstruction," by John B. Rasnic, U.S. EPA (November 25, 1986) and attachments thereto.

10. "Campbell" means Consumers' J.H. Campbell Generating Plant consisting of three electric utility steam-generating units designated as Unit 1 (260 MW), Unit 2 (360 MW), and Unit 3 (835 MW) and related equipment, located in West Olive, Ottawa County, Michigan. Campbell Unit 3 is co-owned by Consumers (approximately 93%) along with Wolverine Power Supply Cooperative and the Michigan Public Power Association.

11. "Capital Expenditures" means all capital expenditures, as defined by Generally Accepted Accounting Principles ("GAAP"), as those principles exist at the Date of Entry of this Consent Decree, excluding the cost of installing or upgrading pollution control devices.

12. "CEMS" or "Continuous Emission Monitoring System," means, for obligations involving the monitoring of NO<sub>x</sub> and SO<sub>2</sub> emissions under this Consent Decree, the devices defined in 40 C.F.R. § 72.2 and installed and maintained as required by 40 C.F.R. Part 75.

13. "Clean Air Act" or "CAA" or "Act" means the federal Clean Air Act, 42 U.S.C. §§ 7401-7671q, and its implementing regulations.

14. "Cobb" means, for purposes of this Consent Decree, Consumers' B.C. Cobb Generating Plant consisting of two electric utility steam-generating units designated as Unit 4 (160 MW) and Unit 5 (160 MW) and related equipment, located in Muskegon, Muskegon County, Michigan.

15. "Consent Decree" means this Consent Decree and the Appendices hereto, which are incorporated into the Consent Decree.

16. "Consumers" or "Defendant" means Consumers Energy Company.

17. "Consumers System" means the Campbell, Cobb, Karn, Weadock, and Whiting facilities as defined herein.

18. "Continuously Operate" or "Continuous Operation" means that when a pollution control technology or combustion control is required to be used at a Unit pursuant to this Consent Decree (including, but not limited to, SCR, FGD, DSI, ESP, Baghouse, or Low NO<sub>x</sub> Combustion System), it shall be operated at all times that the Unit it serves is in operation (except (a) the SCRs on Campbell Units 2 and 3 need not be operated during scheduled maintenance on the applicable Unit's Urea Based Ammonia System and (b) as otherwise provided by Section XV (Force Majeure)), consistent with the technological limitations, manufacturers' specifications, good engineering and maintenance practices (including Campbell Unit 2 and Unit 3 scheduled Urea Based Ammonia System outages), and good air pollution control practices for minimizing emissions (as defined in 40 C.F.R. § 60.11(d)), as applicable, for such equipment and the Unit.

19. "Date of Entry" means the date this Consent Decree is approved or signed by the United States District Court Judge.

20. "Date of Lodging" means the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Eastern District of Michigan.

21. "Day" means calendar day unless otherwise specified in this Consent Decree.

22. "Dry Sorbent Injection" or "DSI" means a process in which a sorbent is pneumatically injected into the ducting downstream of where the coal is combusted and flue gas is produced, and upstream of the PM Control Device.

23. "Electrostatic Precipitator" or "ESP" means a device for removing particulate matter from combustion gases by imparting an electric charge to the particles and then attracting them to a metal plate or screen of opposite charge before the combustion gases are exhausted to the atmosphere.

24. "Emission Rate" for a given pollutant means the number of pounds of that pollutant emitted per million British Thermal Units of heat input (lb/mmBTU), calculated in accordance with this Consent Decree.

25. "Environmental Mitigation Projects" or "Projects" means the projects set forth in Section IX (Environmental Mitigation Projects) and Appendix A of this Consent Decree.

26. "EPA" means the United States Environmental Protection Agency.

27. "Flue Gas Desulfurization System" or "FGD" means a pollution control device that employs flue gas desulfurization technology, including an absorber or absorbers utilizing lime or limestone, or a sodium based material, for the reduction of SO<sub>2</sub> emissions.

28. "Force Majeure" means Force Majeure as defined in Section XV (Force Majeure) of this Consent Decree.

29. "Fossil Fuel" means any hydrocarbon fuel, including coal, petroleum coke, petroleum oil, or natural gas.

30. "Full Stream Operation" is defined as the design configuration of a control device such that it captures the entire stream of exhaust gas with no concurrent by-pass.

31. "Greenhouse Gases" means the air pollutant defined at 40 C.F.R. § 86.1818-12(a) as of the Date of Lodging of this Consent Decree as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. This definition continues to apply even if 40 C.F.R. § 86.1818-12(a) is subsequently revised, stayed, vacated or otherwise modified.

32. "Improved Unit" for NO<sub>x</sub> means a Consumers System Unit equipped with an SCR or scheduled under this Consent Decree to be equipped with an SCR. A Unit may be an Improved Unit for one pollutant without being an Improved Unit for another pollutant.

33. "Improved Unit" for SO<sub>2</sub> means a Consumers System Unit equipped with an FGD or scheduled under this Consent Decree to be equipped with an FGD. A Unit may be an Improved Unit for one pollutant without being an Improved Unit for another pollutant.

34. "Karn," for purposes of this Consent Decree, means Consumers' D.E. Karn Generating Plant consisting of two electric utility steam-generating units designated as Unit 1 (255 MW) and Unit 2 (260 MW) and related equipment, located in Essexville, Bay County, Michigan. Karn does not include the oil-fired electricity generating units designated as Karn Units 3 and 4, also located in Essexville, Bay County, Michigan.

35. "Karn Units 3 and 4" means Consumers' oil-fired Units 3 and 4, in Essexville, Bay County, Michigan.

36. "KW" means Kilowatt or one thousand watts net.
37. "lb/mmBTU" means one pound per million British Thermal Units.
38. "Low NO<sub>x</sub> Combustion System" means burners and associated combustion air control equipment, including Over Fire Air if specified, which control mixing characteristics of Fossil Fuel and oxygen, thus restraining the formation of NO<sub>x</sub> during combustion of fuel in the boiler.
39. "Malfunction" means a failure to operate in a normal or usual manner by any air pollution control equipment, process equipment, or a process, which is sudden, infrequent, and not reasonably preventable. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions.
40. "Michigan SIP" means the Michigan State Implementation Plan, and any amendments thereto, as approved by EPA pursuant to Section 110 of the Act, 42 U.S.C. § 7410.
41. "MW" means a megawatt or one million watts net.
42. "National Ambient Air Quality Standards" or "NAAQS" means national ambient air quality standards promulgated pursuant to Section 109 of the Act, 42 U.S.C. § 7409.
43. "Natural Gas" means natural gas received directly or indirectly through a connection to an interstate pipeline transporting natural gas governed by a tariff approved by the Federal Energy Regulatory Commission. The Parties recognize that Natural Gas is expected to contain no more than 0.5 grains of sulfur per 100 standard cubic feet of Natural Gas.
44. "Netting" shall mean the process of determining whether a particular physical change or change in the method of operation of a major stationary source results in a "net

emissions increase" or "net significant emissions increase" as those terms are defined at 40 C.F.R. § 52.21(b)(3)(i) and (ii) and in the Michigan SIP.

45. "NO<sub>x</sub>" means oxides of nitrogen, measured in accordance with the provisions of this Consent Decree.

46. "NO<sub>x</sub> Allowance" means an authorization to emit a specified amount of NO<sub>x</sub> that is allocated or issued under an emissions trading or marketable permit program of any kind established under the Clean Air Act or the Michigan SIP; provided, however, that with respect to any such program that first applies to emissions occurring after December 31, 2011, a "NO<sub>x</sub> Allowance" shall include an allowance created and allocated to a Consumers System Unit under such program only for control periods starting on or after the fourth anniversary of the Date of Entry of this Consent Decree.

47. "Nonattainment NSR" means the new source review program within the meaning of Part D of Subchapter I of the Act, 42 U.S.C. §§ 7501-7515 and 40 C.F.R. Part 51, and corresponding provisions of the federally enforceable Michigan SIP.

48. "Operational or Ownership Interest" means part or all of Consumers' legal or equitable operational or ownership interest in any operating, non-Retired Unit. The parties recognize that under this definition, Section XX (Sales or Transfers of Operational or Ownership Interests) of this Consent Decree does not apply to salvage, scrap, or demolition of a Retired Unit.

49. "Operating Day" means any calendar day on which a Unit fires Fossil Fuel.

50. "Other Unit" means any Unit within the Consumers System that is not an Improved Unit for the pollutant in question. A Unit may be an Improved Unit for NO<sub>x</sub> and an Other Unit for SO<sub>2</sub>, and vice versa.

51. "Over Fire Air" or "OFA" mean an in-furnace staged combustion control to reduce NO<sub>x</sub> emissions.

52. "Parties" means the United States of America on behalf of EPA, and Consumers. "Party" means one of the named "Parties."

53. "PM" means total filterable particulate matter, measured in accordance with the provisions of this Consent Decree.

54. "PM Continuous Emission Monitoring System" or "PM CEMS" means, for obligations involving the monitoring of PM emissions under this Consent Decree, the equipment that samples, analyzes, measures, and provides, by readings taken at frequent intervals, an electronic and/or paper record of PM emissions.

55. "PM Control Device" means any device, including an ESP or Baghouse, which reduces emissions of PM.

56. "PM Emission Rate" means the number of pounds of PM emitted per million BTU of heat input (lb/mmBTU).

57. "Prevention of Significant Deterioration" or "PSD" means the new source review program within the meaning of Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492 and 40 C.F.R. Part 52, and corresponding provisions of the federally enforceable Michigan SIP.

58. "Project Dollars" means Consumers' expenditures and payments incurred or made in carrying out the Environmental Mitigation Projects identified in Section IX

(Environmental Mitigation Projects) of this Consent Decree to the extent that such expenditures or payments both: (a) comply with the requirements set forth in Section IX (Environmental Mitigation Projects) and Appendix A of this Consent Decree, and (b) constitute Consumers' direct payments for such projects (or in the case of land acquisition or donation projects required by Appendix A, the EPA-approved assessed value of real estate contributed for such projects), or Consumers' external costs for contractors, vendors, and equipment.

59. "Refuel to Natural Gas" or "Refueled to Natural Gas" means, solely for purposes of this Consent Decree, the modification of a Unit such that the modified unit generates electricity solely through the combustion of Natural Gas. Nothing herein shall prevent the reuse of any equipment at any existing Unit provided that Consumers applies for, and obtains, all required permits, including, if applicable, a PSD or Nonattainment NSR permit.

60. "Retire" or "Retirement" means that Consumers shall permanently shut down and cease to operate the Unit such that the Unit cannot physically or legally burn Fossil Fuel, and that Consumers shall comply with applicable state and federal requirements for permanently ceasing operation of the Unit as a Fossil Fuel-fired electric generating Unit, including removing the Unit from Michigan's air emissions inventory, and amending all applicable permits so as to reflect the permanent shutdown status of such Unit. Consumers can only subsequently operate such a Unit if it is Refueled to Natural Gas within the meaning of this Consent Decree, and Consumers obtains any and all required CAA permit(s) for the Refueled to Natural Gas Unit, including but not limited to an appropriate permit pursuant to CAA Subchapter I, Parts C and D, and pursuant to the applicable Michigan SIP provisions implementing CAA Subchapter I.

61. "Selective Catalytic Reduction" or "SCR" means an air pollution control device for reducing NO<sub>x</sub> emissions in which ammonia ("NH<sub>3</sub>") is added to the flue gas and then passed through layers of a catalyst material. The ammonia and NO<sub>x</sub> in the flue gas stream react on the surface of the catalyst, forming nitrogen ("N<sub>2</sub>") and water vapor.

62. "SO<sub>2</sub>" means sulfur dioxide, measured in accordance with the provisions of this Consent Decree.

63. "SO<sub>2</sub> Allowance" means an authorization to emit a specified amount of SO<sub>2</sub> that is allocated or issued under an emissions trading or marketable permit program of any kind established under the Clean Air Act or the Michigan SIP; provided, however, that with respect to any such program that first applies to emissions occurring after December 31, 2011, an "SO<sub>2</sub> Allowance" shall include an allowance created and allocated to a Consumers System Unit under such program only for control periods starting on or after the fourth anniversary of the Date of Entry of this Consent Decree.

64. "State" means the State of Michigan.

65. "State Implementation Plan" or "SIP" means regulations and other materials promulgated by a state for purposes of meeting the requirements of the Act that have been approved by EPA pursuant to Section 110 of the Act, 42 U.S.C. § 7410.

66. "Surrender" or "Surrender of Allowances" means, for purposes of SO<sub>2</sub> or NO<sub>x</sub> Allowances, permanently surrendering allowances from the accounts administered by EPA and Michigan for all Units in the Consumers System, so that such allowances can never be used thereafter to meet any compliance requirements under the Act, a SIP, or this Consent Decree.

67. “System-Wide Annual NO<sub>x</sub> Tonnage Limitation” means the limitations, as specified in this Consent Decree, on the number of tons of NO<sub>x</sub> that may be emitted from Campbell, Cobb, Karn, Weadock, and Whiting, collectively, during the relevant calendar year (i.e., January 1 through December 31), and shall include all emissions of NO<sub>x</sub> during all periods of operations, including startup, shutdown, and Malfunction.

68. “System-Wide Annual SO<sub>2</sub> Tonnage Limitation” means the limitations, as specified in this Consent Decree, on the number of tons of SO<sub>2</sub> that may be emitted from Campbell, Cobb, Karn, Weadock, and Whiting, collectively, during the relevant calendar year (i.e., January 1 through December 31), and shall include all emissions of SO<sub>2</sub> during all periods of operations, including startup, shutdown, and Malfunction.

69. “Title V Permit” means the permit required of Consumers’ major sources pursuant to Subchapter V of the Act, 42 U.S.C. §§ 7661-7661e.

70. “Unit” means collectively, the coal pulverizer, stationary equipment that feeds coal to the boiler, the boiler that produces steam for the steam turbine, the steam turbine, the generator, the equipment necessary to operate the generator, steam turbine, and boiler, and all ancillary equipment, including pollution control equipment and systems necessary for production of electricity. An electric steam generating station may comprise one or more Units.

71. “Urea Based Ammonia System” or “UBAS” means a type of ammonia feed system for SCRs where solid urea pellets are stored in a silo. Upon use, the solid urea is heated to liquid, thermally decomposed to ammonia, and injected into the SCR as the reagent for the NO<sub>x</sub> reduction reaction.

72. "Wedock" means, for purposes of this Consent Decree, Consumers' J.C. Wedock Generating Plant consisting of two electric utility steam-generating Units designated as Unit 7 (155 MW) and Unit 8 (155 MW) and related equipment, located in Essexville, Bay County, Michigan.

73. "Whiting" means, for purposes of this Consent Decree, Consumers' Whiting Generation Station consisting of three electric utility steam-generating Units designated as Unit 1 (102 MW), Unit 2 (102 MW), and Unit 3 (124 MW) and related equipment, located in Luna Pier, Monroe County, Michigan.

74. "Wind Power" means capacity installed by Consumers or Power Purchase Agreements ("PPAs") entered into by Consumers for capacity using wind turbines.

#### **IV. NO<sub>x</sub> EMISSION REDUCTIONS AND CONTROLS**

##### **A. Unit-Specific NO<sub>x</sub> Requirements at Campbell Units 1, 2 and 3**

75. Commencing upon the Date of Entry, Consumers shall Continuously Operate the existing Low NO<sub>x</sub> Combustion System (including OFA) at Campbell Unit 1.

76. Commencing no later than 365 Operating Days after the Date of Entry and continuing thereafter, Consumers shall Continuously Operate the Low NO<sub>x</sub> Combustion System (including OFA) at Campbell Unit 1 so that it achieves and maintains a 365-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.220 lb/mmBTU.

77. Commencing upon the Date of Entry and continuing thereafter, Consumers shall Continuously Operate an SCR at Campbell Unit 2.

78. Commencing no later than 60 Operating Days after the Date of Entry and continuing thereafter, Consumers shall continuously achieve and maintain a 30-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.100 lb/mmBTU at Campbell Unit 2.

79. Commencing no later than 180 Operating Days after the Date of Entry and continuing thereafter, Consumers shall continuously achieve and maintain a 90-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.080 lb/mmBTU at Campbell Unit 2.

80. Commencing upon the Date of Entry and continuing thereafter, Consumers shall Continuously Operate an SCR at Campbell Unit 3.

81. Commencing no later than 60 Operating Days after the Date of Entry and continuing thereafter, Consumers shall continuously achieve and maintain a 30-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.100 lb/mmBTU at Campbell Unit 3.

82. Commencing no later than 180 Operating Days after the Date of Entry and continuing thereafter, Consumers shall continuously achieve and maintain a 90-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.080 lb/mmBTU at Campbell Unit 3.

83. Campbell Unit 1 and Unit 2 exhaust to a common stack where all mass emissions are monitored. Accordingly, so long as the two Units exhaust to a common stack, the procedures of Appendix B shall be used for purposes of apportionment of the common stack NO<sub>x</sub> mass emissions and heat input to individual Campbell Units 1 and 2 for purposes of determining NO<sub>x</sub> lb/mmBtu emission rates. Consumers reserves the right to monitor NO<sub>x</sub> mass emissions at each unit individually if it becomes technically feasible to do so.

**B. Unit-Specific NO<sub>x</sub> Requirements at Karn Units 1 and 2**

84. Commencing upon the Date of Entry, Consumers shall Continuously Operate the existing SCR at Karn Unit 1.

85. Commencing no later than 60 Operating Days after the Date of Entry and continuing thereafter, Consumers shall Continuously Operate the SCR at Karn Unit 1 so as to achieve and maintain a 30-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.080 lb/mmBTU.

86. Commencing upon the Date of Entry, Consumers shall Continuously Operate the existing SCR at Karn Unit 2.

87. Commencing no later than 60 Operating Days after the Date of Entry and continuing thereafter, Consumers shall Continuously Operate the SCR at Karn Unit 2 so as to achieve and maintain a 30-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.080 lb/mmBTU.

**C. Unit-Specific NO<sub>x</sub> Requirements at Cobb Units 4 and 5**

88. Commencing upon the Date of Entry, and continuing until the Unit is Retired or Refueled to Natural Gas pursuant to this Consent Decree, Consumers shall Continuously Operate the existing Low NO<sub>x</sub> Combustion System (including OFA) at Cobb Unit 5.

89. Commencing no later than 365 Operating Days after the Date of Entry, and continuing until the Unit is Retired or Refueled to Natural Gas pursuant to this Consent Decree, Consumers shall Continuously Operate the Low NO<sub>x</sub> Combustion System (including OFA) at Cobb Unit 5 so that it achieves and maintains a 365-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.220 lb/mmBTU.

90. By no later than April 15, 2016, Consumers shall (a) either Retire or Refuel to Natural Gas Cobb Unit 4 and (b) either Retire or Refuel to Natural Gas Cobb Unit 5. No later than one year from the Date of Entry, Consumers shall notify Plaintiff in writing which option – Retire or Refuel to Natural Gas – it elects for Cobb Units 4 and 5. If Consumers Refuels to Natural Gas Cobb Units 4 and/or 5, Consumers shall permanently cease burning coal at the unit(s) and shall continuously achieve and maintain a 365-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.200 lb/mmBTU. Furthermore, each such Refueled Unit shall not exceed a capacity factor of 20.0 percent in any single calendar year, and shall not exceed a three-year rolling average capacity factor of 10.0 percent, based on an electrical output capacity of 135 MW gross per Unit.

**D. Unit-Specific NO<sub>x</sub> Requirements at Weadock Units 7 and 8**

91. Commencing upon the Date of Entry, and continuing until the Unit is Retired pursuant to this Consent Decree, Consumers shall Continuously Operate the existing Low NO<sub>x</sub> Combustion Systems at Weadock Units 7 and 8.

92. Commencing no later than 365 Operating Days after the Date of Entry, and continuing until the Unit is Retired pursuant to this Consent Decree, Consumers shall Continuously Operate the Low NO<sub>x</sub> Combustion Systems at Weadock Units 7 and 8 so that each Unit achieves and maintains a 365-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.340 lb/mmBTU.

93. Weadock Units 7 and 8 exhaust through a common duct to a common stack. Accordingly, so long as the two Units exhaust to a common duct, notwithstanding any other provision, any NO<sub>x</sub> Emission Rates set forth under this Consent Decree as applicable to each of

Wedock Unit 7 and Unit 8 shall be measured and calculated for the two Units together as if they were a single Unit (e.g., where the Consent Decree specifies that Consumers shall operate Wedock Unit 7 and Unit 8 to achieve and maintain a 365-Day Rolling Average Emissions Rate for NO<sub>x</sub> of 0.34 lb/mmBTU at each Unit, the emissions rate calculation for the Wedock Units will be based on the total NO<sub>x</sub> emissions and heat input for the two Units together measured at the common duct). A violation of any such rate based on common duct measurements shall be presumed to be two violations, unless Consumers proves to EPA's satisfaction that the violation is due solely to the mal-performance of one of the two Units. The procedures in Appendix B are an acceptable means of demonstrating that a violation based on the common duct measurements is due solely to the mal-performance of one of the two Units.

94. By no later than April 15, 2016, Consumers shall Retire Wedock Units 7 and 8.

E. **Unit-Specific NO<sub>x</sub> Requirements at Whiting Units 1, 2, and 3**

95. Commencing upon the Date of Entry, and continuing until the Unit is Retired pursuant to this Consent Decree, Consumers shall Continuously Operate the existing Low NO<sub>x</sub> Combustion Systems at Whiting Units 1, 2, and 3.

96. Commencing no later than 365 Operating Days after the Date of Entry, and continuing until the Unit is Retired pursuant to this Consent Decree, Consumers shall Continuously Operate the Low NO<sub>x</sub> Combustion Systems at Whiting Units 1, 2, and 3 so that each Unit achieves and maintains a 365-Day Rolling Average Emission Rate for NO<sub>x</sub> of no greater than 0.280 lb/mmBTU.

97. By no later than April 15, 2016, Consumers shall Retire Whiting Units 1, 2, and 3.

**F. System-Wide Annual NO<sub>x</sub> Tonnage Limitations**

98. The Consumers System, collectively, shall operate so as not to exceed the following System-Wide Annual NO<sub>x</sub> Tonnage Limitations:

<b>For the Calendar Year Specified Below:</b>	<b>System-Wide Annual NO<sub>x</sub> Tonnage Limitation:</b>
2015	15,245
2016	9,319
2017 and continuing each calendar year thereafter	6,912 [cap shall adjust to 6,600 if Consumers elects to Retire Cobb 4 and 5]

**G. Monitoring of NO<sub>x</sub> Emissions**

99. In determining a 30-Day Rolling Average Emission Rate for NO<sub>x</sub>, a 90-Day Rolling Average Emission Rate for NO<sub>x</sub>, or a 365-Day Rolling Average Emission Rate for NO<sub>x</sub>, Consumers shall use CEMS in accordance with the procedures of 40 C.F.R. Part 75, except that the NO<sub>x</sub> emissions data need not be bias adjusted and the missing data substitution procedures of 40 C.F.R. Part 75 shall not apply. If applicable, diluent capping (*i.e.*, 5% CO<sub>2</sub>) will be applied to the NO<sub>x</sub> emission rate for any hours where the measured CO<sub>2</sub> concentration is less than 5% following the procedures in 40 C.F.R. Part 75, Appendix F, Section 3.3.4.1.

100. For purposes of calculating the System-Wide Annual NO<sub>x</sub> Tonnage Limitations, Consumers shall use CEMS in accordance with the procedures specified in 40 C.F.R. Part 75, which includes the requirements associated with the concepts of bias adjustments and missing data substitution.

**H. Use and Surrender of NO<sub>x</sub> Allowances**

101. Except as may be necessary to comply with Section XIV (Stipulated Penalties), Consumers shall not use NO<sub>x</sub> Allowances to comply with any requirement of this Consent

Decree, including by claiming compliance with any emission limitation required by this Consent Decree by using, tendering, or otherwise applying NO<sub>x</sub> Allowances to offset any excess emissions.

102. Except as provided in this Consent Decree, Consumers shall not sell, bank, trade, or transfer any NO<sub>x</sub> Allowances allocated to the Consumers System Units. Nothing in this Consent Decree shall restrict Consumers' ability to transfer NO<sub>x</sub> Allowances among its own facility or general accounts.

103. Beginning with the year 2014 compliance period, and continuing each year thereafter, Consumers shall Surrender all NO<sub>x</sub> Allowances allocated to the Consumers System for that year's compliance period that Consumers does not need in order to meet its own federal and/or state CAA regulatory requirements for the Consumers System Units. However, NO<sub>x</sub> Allowances allocated to the Consumers System may be used by Consumers to meet its own federal and/or state CAA regulatory requirements for such Units.

104. Nothing in this Consent Decree shall prevent Consumers from purchasing or otherwise obtaining NO<sub>x</sub> Allowances from another source for purposes of complying with federal and/or state CAA regulatory requirements to the extent otherwise allowed by law.

105. The requirements of this Consent Decree pertaining to Consumers' use and Surrender of NO<sub>x</sub> Allowances are permanent injunctions not subject to any termination provision of this Consent Decree.

**I. Super-Compliant NO<sub>x</sub> Allowances**

106. Notwithstanding Section IV.H (Use and Surrender of NO<sub>x</sub> Allowances) of this Consent Decree, beginning with the year 2014 and continuing in each year thereafter, Consumers

may sell, bank, use, trade, or transfer NO<sub>x</sub> Allowances allocated to the Consumers System that are made available in that year's compliance period solely as a result of:

- a. the installation and operation of any NO<sub>x</sub> pollution control that is not otherwise required by, or necessary to maintain compliance with, any provision of this Consent Decree, and is not otherwise required by law;
- b. the use of SCR prior to the date established by this Consent Decree; or
- c. achievement and maintenance of an Emission Rate below a 365-Day Rolling Average Emission Rate for NO<sub>x</sub> at the following Units: (i) at Campbell Unit 1: 0.200 lb/mmBTU; (ii) at Campbell Unit 2: 0.070 lb/mmBTU; (iii) at Campbell Unit 3: 0.070 lb/mmBTU; (iv) at Cobb Unit 5: 0.200 lb/mmBTU; (v) at Karn Unit 1: 0.070 lb/mmBTU; (vi) at Karn Unit 2: 0.070 lb/mmBTU;

provided that Consumers is also in compliance for that calendar year with all emission limitations for NO<sub>x</sub> set forth in this Consent Decree. Consumers shall timely report the generation of such super-compliant Allowances in accordance with Section XII (Periodic Reporting) of this Consent Decree.

**J. Method for Surrender of NO<sub>x</sub> Allowances**

107. Consumers shall Surrender, or transfer to a non-profit third-party selected by Consumers for Surrender, all NO<sub>x</sub> Allowances required to be Surrendered pursuant to Section IV.H (Use and Surrender of NO<sub>x</sub> Allowances) of this Consent Decree by June 30 of the immediately following calendar year. Such Surrender need not include the specific NO<sub>x</sub> Allowances that were allocated to Consumers System Units, so long as Consumers Surrenders

NO<sub>x</sub> Allowances that are from the same year or an earlier year and that are equal to the number required to be Surrendered under this Consent Decree.

108. If any NO<sub>x</sub> Allowances required to be Surrendered under this Consent Decree are transferred directly to a non-profit third-party, Consumers shall include a description of such transfer in the next report submitted to EPA pursuant to Section XII (Periodic Reporting) of this Consent Decree. Such report shall: (a) identify the non-profit third-party recipient(s) of the NO<sub>x</sub> Allowances and list the serial numbers of the transferred NO<sub>x</sub> Allowances; and (b) include a certification by the third-party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the NO<sub>x</sub> Allowances and will not use any of the NO<sub>x</sub> Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any NO<sub>x</sub> Allowances, Consumers shall include a statement that the third-party recipient(s) Surrendered the NO<sub>x</sub> Allowances for permanent Surrender to EPA in accordance with the provisions of the following Paragraph 109 within one year after Consumers transferred the NO<sub>x</sub> Allowances to them. Consumers shall not have complied with the NO<sub>x</sub> Allowance Surrender requirements of this Paragraph 108 until all third-party recipient(s) have actually Surrendered the transferred NO<sub>x</sub> Allowances to EPA.

109. For all NO<sub>x</sub> Allowances required to be Surrendered, Consumers or the third-party recipient(s) (as the case may be) shall first submit a NO<sub>x</sub> Allowance transfer request to EPA's Office of Air and Radiation's Clean Air Markets Division directing the transfer of such NO<sub>x</sub> Allowances to the EPA Enforcement Surrender Account or to any other EPA account that EPA may direct in writing. Such NO<sub>x</sub> Allowance transfer requests may be made in an electronic manner using EPA's Clean Air Markets Division Business System or similar system provided by

EPA. As part of submitting these transfer requests, Consumers or the third-party recipient(s) shall irrevocably authorize the transfer of these NO<sub>x</sub> Allowances and identify – by name of account and any applicable serial or other identification numbers or station names – the source and location of the NO<sub>x</sub> Allowances being Surrendered.

#### **V. SO<sub>2</sub> EMISSION REDUCTIONS AND CONTROLS**

##### **A. Unit-Specific SO<sub>2</sub> Requirements at Campbell Units 1, 2, and 3**

110. Commencing no later than 60 Operating Days after the Date of Entry, Consumers shall Continuously Operate Campbell Units 1 and 2 so that the Units achieve and maintain a combined 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 1.00 lb/mmBTU.

111. Commencing no later than 60 Operating Days after the Date of Entry, Consumers shall Continuously Operate Campbell Unit 3 so that the Unit achieves and maintains a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 1.00 lb/mmBTU.

112. Consumers shall install an FGD at Campbell Unit 3 and, commencing on December 31, 2016, Consumers shall Continuously Operate such FGD. Commencing no later than 60 Operating Days thereafter, Consumers shall Continuously Operate such FGD so as to achieve and maintain a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.085 lb/mmBTU. Commencing no later than 365 Operating Days after December 31, 2016, Consumers shall Continuously Operate such FGD so as to achieve and maintain a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.070 lb/mmBTU.

113. Consumers shall install DSI at Campbell Unit 1 and, commencing on June 30, 2016, Consumers shall Continuously Operate such DSI. Commencing no later than 60 Operating Days after June 30, 2016, Consumers shall Continuously Operate DSI at Campbell

Unit 1 so as to achieve and maintain a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.350 lb/mmBTU. Commencing no later than 180 Operating Days after June 30, 2016, Consumers shall Continuously Operate DSI at Campbell Unit 1 so as to achieve and maintain a 90-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.290 lb/mmBTU.

114. Consumers shall install DSI at Campbell Unit 2 and, commencing on June 30, 2016, Consumers shall Continuously Operate such DSI. Commencing no later than 365 Operating Days after June 30, 2016, Consumers shall Continuously Operate DSI at Campbell Unit 2 so as to achieve and maintain a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.320 lb/mmBTU.

115. Campbell Unit 1 and Unit 2 exhaust to a common stack where all mass emissions are monitored. Prior to June 30, 2016, so long as the two Units exhaust to a common stack, notwithstanding any other provision, any SO<sub>2</sub> Emission Rates set forth under this Consent Decree as applicable to each of Campbell Unit 1 and Unit 2 shall be measured and calculated for the two Units together as if they were a single Unit. For example, where the Consent Decree specifies Campbell Unit 1 and Unit 2 shall achieve and maintain a 30-Day Rolling Average Emissions Rate for SO<sub>2</sub> of 1.00 lb/mmBTU, the emissions rate calculation for the Campbell Units will be based on the total SO<sub>2</sub> emissions and heat input for the two Units together measured at the common stack. A violation of any such rate based on common stack measurements shall be presumed to be two violations, unless Consumers proves to EPA's satisfaction that the violation is due solely to the mal-performance of one of the two units.

116. By June 30, 2016, Consumers shall either (a) install, certify, and operate unit level SO<sub>2</sub> CEMS on Campbell Units 1 and 2 and follow the procedures in Appendix B to calculate

unit level SO<sub>2</sub> mass emissions or (b) install, certify, and operate unit level SO<sub>2</sub> CEMS and flow CEMS on Campbell Units 1 and 2 to allow the direct determination of unit level SO<sub>2</sub> mass emissions. Installation and certification of the SO<sub>2</sub> CEMS and flow CEMS, as applicable, shall follow the procedures of 40 C.F.R. Part 75, Appendix A.

**B. Unit-Specific SO<sub>2</sub> Requirements at Karn Units 1 and 2**

117. Consumers shall install an FGD at Karn Unit 1 and, commencing on December 31, 2014, Consumers shall Continuously Operate such FGD. Commencing no later than 60 Operating Days thereafter, Consumers shall Continuously Operate such FGD so as to achieve and maintain a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.090 lb/mmBTU. Commencing no later than 365 Operating Days after December 31, 2014, Consumers shall Continuously Operate such FGD so as to achieve and maintain a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.075 lb/mmBTU.

118. Consumers shall install an FGD at Karn Unit 2 and, commencing on April 15, 2015, Consumers shall Continuously Operate such FGD. Commencing no later than 60 Operating Days thereafter, Consumers shall Continuously Operate such FGD so as to achieve and maintain a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.090 lb/mmBTU. Commencing no later than 365 Operating Days after April 15, 2015, Consumers shall Continuously Operate such FGD so as to achieve and maintain a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.075 lb/mmBTU.

**C. Unit-Specific SO<sub>2</sub> Requirements at Cobb Units 4 and 5**

119. Commencing no later than 60 Operating Days after the Date of Entry, and continuing until the Unit is Retired or Refueled to Natural Gas pursuant to this Consent Decree,

Consumers shall Continuously Operate Cobb Units 4 and 5 so that each Unit achieves and maintains a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 1.40 lb/mmBTU.

120. Commencing no later than 365 Operating Days after the Date of Entry, and continuing until the Unit is Retired or Refueled to Natural Gas pursuant to this Consent Decree, Consumers shall Continuously Operate Cobb Units 4 and 5 so that each Unit achieves and maintains a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 1.20 lb/mmBTU.

121. By no later than April 15, 2016, Consumers shall either Retire or Refuel to Natural Gas Cobb Units 4 and 5. No later than one year from the Date of Entry, Consumers shall notify Plaintiff in writing which option – Retire or Refuel to Natural Gas – it elects for Cobb Units 4 and 5.

**D. Unit-Specific SO<sub>2</sub> Requirements at Weadock Units 7 and 8**

122. Commencing no later than 60 Operating Days after the Date of Entry, Consumers shall Continuously Operate Weadock Units 7 and 8 so that each Unit achieves and maintains a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 1.40 lb/mmBTU.

123. Commencing no later than 365 Operating Days after the Date of Entry, Consumers shall Continuously Operate Weadock Units 7 and 8 so that each Unit achieves and maintains a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 1.20 lb/mmBTU.

124. Weadock Units 7 and 8 exhaust through a common duct to a common stack. Accordingly, so long as the two Units exhaust to a common duct, notwithstanding any other provision, any SO<sub>2</sub> Emission Rates set forth under this Consent Decree as applicable to each of Weadock Unit 7 and Unit 8 shall be measured and calculated for the two Units together as if they were a single Unit (e.g., where the Consent Decree specifies that Consumers shall operate

Wedock Unit 7 and Unit 8 to achieve and maintain a 30-Day Rolling Average Emissions Rate for SO<sub>2</sub> of 1.40 lb/mmBTU at each Unit, the emissions rate calculation for the Wedock Units will be based on the total SO<sub>2</sub> emissions and heat input for the two Units together measured at the common duct). A violation of any such rate based on common duct measurements shall be presumed to be two violations, unless Consumers proves to EPA's satisfaction that the violation is due solely to the mal-performance of one of the two Units.

125. By no later than April 15, 2016, Consumers shall Retire Wedock Units 7 and 8.

**E. Unit-Specific SO<sub>2</sub> Requirements at Whiting Units 1, 2, and 3**

126. Commencing no later than 60 Operating Days after the Date of Entry, Consumers shall Continuously Operate Whiting Units 1, 2, and 3 so that each Unit achieves and maintains a 30-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 1.40 lb/mmBTU.

127. Commencing no later than 365 Operating Days after the Date of Entry, Consumers shall Continuously Operate Whiting Units 1, 2, and 3 so that each Unit achieves and maintains a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> of no greater than 0.90 lb/mmBTU.

128. By no later than April 15, 2016, Consumers shall Retire Whiting Units 1, 2, and 3.

**F. System-Wide Annual SO<sub>2</sub> Tonnage Limitation.**

129. The Consumers System, collectively, shall operate so as not to exceed the following System-Wide Annual SO<sub>2</sub> Tonnage Limitations:

<b>For the Calendar Year Specified Below:</b>	<b>System-Wide Annual SO<sub>2</sub> Tonnage Limitation:</b>
2015	57,900
2016	34,000
2017 and continuing each calendar year thereafter	10,900

**G. Monitoring of SO<sub>2</sub> Emissions**

130. In determining a 30-Day Rolling Average Emission Rate for SO<sub>2</sub>, a 90-Day Rolling Average Emission Rate for SO<sub>2</sub>, or a 365-Day Rolling Average Emission Rate for SO<sub>2</sub>, Consumers shall use CEMS in accordance with the procedures of 40 C.F.R. Part 75, except that the SO<sub>2</sub> emissions data need not be bias adjusted and the missing data substitution procedures of 40 C.F.R. Part 75 shall not apply. If Consumers elects to install unit level SO<sub>2</sub> CEMS on Campbell Units 1 and 2 (in lieu of installing both unit level SO<sub>2</sub> and flow CEMS) and calculates unit level SO<sub>2</sub> mass emission according to the procedures in Appendix B, diluent capping (*i.e.*, 5% CO<sub>2</sub>) will be applied to the SO<sub>2</sub> emission rate for any hours where the measured CO<sub>2</sub> concentration is less than 5% following the procedures in 40 C.F.R. Part 75, Appendix F, Section 3.3.4.1.

131. For purposes of calculating the System-Wide Annual SO<sub>2</sub> Tonnage Limitation, Consumers shall use CEMS in accordance with the procedures specified in 40 C.F.R. Part 75, which includes the requirements associated with the concepts of bias adjustments and missing data substitution.

**H. Use and Surrender of SO<sub>2</sub> Allowances**

132. Except as may be necessary to comply with Section XIV (Stipulated Penalties), Consumers shall not use SO<sub>2</sub> Allowances to comply with any requirement of this Consent Decree, including by claiming compliance with any emission limitation required by this Consent Decree by using, tendering, or otherwise applying SO<sub>2</sub> Allowances to offset any excess emissions.

133. Except as provided in this Consent Decree, Consumers shall not sell, bank, trade, or transfer any SO<sub>2</sub> Allowances allocated to the Consumers System Units. Nothing in this Consent Decree shall restrict Consumers' ability to transfer SO<sub>2</sub> Allowances among its own facility or general accounts.

134. Beginning with the year 2014 compliance period, and continuing each year thereafter, Consumers shall Surrender all SO<sub>2</sub> Allowances allocated to the Consumers System for that year's compliance period that Consumers does not need in order to meet its own federal and/or state CAA regulatory requirements for the Consumers System Units. However, SO<sub>2</sub> Allowances allocated to the Consumers System Units may be used by Consumers to meet its own federal and/or state CAA regulatory requirements for such Units.

135. Nothing in this Consent Decree shall prevent Consumers from purchasing or otherwise obtaining SO<sub>2</sub> Allowances from another source for purposes of complying with federal and/or state CAA regulatory requirements to the extent otherwise allowed by law.

136. The requirements of this Consent Decree pertaining to Consumers' use and Surrender of SO<sub>2</sub> Allowances are permanent injunctions not subject to any termination provision of this Consent Decree.

#### I. Super-Compliant SO<sub>2</sub> Allowances

137. Notwithstanding Section V.H (Use of Surrender of SO<sub>2</sub> Allowances) of this Consent Decree, beginning with the year 2014 and continuing in each calendar year thereafter, Consumers may sell, bank, use, trade, or transfer SO<sub>2</sub> Allowances made available in that year's compliance period solely as a result of:

- a. the installation and operation of any SO<sub>2</sub> pollution control that is not otherwise required by, or necessary to maintain compliance with, any provision of this Consent Decree, and is not otherwise required by law;
- b. the use of FGD or DSI prior to the date established by this Consent Decree; or
- c. achievement and maintenance of an Emission Rate below a 365-Day Rolling Average Emission Rate for SO<sub>2</sub> at the following Units: (i) at Campbell Units 1 and 2: 0.260 lb/mmBTU; (ii) at Campbell Unit 3: 0.060 lb/mmBTU; (iii) at Karn Unit 1: 0.075 lb/mmBTU, (iv) at Karn Unit 2: 0.075 lb/mmBTU;

provided that Consumers is also in compliance for that calendar year with all emission limitations for SO<sub>2</sub> set forth in this Consent Decree. Consumers shall timely report the generation of such super-compliant Allowances in accordance with Section XII (Periodic Reporting) of this Consent Decree.

**J. Method for Surrender of SO<sub>2</sub> Allowances.**

138. Consumers shall Surrender, or transfer to a non-profit third party selected by Consumers for Surrender, all SO<sub>2</sub> Allowances required to be Surrendered pursuant to Section V.H (Use and Surrender of SO<sub>2</sub> Allowances) of this Consent Decree by June 30 of the immediately following calendar year. Such Surrender need not include the specific SO<sub>2</sub> Allowances that were allocated to Consumers System Units, so long as Consumers Surrenders SO<sub>2</sub> Allowances that are from the same year or an earlier year and that are equal to the number required to be Surrendered under this Consent Decree.

139. If any SO<sub>2</sub> Allowances required to be Surrendered under this Consent Decree are transferred directly to a non-profit third party, Consumers shall include a description of such

transfer in the next report submitted to EPA pursuant to Section XII (Periodic Reporting) of this Consent Decree. Such report shall: (a) identify the non-profit third party recipient(s) of the SO<sub>2</sub> Allowances and list the serial numbers of the transferred SO<sub>2</sub> Allowances; and (b) include a certification by the non-profit third party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the allowances and will not use any of the SO<sub>2</sub> Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any SO<sub>2</sub> Allowances, Consumers shall include a statement that the non-profit third party recipient(s) Surrendered the SO<sub>2</sub> Allowances for permanent Surrender to EPA in accordance with the provisions of the following Paragraph 140 within one year after Consumers transferred the SO<sub>2</sub> Allowances to them. Consumers shall not have complied with the SO<sub>2</sub> Allowance Surrender requirements of this Paragraph 139 until all third party recipient(s) have actually Surrendered the transferred SO<sub>2</sub> Allowances to EPA.

140. For all SO<sub>2</sub> Allowances required to be Surrendered, Consumers or the third party recipient(s) (as the case may be) shall first submit an SO<sub>2</sub> Allowance transfer request to EPA's Office of Air and Radiation's Clean Air Markets Division directing the transfer of such SO<sub>2</sub> Allowances to the EPA Enforcement Surrender Account or to any other EPA account that EPA may direct in writing. Such SO<sub>2</sub> Allowance transfer requests may be made in an electronic manner using EPA's Clean Air Markets Division Business System or similar system provided by EPA. As part of submitting these transfer requests, Consumers or the third party recipient(s) shall irrevocably authorize the transfer of these SO<sub>2</sub> Allowances and identify – by name of account and any applicable serial or other identification numbers or station names – the source and location of the SO<sub>2</sub> Allowances being Surrendered.

## **VI. PM EMISSION REDUCTIONS AND CONTROLS**

### **A. Optimization of Baghouses and ESPs**

141. By no later than 60 Operating Days from Entry of this Consent Decree and continuing thereafter, Consumers shall Continuously Operate each PM Control Device on each Unit in the Consumers System and use good air pollution control practices to maximize the PM emission reductions at all times when the Unit is in operation. Consumers shall:

- (a), at a minimum, to the extent practicable: (i) fully energize each section of the ESP for each Unit, where applicable; operate each compartment of the Baghouse as designed for Full Stream Operation for each Unit, where applicable (regardless of whether those actions are needed to comply with opacity limits); (ii) operate automatic control systems on each ESP to maximize PM collection efficiency, where applicable; (iii) maintain and replace bags on each Baghouse as needed to maximize collection efficiency, where applicable; (iv) maintain power levels delivered to the ESPs, consistent with manufacturers' specifications, the operational design of the Unit, and good engineering practices; and (v) evaluate and restore the plate-cleaning and discharge-electrode-cleaning systems for the ESPs at each Unit by varying the cycle time, cycle frequency, rapper-vibrator intensity, and number of strikes per cleaning event; and
- (b) during the next planned Unit outage (or unplanned outage of sufficient length), optimize the PM controls on that Unit by inspecting for and repairing any failed ESP section or Baghouse compartment and any openings in ESP casings, ductwork and expansion joints to minimize air leakage.

**B. Unit-Specific PM Requirements at Campbell Units 1, 2, and 3**

142. Commencing no later than 60 Operating Days after the Date of Entry, and continuing through May 1, 2016, Consumers shall Continuously Operate the PM Control Devices being vented to a combined stack at Campbell Units 1 and 2 so as to achieve and maintain a PM Emission Rate of no greater than 0.030 lb/mmBTU at the common stack.

143. Commencing no later than 60 Operating Days after the Date of Entry, and continuing through December 30, 2016, Consumers shall Continuously Operate the existing ESP at Campbell Unit 3 so as to achieve and maintain a PM Emission Rate of no greater than 0.030 lb/mmBTU.

144. Consumers shall install a Baghouse at Campbell Unit 1 and, commencing on April 1, 2016, and continuing thereafter, Consumers shall Continuously Operate such Baghouse so that it achieves and maintains a PM Emission Rate of no greater than 0.015 lb/mmBTU.

145. Consumers shall install a Baghouse at Campbell Unit 2 and, commencing no later than 30 Operating Days after the Date of Entry, and continuing thereafter, Consumers shall Continuously Operate such Baghouse so that it achieves and maintains a PM Emission Rate of no greater than 0.015 lb/mmBTU.

146. Consumers shall install a Baghouse at Campbell Unit 3 and, commencing on December 31, 2016, and continuing thereafter, Consumers shall Continuously Operate such Baghouse so that it achieves and maintains a PM Emission Rate of no greater than 0.015 lb/mmBTU.

**C. Unit-Specific PM Requirements at Karn Units 1 and 2**

147. Commencing no later than 30 Operating Days after the Date of Entry, and continuing thereafter, Consumers shall Continuously Operate the existing Baghouse at Karn Unit 1 so as to achieve and maintain a PM Emission Rate of no greater than 0.015 lb/mmBTU.

148. Commencing no later than 30 Operating Days after the Date of Entry, and continuing thereafter, Consumers shall Continuously Operate the existing Baghouse at Karn Unit 2 so as to achieve and maintain a PM Emission Rate of no greater than 0.015 lb/mmBTU.

**D. Unit-Specific PM Requirements at Cobb Units 4 and 5**

149. By no later than April 15, 2016, Consumers shall either Retire or Refuel to Natural Gas Cobb Units 4 and 5. No later than one year from the Date of Entry, Consumers shall notify Plaintiff in writing which option – Retire or Refuel to Natural Gas – it elects for Cobb Units 4 and 5.

**E. Unit-Specific PM Requirements at Weadock Units 7 and 8, and Whiting Units 1, 2, and 3**

150. By no later than April 15, 2016, Consumers shall Retire Weadock Units 7 and 8, and Whiting Units 1, 2, and 3.

**F. Opacity Limits**

151. Subject to and consistent with provisions of the Michigan SIP, by no later than 60 Operating Days after the date of the initial Continuous Operation of the Baghouses at Campbell Unit 1, Campbell Unit 2, Campbell Unit 3, Karn Unit 1, and Karn Unit 2 as required by Section VI (PM Emission Reductions and Controls) of this Consent Decree and continuing thereafter, Consumers shall Continuously Operate each such Unit so as to maintain compliance with the opacity limit set forth in the Michigan SIP and Title V Permit for each Unit.

152. Subject to and consistent with provisions of the Michigan SIP, by no later than 60 Operating Days after the date of optimization of PM controls on Cobb Unit 4, Cobb Unit 5, Weadock Unit 7, Weadock Unit 8, Whiting Unit 1, Whiting Unit 2, and Whiting Unit 3 as required by Paragraph 141(b) of this Consent Decree and continuing thereafter, Consumers shall Continuously Operate each such Unit and the oil-fired Karn Units 3 and 4 so as to maintain compliance with the opacity limit set forth in the Michigan SIP and Title V Permit for each Unit.

**G. PM Emissions Testing and Monitoring Requirements**

153. Within 12 months of the Date of Entry, and continuing annually thereafter (unless a Unit is Retired or Refueled to Natural Gas), Consumers shall conduct a stack test for PM pursuant to Paragraphs 154, 155, and 156. The annual performance test requirement imposed on Consumers by this Paragraph 153 may be satisfied by stack tests conducted by Consumers as may be required by its permits from the State of Michigan for any year that such stack tests are required under the permits. Consumers may perform testing every other year, rather than every year, provided that two of the most recently completed test results from tests conducted in accordance with the methods and procedures specified in this Consent Decree demonstrate that the PM emissions are equal to or less than 0.015 lb/mmBTU if the applicable rate is 0.030 lb/mmBTU, and 0.010 lb/mmBTU if the applicable rate is 0.015 lb/mmBTU. Consumers shall perform testing every year, rather than every other year, beginning in the year immediately following any test result demonstrating that the PM emissions are greater than 0.015 lb/mmBTU if the applicable rate is 0.030 lb/mmBTU, and 0.010 lb/mmBTU if the applicable rate is 0.015 lb/mmBTU.

154. To determine compliance with the PM Emission Rate established in Subsections VI.B and (Unit-Specific PM Requirements at Campbell Units 1, 2 and 3) and C (Unit-Specific PM Requirements at Karn Units 1 and 2), Consumers shall use the applicable reference methods and procedures (filterable portion only) specified in its CAA permits and the Michigan SIP for Campbell Units 1 and 2 (combined stack testing or individual unit testing), Campbell Unit 3, and Karn Units 1 and 2. Each test shall consist of three separate runs performed under representative operating conditions not including periods of startup, shutdown, or Malfunction. The sampling time for each run associated with a Unit controlled by a Baghouse shall be at least 120 minutes and the volume of each run shall be at least 1.70 dry standard cubic meters (60 dry standard cubic feet). The sampling time for each run associated with a Unit controlled by an ESP shall be at least 60 minutes and the volume of each run shall be at least 30 dry standard cubic feet. Consumers shall calculate the PM Emission Rate from the stack test results in accordance with 40 C.F.R. § 60.8(f). The results of each PM stack test shall be submitted to EPA within 60 Days of completion of each test.

155. Consumers shall use the applicable reference methods and procedures (filterable portion only) for compliance demonstrations with the PM emission rates specified in its CAA permits and the Michigan SIP for Cobb Units 4 and 5, Weadock Units 7 and 8 and Whiting Units 1, 2 and 3. Each test shall consist of three separate runs performed under representative operating conditions not including periods of startup, shutdown, or Malfunction. Unless otherwise specified in its CAA permit, the sampling time for each run shall be at least 60 minutes and the volume of each run shall be at least 30 dry standard cubic feet. The results of each PM stack test shall be submitted to EPA within 60 Days of completion of each test.

156. Within 12 months of the Date of Entry, and continuing annually thereafter in accordance with the testing frequency established in Paragraph 153, Consumers shall also conduct a PM stack test for condensable PM at Campbell Units 1 and 2 (combined stack testing or individual unit testing), Campbell Unit 3, and Karn Units 1 and 2 using the reference methods and procedures set forth at 40 C.F.R. Part 51, Appendix M, Method 202. Each test shall consist of three separate runs performed under representative operating conditions not including periods of startup, shutdown, or Malfunction. The sampling time for each run shall be at least 120 minutes and the volume of each run shall be at least 1.70 dry standard cubic meters (60 dry standard cubic feet). Consumers shall calculate the number of pounds of condensable PM emitted per million BTU of heat input (lb/mmBTU) from the stack test results in accordance with 40 C.F.R. § 60.8(f). The results of the PM stack test conducted pursuant to this Paragraph 156 shall not be used for the purpose of determining compliance with the PM Emission Rates required by this Consent Decree. The results of each PM stack test shall be submitted to EPA within 60 Days of completion of each test.

157. As an alternative to the PM testing required in this Section VI.G (PM Emissions Testing and Monitoring Requirements) of this Consent Decree, following the installation and operation of PM CEMS as required by Section VI.H of this Consent Decree, Consumers, at its sole discretion, may seek EPA approval pursuant to Section XIII (Review and Approval of Submittals) of this Consent Decree to forego stack testing and instead demonstrate continuous compliance with an applicable filterable PM Emission Rate by using the PM CEMS data on a 3-hour rolling average basis. If EPA approves a request to demonstrate continuous compliance with an applicable PM Emission Rate at a Unit using PM CEMS under this Paragraph 157, stack

testing for condensable PM pursuant to this Consent Decree using the reference methods and procedures set forth at 40 C.F.R. Part 51, Appendix M, Method 202 is not required for that Unit.

158. When Consumers submits the application for modification of its Title V Permit pursuant to Section XVII (Permits) of this Consent Decree, that application shall include a Compliance Assurance Monitoring (“CAM”) plan, under 40 C.F.R. Part 64, for any applicable PM Emission Rate in Subsections VI.B (Unit-Specific PM Requirements at Campbell Units 1, 2 and 3) and C (Unit-Specific PM Requirements at Karn Units I and 2). The PM CEMS required under Paragraph 159 may be used in that CAM plan.

**H. PM CEMS**

159. Consumers shall install, correlate, maintain, and operate three PM CEMS as specified below. The PM CEMS shall comprise a continuous particle mass monitor measuring particulate matter concentration, directly or indirectly, on an hourly average basis and a diluent monitor used to convert the concentration to units expressed in lb/mmBTU. The PM CEMS installed at each Unit must be appropriate for the anticipated stack conditions and capable of measuring PM concentrations on an hourly average basis. Consumers shall maintain, in an electronic database, the hourly average emission values of all PM CEMS in lb/mmBTU. Except for periods of monitor malfunction, maintenance, calibration, or repair, Consumers shall continuously operate the PM CEMS at all times when the Unit it serves is operating.

160. By no later than six (6) months from the Date of Entry of this Consent Decree, Consumers shall submit to EPA for review and approval pursuant to Section XIII (Review and Approval of Submittals) of this Consent Decree a plan for the installation and correlation of three PM CEMS at Campbell Unit 3, Karn Unit I, and Karn Unit 2.

161. By no later than six months from the submittal of plans in the prior Paragraph 160, Consumers shall submit to EPA for review and approval pursuant to Section XIII (Review and Approval of Submittals) of this Consent Decree a proposed Quality Assurance/Quality Control (“QA/QC”) protocol that shall be followed for such PM CEMS.

162. In developing both the plan for installation and correlation of the PM CEMS and the QA/QC protocol, Consumers shall use the criteria set forth in 40 C.F.R. Part 60, Appendix B, Performance Specification 11, and Appendix F, Procedure 2. Following EPA’s approval of the plan described in Paragraph 160 and the QA/QC protocol described in Paragraph 161, Consumers shall thereafter operate the PM CEMS in accordance with the approved plan and QA/QC protocol. Notwithstanding any other provision of this Consent Decree, exceedances of the PM Emission Rate that occur as a result of de-optimizing emission controls and/or spiking the exhaust gas with excess particulate required to achieve the high level PM test runs during the correlation testing shall not be a violation of the requirements of this Consent Decree (or credible evidence thereof) and shall not be subject to stipulated penalties; provided, however, that Consumers shall make best efforts to keep the high level PM test runs during such correlation testing below the applicable PM Emission Rate.

163. By no later than eighteen (18) months after the date that EPA approves the plan described in Paragraph 160, Consumers shall install, correlate, maintain, and commence Continuous Operation of the PM CEMS approved by EPA at Karn Units 1 and 2, conduct performance specification tests on the PM CEMS, and demonstrate compliance with the PM CEMS installation and correlation plans submitted to and approved by EPA. By March 31, 2017, Consumers shall install, correlate, maintain, and commence Continuous Operation of the

PM CEMS approved by EPA at Campbell Unit 3, conduct performance specification tests on the PM CEMS, and demonstrate compliance with the PM CEMS installation and correlation plans submitted to and approved by EPA. Consumers shall report, pursuant to Section XII (Periodic Reporting), the data recorded by the PM CEMS, expressed in lb/mmBTU on a rolling average 3-hour basis in electronic format to EPA and identify in the report any PM emission rates in excess of the applicable PM Emission Rate and any concentrations measured by the PM CEMS that are greater than 125% of the highest PM concentration level used in the most recent correlation testing performed pursuant to Performance Specification 11 in 40 C.F.R. Part 60, Appendix B.

**I. General PM Provisions**

164. Except as approved pursuant to Paragraph 157, stack testing shall be used to determine compliance with the PM Emission Rates established by this Consent Decree. Data from PM CEMS shall be used, at a minimum, to provide information to operators on PM emissions rate trends on a continuous basis.

165. Nothing in this Consent Decree is intended to, or shall, alter or waive any applicable law (including but not limited to any defenses, entitlements, challenges, or clarifications related to the Credible Evidence Rule, 62 Fed. Reg. 8314 (Feb. 24, 1997)) concerning the use of data for any purpose under the Act.

**VII. PROHIBITION ON NETTING CREDITS OR OFFSETS**

166. Emission reductions that result from actions to be taken by Consumers after the Date of Entry of this Consent Decree to comply with the requirements of this Consent Decree shall not be considered as a creditable contemporaneous emission decrease for the purpose of obtaining a Netting credit or offset under the CAA's Nonattainment NSR and PSD programs,

and shall not be used in any way to determine whether or not a project would result in either a “significant emissions increase” or a “significant net emissions increase” under the Nonattainment NSR and PSD programs.

167. The limitations on the generation and use of Netting credits and offsets set forth in the previous Paragraph 166 do not apply to emission reductions achieved by a particular Consumers System Unit that are greater than those required under this Consent Decree for that particular Consumers System Unit. For purposes of this Paragraph, emission reductions from a Consumers System Unit are greater than those required under this Consent Decree if they result from such Unit’s compliance with federally-enforceable emission limits that are more stringent than those limits imposed on the Unit under this Consent Decree and under applicable provisions of the CAA or the Michigan SIP.

168. Nothing in this Consent Decree is intended to preclude the emission reductions generated under this Consent Decree from being considered by the applicable state regulatory agency or EPA for the purpose of attainment demonstrations submitted pursuant to § 110 of the Act, 42 U.S.C. § 7410, or in determining impacts on National Ambient Air Quality Standards, PSD increment, or air quality related values, including visibility, in a Class I area.

### **VIII. WIND POWER COMMITMENT**

169. Consumers shall install and operate, or enter long-term power purchase agreements (“PPAs”) with a duration of at least 20 years from the date of the PPA, for 400 MW (nameplate) of new Wind Power generating capacity. To satisfy this requirement, Consumers must contract for or commence operation of such new Wind Power generating capacity between June 10, 2009 and December 31, 2015.

## **IX. ENVIRONMENTAL MITIGATION PROJECTS**

170. Consumers shall implement the Environmental Mitigation Projects ("Projects") described in Appendix A to this Consent Decree in compliance with the approved plans and schedules for such Projects and other terms of this Consent Decree. In implementing the Projects, Consumers shall spend no less than \$7.7 million in Project Dollars. Consumers shall not include its own personnel costs in overseeing the implementation of the Projects as Project Dollars.

171. Consumers shall maintain, and present to EPA upon request, all documents to substantiate the Project Dollars expended to implement the Projects described in Appendix A, and shall provide these documents to EPA within 30 Days of such request.

172. All plans and reports prepared by Consumers pursuant to the requirements of this Section IX (Environmental Mitigation Projects) of the Consent Decree and required to be submitted to EPA shall be publicly available from Consumers without charge.

173. Consumers shall certify, as part of each plan submitted to EPA for any Project, that Consumers is not otherwise required by law to perform the Project described in the plan, that Consumers is unaware of any other person who is required by law to perform the Project, and that Consumers will not use any Project, or portion thereof, to satisfy any obligations that it may have under other applicable requirements of law, including but not limited to any applicable renewable or energy efficiency portfolio standards.

174. Consumers shall use good faith efforts to secure as much environmental benefit as possible for the Project Dollars expended, consistent with the applicable requirements and limits of this Consent Decree.

175. If Consumers elects (where such an election is allowed) to undertake a Project by contributing funds to another person or entity that will carry out the Project in lieu of Consumers, but not including Consumers' agents or contractors, that person or instrumentality must, in writing: (a) identify its legal authority for accepting such funding; and (b) identify its legal authority to conduct the Project for which Consumers contributes the funds. Regardless of whether Consumers elects (where such election is allowed) to undertake a Project by itself or to do so by contributing funds or real estate to another person or instrumentality that will carry out the Project, Consumers acknowledges that it will receive credit for the expenditure of such funds or real estate contributed as Project Dollars only if Consumers demonstrates that the funds or real estate transfer have been spent/completed by either Consumers or by the person or instrumentality receiving them, and that such expenditures meet all requirements of this Consent Decree.

176. Consumers shall comply with the reporting requirements described in Appendix A.

177. In connection with any communication to the public or to shareholders regarding Consumers' actions or expenditures relating in any way to the Environmental Mitigation Projects in this Consent Decree, Consumers shall include prominently in the communication the information that the actions and expenditures were required by this Consent Decree.

178. Within 60 Days following the completion of each Project required under this Consent Decree (including any applicable periods of demonstration or testing), Consumers shall submit to the United States a report that documents the date that the Project was completed, the results achieved by implementing the Project, including the emission reductions or other

environmental benefits, and the Project Dollars expended by Consumers in implementing the Project.

**X. CIVIL PENALTY**

179. Within 30 Days after the Date of Entry of this Consent Decree, Consumers shall pay to the United States a civil penalty in the amount of \$2.75 million dollars. The civil penalty shall be paid by Electronic Funds Transfer ("EFT") to the United States Department of Justice, in accordance with current EFT procedures, referencing USAO File Number 2014V00933, DOJ Case Number 90-5-2-1-09771, and the civil action case name and case number of this action. The costs of such EFT shall be Consumers' responsibility. Payment shall be made in accordance with instructions provided to Consumers by the Financial Litigation Unit of the U.S. Attorney's Office for the Eastern District of Michigan. Any funds received after 2:00 p.m. EDT shall be credited on the next business day. At the time of payment, Consumers shall provide notice of payment, referencing the USAO File Number, the DOJ Case Number, and the civil action case name and case number, to the Department of Justice and to EPA in accordance with Section XIX (Notices) of this Consent Decree.

180. Failure to timely pay the civil penalty shall subject Consumers to interest accruing from the date payment is due until the date payment is made at the rate prescribed by 28 U.S.C. § 1961, and shall render Consumers liable for all charges, costs, fees, and penalties established by law for the benefit of a creditor or of the United States in securing payment.

181. Payments made pursuant to this Section are penalties within the meaning of Section 162(f) of the Internal Revenue Code, 26 U.S.C. § 162(f), and are not tax-deductible expenditures for purposes of federal law.

## XI. RESOLUTION OF CIVIL CLAIMS

### A. Resolution of U.S. Civil Claims

182. Claims of the United States Based on Modifications Occurring Before the Date of Lodging of this Consent Decree. Entry of this Consent Decree shall resolve all civil claims of the United States against Consumers that arose from any modifications commenced at any Consumers System Unit prior to the Date of Lodging of this Consent Decree, including but not limited to those claims alleged in the Complaint in this action and the NOVs issued by EPA to Consumers on March 30, 2007 and October 17, 2008, under any or all of: (a) Parts C or D of Subchapter I of the CAA, 42 U.S.C. §§ 7470-7492, 7501-7515, and the implementing PSD and Nonattainment NSR provisions of the Michigan SIP; (b) Section 111 of the Act, 42 U.S.C. § 7411, and 40 C.F.R. § 60.14; and (c) Title V of the Act, 42 U.S.C. § 7661-7661f, but only to the extent that such Title V claims are based on Consumers' failure to obtain an operating permit that reflects applicable requirements imposed under Parts C or D of Subchapter I of the Clean Air Act. Entry of this Consent Decree shall also resolve the civil claims of the United States for any opacity claims at any Consumers System Unit and at Karn Units 3 and 4 that occurred prior to the Date of Lodging of this Consent Decree.

183. Claims of the United States Based on Modifications after the Date of Lodging of this Consent Decree. Entry of this Consent Decree also shall resolve all civil claims of the United States that arise from a modification commenced before December 31, 2017, for pollutants regulated under Parts C or D of Subchapter I of the Act and under regulations promulgated thereunder as of the Date of Lodging except as provided below, and:

- a. where such modification is commenced at any Consumers System Unit after the Date of Lodging of this Consent Decree, or
- b. where such modification is one this Consent Decree expressly directs Consumers to undertake.

The term "modification" as used in this Paragraph 183 shall have the meaning that term is given under the CAA and under the regulations in effect as of the Date of Lodging of this Consent Decree. The claims resolved by this Paragraph 183 shall not include claims based upon Greenhouse Gases and sulfuric acid mist.

184. Reopener. The resolution of the United States' civil claims against Consumers, as provided by this Section XI.A (Resolution of U.S. Civil Claims), is subject to the provisions of Section XI.B (Pursuit of Civil Claims Otherwise Resolved by Section XI.A).

**B. Pursuit of Civil Claims Otherwise Resolved by Section XI.A**

185. Bases for Pursuing Resolved Claims for the Consumers System. If Consumers violates a System-Wide Annual NO<sub>x</sub> Tonnage Limitation or System-Wide Annual SO<sub>2</sub> Tonnage Limitation; or fails by more than 90 Days to Retire any Unit as required by this Consent Decree; or fails by more than 90 Days to install, upgrade, or commence Continuous Operation of any emission control device or achieve any Emission Rate or limitation required pursuant to this Consent Decree, then the United States may pursue any claim at any Consumers System Unit that is otherwise resolved under Section XI.A (Resolution of U.S. Civil Claims), subject to subparagraphs (a) and (b) below.

a. For any claims based on modifications undertaken at an Other Unit (i.e., any Unit of the Consumers System that is not an Improved Unit for the pollutant in question), claims may

be pursued only where the modification(s) on which such claim is based was commenced within the five (5) years preceding the violation or failure specified in this Paragraph 185a.

b. For any claims based on modifications undertaken at an Improved Unit, claims may be pursued only where the modification(s) on which such claim is based was commenced: (1) after the Date of Lodging of this Consent Decree, and (2) within the five (5) years preceding the violation or failure specified in this Paragraph 185.b.

186. Additional Bases for Pursuing Resolved Claims for Modifications at an Improved Unit: Solely with respect to Improved Units, the United States may also pursue claims arising from a modification (or collection of modifications) at an Improved Unit that have otherwise been resolved under Section XI.A (Resolution of U.S. Civil Claims), if the modification (or collection of modifications) at the Improved Unit on which such claim is based (a) was commenced after the Date of Lodging, and (b) individually (or collectively) increased the maximum hourly emission rate of that Unit for NO<sub>x</sub> or SO<sub>2</sub> (as measured by 40 C.F.R. § 60.14(b) and (h)) by more than 10%.

187. Additional Bases for Pursuing Resolved Claims for Modification at an Other Unit: Solely with respect to Other Units, the United States may also pursue claims arising from a modification (or collection of modifications) at an Other Unit that have otherwise been resolved under Section XI.A (Resolution of U.S. Civil Claims), if the modification (or collection of modifications) at the Other Unit on which such claim is based was commenced within the five years preceding any of the following events:

- a. a modification (or collection of modifications) at such Other Unit commenced after the Date of Lodging of this Consent Decree increases the maximum hourly emission rate for such Other Unit for the relevant pollutant (NO<sub>x</sub> or SO<sub>2</sub>), as measured by 40 C.F.R. § 60.14(b) and (h);
- b. the aggregate of all Capital Expenditures made at such Other Unit exceed \$150/KW on the Unit's Boiler Island (based on the generating capacities identified in this Consent Decree) during the period from the Date of Entry of this Consent Decree through December 31, 2017 (Capital Expenditures shall be measured in calendar year 2013 constant dollars, as adjusted by the McGraw-Hill Engineering News-Record Construction Cost Index); or
- c. a modification (or collection of modifications) at such Other Unit commenced after the Date of Lodging of this Consent Decree results in an emissions increase of NO<sub>x</sub> and/or SO<sub>2</sub> at such Other Unit, and such increase: (1) presents, by itself, or in combination with other emissions or sources, "an imminent and substantial endangerment" within the meaning of Section 303 of the Act, 42 U.S.C. § 7603; (2) causes or contributes to violation of a NAAQS in any Air Quality Control Area that is in attainment with that NAAQS; (3) causes or contributes to violation of a PSD increment; or (4) causes or contributes to any adverse impact on any formally-recognized air quality and related values in any Class I area. The introduction of any new or changed NAAQS shall not, standing alone, provide the showing needed under this Subparagraph 187.c. to pursue any claim for a modification at an Other Unit resolved under Section XI.A (Resolution of U.S. Civil Claims).

## **XII. PERIODIC REPORTING**

188. After entry of this Consent Decree, Consumers shall submit to the United States a periodic report, within 75 Days after the end of each half of the calendar year (January through June and July through December). The report shall include the following information:

- a. all information necessary to determine compliance with the requirements of the following provisions of this Consent Decree: Section IV (NO<sub>x</sub> Emission Reductions and Controls) concerning NO<sub>x</sub> emissions and monitoring, and the Use and Surrender of NO<sub>x</sub> Allowances; Section V (SO<sub>2</sub> Emission Reductions and Controls) concerning SO<sub>2</sub> emissions and monitoring, and the Use and Surrender of SO<sub>2</sub> Allowances; and Section VI (PM Emission Reductions and Controls) concerning PM emissions and monitoring. Such information includes but it not limited to (1) summaries of all 30-Day Rolling Average Emission Rates, 90-Day Rolling Average Emission Rates, and 365-Day Rolling Average Emission Rates, (2) calculations of System-Wide Annual NO<sub>x</sub> and SO<sub>2</sub> Tonnage Limitations, and (3) specific calculations demonstrating the basis and specific amounts of NO<sub>x</sub> Allowances and SO<sub>2</sub> Allowances to be Surrendered;
- b. 3-hour rolling average PM CEMS data as required by Paragraph 157, identifying all periods of monitor malfunction, maintenance, and/or repair as provided in Paragraph 159;
- c. all information relating to super-compliant NO<sub>x</sub> and SO<sub>2</sub> Allowances that Consumers claims to have generated in accordance with Sections IV.I (Super-Compliant NO<sub>x</sub> Allowances) and V.I (Super-Compliant SO<sub>2</sub> Allowances) through compliance beyond the requirements of this Consent Decree, including a detailed description of the

basis for such claim and the specific amount of super-compliant NO<sub>x</sub> and SO<sub>2</sub> Allowances generated at each Unit;

- d. subject to the provisions of the Michigan SIP, a report of all 6-minute average opacity measurements in excess of the requirements of Paragraphs 151 and 152, and the reasons for any such exceedances and a description of corrective actions undertaken;
- e. documentation of any Capital Expenditures at an Other Unit's Boiler Island made during the reporting period and cumulative Boiler Island Capital Expenditures to date;
- f. all information indicating that the installation or upgrade and commencement of operation of a new or upgraded pollution control device may be delayed, including the nature and cause of the delay, and any steps taken by Consumers to mitigate such delay;
- g. all affirmative defenses asserted pursuant to Paragraphs 208 through 213 during the reporting period;
- h. an identification of all periods when any pollution control device required by this Consent Decree to Continuously Operate was not operating, the reason(s) for the equipment not operating, and the basis for Consumers' compliance or non-compliance with the Continuous Operation requirements of this Consent Decree;
- i. a summary of actions implemented pursuant to implementation of the Wind Power Commitment pursuant to Section VIII (Wind Power Commitment); and
- j. a summary of actions implemented and expenditures made pursuant to implementation of the Environmental Mitigation Projects required pursuant to Section IX. (Environmental Mitigation Projects)

189. In any periodic report submitted pursuant to this Section, Consumers may incorporate by reference information previously submitted under its Title V permitting requirements, provided that Consumers attaches the Title V Permit report (or the pertinent portions of such report) and provides a specific reference to the provisions of the Title V Permit report that are responsive to the information required in the periodic report.

190. In addition to the reports required pursuant to this Section XII (Periodic Reporting), if Consumers violates or deviates from any provision (excluding emissions which will be reported pursuant to Paragraph 188.d) of this Consent Decree, Consumers shall submit to the United States a report on the violation or deviation within 10 business days after Consumers knew or should have known of the event. In the report, Consumers shall explain the cause or causes of the violation or deviation and any measures taken or to be taken by Consumers to cure the reported violation or deviation or to prevent such violation or deviation in the future. If at any time, the provisions of this Consent Decree are included in Title V Permits, consistent with the requirements for such inclusion in this Consent Decree, then the semiannual deviation reports required under applicable Title V regulations shall be deemed to satisfy all the requirements of this Paragraph 190.

191. Each Consumers report shall be signed by a Responsible Official as defined in Title V of the Clean Air Act for Campbell, Karn, Karn Units 3 and 4, Cobb, Weadock, and Whiting, as appropriate, and shall contain the following certification:

*This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or my inquiry of the person(s) who manage(s) the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate,*

*and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.*

192. If any NO<sub>x</sub> or SO<sub>2</sub> Allowances are Surrendered to any non-profit third party pursuant to Paragraphs 108 and/or 139, the non-profit third party's certification shall be signed by a managing officer of the non-profit third party and shall contain the following language:

*I certify under penalty of law that \_\_\_\_\_ [name of non-profit third party] will not sell, trade, or otherwise exchange any of the allowances and will not use any of the allowances to meet any obligation imposed by any environmental law. I understand that there are significant penalties for making misrepresentations to or misleading the United States.*

### **XIII. REVIEW AND APPROVAL OF SUBMITTALS**

193. Consumers shall submit each plan, report, or other submission required by this Consent Decree to the United States whenever such a document is required to be submitted for review or approval pursuant to this Consent Decree. EPA may approve the submittal or decline to approve it and provide written comments explaining the bases for declining such approval as soon as reasonably practicable. Within 60 Days of receiving written comments from EPA, Consumers shall either: (a) revise the submittal consistent with the written comments and provide the revised submittal to EPA; or (b) submit the matter for dispute resolution, including the period of informal negotiations, under Section XVI (Dispute Resolution) of this Consent Decree.

194. Upon receipt of EPA's final approval of the submittal, or upon completion of the submittal pursuant to dispute resolution, Consumers shall implement the approved submittal in accordance with the schedule specified therein or another EPA-approved schedule.

#### **XIV. STIPULATED PENALTIES**

195. For any failure by Consumers to comply with the terms of this Consent Decree, and subject to the provisions of Sections XV (Force Majeure) and XVI (Dispute Resolution), Consumers shall pay, within 30 Days after receipt of written demand to Consumers by the United States, the following stipulated penalties to the United States:

<b>Consent Decree Violation</b>	<b>Stipulated Penalty</b>
a. Failure to pay the civil penalty as specified in Section X (Civil Penalty) of this Consent Decree	\$10,000 per Day
b. Failure to comply with any applicable 30-Day Rolling Average Emission Rate	<p>\$2,500 per Day per violation where the violation is less than 5% in excess of the lb/mmBTU limits</p> <p>\$5,000 per Day per violation where the violation is equal to or greater than 5% but less than 10% in excess of the lb/mmBTU limits</p> <p>\$10,000 per Day per violation where the violation is equal to or greater than 10% in excess of the lb/mmBTU limits</p>

<p>c. Failure to comply with any applicable 90-Day Rolling Average Emission Rate</p>	<p>\$1,000 per Day per violation where the violation is less than 5% in excess of the lb/mmBTU limits</p> <p>\$1,750 per Day per violation where the violation is equal to or greater than 5% but less than 10% in excess of the lb/mmBTU limits</p> <p>\$2,500 per Day per violation where the violation is equal to or greater than 10% in excess of the lb/mmBTU limits</p>
<p>d. Failure to comply with any applicable 365-Day Rolling Average Emission Rate, where the violation is less than 5% in excess of the limits set forth in this Consent Decree</p>	<p>\$350 per Day per violation for a 365-Day Rolling Average Emission Rate violation, plus \$4,000 for each subsequent 365-Day Rolling Average Emission Rate violation that includes any day in a previously assessed 365-Day Rolling Average Emission Rate violation (e.g., if a violation of the 365-Day Rolling Average Emission Rate for a Unit first occurs on June 1, 2013, occurs again on June 2, 2013, and again on May 31, 2014, the total stipulated penalty assessed for these three violations would equal \$135,750)</p>

e. Failure to comply with any applicable 365-Day Rolling Average Emission Rate, where the violation is equal to or greater than 5% but less than 10% in excess of the limits set forth in this Consent Decree	\$450 per Day per violation for a 365-Day Rolling Average Emission Rate violation, plus \$5,000 for each subsequent 365-Day Rolling Average Emission Rate violation that includes any day in a previously assessed 365-Day Rolling Average Emission Rate violation (e.g., if a violation of the 365-Day Rolling Average Emission Rate for a Unit first occurs on June 1, 2013, occurs again on June 2, 2013, and again on May 31, 2014, the total stipulated penalty assessed for these three violations would equal \$174,250)
f. Failure to comply with any applicable 365-Day Rolling Average Emission Rate, where the violation is equal to or greater than 10% in excess of the limits set forth in this Consent Decree	\$600 per Day per violation for a 365-Day Rolling Average Emission Rate violation, plus \$6,000 for each subsequent 365-Day Rolling Average Emission Rate violation that includes any day in a previously assessed 365-Day Rolling Average Emission Rate violation (e.g., if a violation of the 365-Day Rolling Average Emission Rate for a Unit first occurs on June 1, 2013, occurs again on June 2, 2013, and again on May 31, 2014, the total stipulated penalty assessed for these three violations would equal \$231,000)

g. Failure to comply with the applicable System-Wide Annual Tonnage Limitations established by this Consent Decree	\$5,000 per ton for first 100 tons, \$10,000 per ton for each additional ton above 100 tons, plus the Surrender of NO <sub>x</sub> or SO <sub>2</sub> Allowances in an amount equal to two times the number of tons of NO <sub>x</sub> or SO <sub>2</sub> emitted that exceeded the System-Wide Annual Tonnage Limitation
h. Failure to comply with any applicable PM Emission Rate specified in Section VI.B (Unit-Specific PM Requirements at Campbell Units 1, 2 and 3) or C (Unit-Specific PM Requirements at Karn Units 1 and 2) of this Consent Decree, where the violation is less than five percent (5%) in excess of the lb/mmbtu limit	\$2,500 per Operating Day per violation, starting on the day a stack test result demonstrates a violation and continuing each day thereafter until and excluding such day on which a subsequent stack test* demonstrates compliance with the applicable PM Emission Rate
i. Failure to comply with any applicable PM Emission Rate specified in Section VI.B or C of this Consent Decree, where the violation is equal to or greater than 5% but less than 10% in excess of the lb/mmbtu limit	\$5,000 per Operating Day per violation, starting on the day a stack test result demonstrates a violation and continuing each day thereafter until and excluding such day on which a subsequent stack test* demonstrates compliance with the applicable PM Emission Rate
j. Failure to comply with any applicable PM Emission Rate specified in Section VI.B or C of this Consent Decree, where the violation is equal to or greater than 10% in excess of the lb/mmbtu limit	\$10,000 per Operating Day per violation, starting on the day a stack test result demonstrates a violation and continuing each day thereafter until and excluding such day on which a subsequent stack test* demonstrates compliance with the applicable PM Emission Rate

k. Failure to install, commence Continuous Operation, or Continuously Operate a NO <sub>x</sub> , SO <sub>2</sub> , or PM control device as required under this Consent Decree	\$10,000 per Day per violation during the first 30 Days; \$37,500 per Day per violation thereafter
l. Failure to Retire a Unit as required under this Consent Decree	\$10,000 per Day per violation during the first 30 Days; \$37,500 per Day per violation thereafter
m. Failure to conduct a stack test for PM as required by subsection VI.G PM Emissions Testing and Monitoring Requirements) of this Consent Decree	\$5,000 per Day per violation
n. Failure to install or operate NO <sub>x</sub> , SO <sub>2</sub> , and/or PM CEMS as required in this Consent Decree	\$1,000 per Day per violation
o. Failure to apply for any permit required by Section XVII (Permits)	\$1,000 per Day per violation
p. Failure to timely submit, modify, or implement, as approved, the reports, plans, studies, analyses, protocols, or other submittals required by this Consent Decree	\$750 per Day per violation during the first 10 Days; \$1,000 per Day per violation thereafter
q. Failure to Surrender NO <sub>x</sub> Allowances as required under this Consent Decree	\$37,500 per Day, plus \$1,000 per NO <sub>x</sub> Allowance not Surrendered
r. Failure to Surrender SO <sub>2</sub> Allowances as required under this Consent Decree	\$37,500 per Day, plus \$1,000 per SO <sub>2</sub> Allowance not Surrendered
s. Using, selling, banking, trading, or transferring NO <sub>x</sub> Allowances or SO <sub>2</sub> Allowances except as permitted under this Consent Decree	The Surrender of Allowances in an amount equal to four times the number of Allowances used, sold, banked, traded, or transferred in violation of this Consent Decree
t. Failure to demonstrate the third-party Surrender of a NO <sub>x</sub> or SO <sub>2</sub> Allowance in accordance with Paragraphs 108 and 139	\$2,500 per Day per violation
u. Failure to optimize ESPs and Baghouses as required by Paragraph 141	\$1,000 per Day per violation

v. Failure to undertake and complete any of the Environmental Mitigation Projects in compliance with Section IX (Environmental Mitigation Projects) and Appendix A of this Consent Decree	\$1,000 per Day per violation during the first 30 Days; \$5,000 per Day per violation thereafter
w. A violation of the opacity standard under Paragraph 151 or 152	\$1,000 per Day per violation
x. Any other violation of this Consent Decree	\$1,000 per Day per violation

\*Consumers shall not be required to make any submission, including any notice or test protocol, or to obtain any approval to or from EPA in advance of conducting such a subsequent stack test, provided that Consumers uses the test methods and procedures specified within Paragraphs 154, 155, and 156 or test protocols otherwise previously approved by EPA.

196. Violations of any limit based on a 30-Day Rolling Average Emission Rate

constitute 30 Days of violation but where such a violation (for the same pollutant and from the same Unit) recurs within periods less than 30 Operating Days, Consumers shall not be obligated to pay a daily stipulated penalty for any Day of the recurrence for which a stipulated penalty has already been paid.

197. Violations of any limit based on a 90-Day Rolling Average Emission Rate

constitute 90 Days of violation but where such a violation (for the same pollutant and from the same Unit) recurs within periods less than 90 Operating Days, Consumers shall not be obligated to pay a daily stipulated penalty for any Day of the recurrence for which a stipulated penalty has already been paid.

198. Violations of any limit based on a 365-Day Rolling Average Emission Rate

constitute 365 Days of violation but where such a violation (for the same pollutant and from the same Unit) recurs within periods less than 365 Operating Days, Consumers shall not be obligated to pay a daily stipulated penalty for any Day of the recurrence for which a stipulated penalty has already been paid.

199. Consumers shall not be subject to stipulated penalties for a failure to comply with any 30-Day Rolling Average Emission Rate for NO<sub>x</sub>, or any 30-Day Rolling Average Emission Rate for SO<sub>2</sub> that will be met through the use of FGD as required by Paragraphs 112, 117, and 118, due to a startup or shutdown event provided that (a) Consumer's emissions do not exceed the 30-Day Rolling Average NO<sub>x</sub> or SO<sub>2</sub> Emission Rate by more than 0.015 lb/mmBTU, (b) in the next periodic reporting period, Consumers provides EPA with data and calculations to demonstrate a startup or shutdown event occurred and but for the startup or shutdown event, Consumers would have achieved and maintained compliance with the applicable 30-Day Rolling Average Emission Rate for NO<sub>x</sub> or SO<sub>2</sub>, and (c) Consumers identifies the time period of the event, provides EPA with data regarding the flue gas temperature entering each applicable control device during the startup or shutdown event and provides a brief description of why such startup/shutdown conditions limited or impeded the operation of applicable pollution control device(s). For all Units other than those at the Campbell plant, Consumers may only invoke this provision in relation to five startup or shutdown events per calendar year per Unit during the term of this Consent Decree. For Units at the Campbell plant, Consumers may only invoke this provision in relation to seven startup or shutdown events per calendar year per Unit during the term of this Consent Decree. For purposes of this Paragraph 199, a startup or shutdown event may not extend more than 72 hours. This provision applies only to the calculation of stipulated penalties, and shall not be included in any permit.

200. In addition, only for purposes of the 90-Day Rolling Average Emission Rate for NO<sub>x</sub> required by Paragraphs 79 and 82 for Campbell Units 2 and 3, Consumers shall not be subject to stipulated penalties for a failure to comply with the 90-Day Rolling Average Emission

Rate for NO<sub>x</sub> due to a startup or shutdown event provided that (a) Consumer's emissions do not exceed the 90-Day Rolling Average NO<sub>x</sub> Emission Rate by more than 0.015 lb/mmBTU, (b) in the next periodic reporting period, Consumers provides EPA with data and calculations to demonstrate a startup or shutdown event occurred and but for the startup or shutdown event, Consumers would have achieved and maintained compliance with the applicable 90-Day Rolling Average Emission Rate for NO<sub>x</sub>, and (c) Consumers identifies the time period of the event, provides EPA with data regarding the flue gas temperature entering each applicable control device during the startup or shutdown event and provides a brief description of why such startup/shutdown conditions limited or impeded the operation of applicable pollution control device(s). For all Units other than those at the Campbell plant, Consumers may only invoke this provision in relation to five startup or shutdown events per calendar year per Unit during the term of this Consent Decree. For Units at the Campbell plant, Consumers may only invoke this provision in relation to seven startup or shutdown events per calendar year per Unit during the term of this Consent Decree. For purposes of this Paragraph 200, a startup or shutdown event may not extend more than 72 hours. This provision applies only to the calculation of stipulated penalties, and shall not be included in any permit.

201. All stipulated penalties shall begin to accrue on the Day after the performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases, whichever is applicable. Nothing in this Consent Decree shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Consent Decree.

202. For purposes of the stipulated penalty Surrender of Allowances required pursuant to subparagraphs 195(g) and (s), Consumers shall make the Surrender of any Allowances required by such subparagraphs by June 30 of the immediately following calendar year.

203. Consumers shall pay all stipulated penalties to the United States within 30 Days of receipt of written demand to Consumers from the United States, and shall continue to make such payments every 30 Days thereafter until the violation(s) no longer continues, unless Consumers elects within 20 Days of receipt of written demand to Consumers from the United States to dispute the accrual of stipulated penalties in accordance with the provisions in Section XVI (Dispute Resolution) of this Consent Decree.

204. Stipulated penalties shall continue to accrue as provided in accordance with Paragraph 201 during any dispute, with interest on accrued stipulated penalties payable and calculated at the rate established by the Secretary of the Treasury, pursuant to 28 U.S.C. § 1961, but need not be paid until the following:

- a. If the dispute is resolved by agreement, or by a decision of the United States pursuant to Section XVI (Dispute Resolution) of this Consent Decree that is not appealed to the Court, accrued stipulated penalties agreed or determined to be owing, together with accrued interest, shall be paid within 30 Days of the effective date of the agreement or of the receipt of the United States' decision;
- b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Consumers shall, within 30 Days of receipt of the Court's decision or order, pay all accrued stipulated penalties determined by the Court to be owing, together with

interest accrued on such penalties determined by the Court to be owing, except as provided in subparagraph c, below;

c. If the Court's decision is appealed by either Party, Consumers shall, within 15 Days of receipt of the final appellate court decision, pay all accrued stipulated penalties determined by the appellate court to be owing, together with interest accrued on such stipulated penalties.

Notwithstanding any other provision of this Consent Decree, the accrued stipulated penalties agreed by the United States and Consumers, or determined by the United States through Dispute Resolution, to be owing may be less than the stipulated penalty amounts set forth in Paragraph 195.

205. All monetary stipulated penalties shall be paid in the manner set forth in Section X (Civil Penalty) of this Consent Decree and all Surrender of Allowances stipulated penalties shall comply with the Surrender of Allowances procedures of Paragraphs 107-109 and 138-140.

206. Should Consumers fail to pay stipulated penalties in compliance with the terms of this Consent Decree, the United States shall be entitled to collect interest on such penalties, as provided for in 28 U.S.C. § 1961.

207. The stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States by reason of Consumers' failure to comply with any requirement of this Consent Decree or applicable law, except that for any violation of the Act (including the Act's implementing regulations and permits) for which this Consent Decree provides for payment of a stipulated penalty, Consumers shall be allowed a credit for stipulated penalties paid against any statutory penalties also imposed for such violation.

208. Affirmative Defense as to Stipulated Penalties for Excess Emissions Occurring

During Malfunctions: If any of Consumers' Units exceed an applicable 30-Day or 90-Day Rolling Average Emission Rate for NO<sub>x</sub> or 30-Day or 90-Day Rolling Average Emission Rate for SO<sub>2</sub> set forth in this Consent Decree due to Malfunction, Consumers, bearing the burden of proof, has an affirmative defense to stipulated penalties under this Consent Decree, if Consumers has complied with the reporting requirements of Paragraphs 210 and 211 and has demonstrated all of the following:

- a. the excess emissions were caused by a sudden, unavoidable breakdown of technology, beyond Consumers' control;
- b. the excess emissions (1) did not stem from any activity or event that could have been foreseen and avoided, or planned for, and (2) could not have been avoided by better operation and maintenance practices;
- c. to the maximum extent practicable, the air pollution control equipment and processes were maintained and operated in a manner consistent with good practice for minimizing emissions;
- d. repairs were made in an expeditious fashion when Consumers knew or should have known that an applicable 30-Day or 90-Day Rolling Average Emission Rate was being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;
- e. the amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

- f. all possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- g. all emission monitoring systems were kept in operation if at all possible;
- h. Consumers' actions in response to the excess emissions were documented by validated, contemporaneous operating logs, or other relevant evidence;
- i. the excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
- j. Consumers properly and promptly notified EPA as required by this Consent Decree.

209. To assert an affirmative defense for Malfunction under Paragraph 208, Consumers shall submit all data demonstrating the actual emissions for the Day the Malfunction occurs and the 29-Day or 89-Day period, as applicable, following the Day the Malfunction occurs. Consumers may, if it elects, submit emissions data for the same 30-Day or 90-Day period but that excludes the excess emissions.

210. For an affirmative defense under Paragraph 208, Consumers, bearing the burden of proof, shall demonstrate, through submission of the data and information under the reporting provisions of this Section, that all reasonable and practicable measures within Consumers' control were implemented to prevent the occurrence of the excess emissions.

211. Consumers shall provide notice to Plaintiff in writing of Consumers' intent to assert an affirmative defense for Malfunction under Paragraph 208, in Consumers' semi-annual progress reports as required by Paragraph 188. This notice shall be submitted pursuant to the provisions of Section XIX (Notices). The notice shall contain:

- a. The identity of each stack or other emission point where the excess emissions occurred;
- b. The magnitude of the excess emissions expressed in lb/mmBTU and the operating data and calculations used in determining the magnitude of the excess emissions;
- c. The time and duration or expected duration of the excess emissions;
- d. The identity of the equipment from which the excess emissions emanated;
- e. The nature and cause of the excess emissions;
- f. The steps taken to remedy the Malfunction and the steps taken or planned to prevent the recurrence of the Malfunction;
- g. The steps that were or are being taken to limit the excess emissions; and
- h. If applicable, a list of the steps taken to comply with permit conditions governing Unit operation during periods of Malfunction.

212. A Malfunction shall not constitute a Force Majeure Event unless the Malfunction also meets the definition of a Force Majeure Event, as provided in Section XV (Force Majeure).

213. The affirmative defense provided herein is only an affirmative defense to stipulated penalties for violations of this Consent Decree, and not a defense to any civil or administrative action for injunctive relief.

#### **XV. FORCE MAJEURE**

214. For purposes of this Consent Decree, a "Force Majeure Event" shall mean an event that has been or will be caused by circumstances beyond the control of Consumers, its contractors, or any entity controlled by Consumers that delays compliance with any provision of this Consent Decree or otherwise causes a violation of any provision of this Consent Decree

despite Consumers' best efforts to fulfill the obligation. "Best efforts to fulfill the obligation" include using the best efforts to anticipate any potential Force Majeure Event and to address the effects of any such event (a) as it is occurring and (b) after it has occurred, such that the delay and any adverse environmental effect of the delay or violation is minimized to the greatest extent possible.

215. Notice of Force Majeure Events. If any event occurs or has occurred that may delay compliance with or otherwise cause a violation of any obligation under this Consent Decree, as to which Consumers intends to assert a claim of Force Majeure, Consumers shall notify Plaintiff in writing as soon as practicable, but in no event later than 21 Days following the date Consumers first knew, or by the exercise of due diligence should have known, that the event caused or may cause such delay or violation. In this notice, Consumers shall reference this Paragraph 215 of this Consent Decree and describe the anticipated length of time that the delay or violation may persist, the cause or causes of the delay or violation, all measures taken or to be taken by Consumers to prevent or minimize the delay and any adverse environmental effect of the delay or violation, the schedule by which Consumers proposes to implement those measures, and Consumers' rationale for attributing a delay or violation to a Force Majeure Event. Consumers shall adopt all reasonable measures to avoid or minimize such delays or violations. Consumers shall be deemed to know of any circumstance which Consumers, its contractors, or any entity controlled by Consumers knew or should have known.

216. Failure to Give Notice. If Consumers fails to comply with the notice requirements of this Section, the United States may void Consumers' claim for Force Majeure as to the specific event for which Consumers has failed to comply with such notice requirement.

217. United States' Response. The United States shall notify Consumers in writing regarding Consumers' claim of Force Majeure as soon as reasonably practicable. If the United States agrees that a Force Majeure Event has delayed or prevented, or will delay or prevent, compliance with any provision of this Consent Decree, or has otherwise caused or will cause noncompliance with any provision of this Consent Decree, the United States and Consumers shall stipulate to an extension of deadline(s) for performance of the affected compliance requirement(s) by a period equal to the delay or period of noncompliance actually caused by the event. In such circumstances, an appropriate modification shall be made pursuant to Section XXIII (Modification) of this Consent Decree.

218. Disagreement. If the United States does not accept Consumers' claim of Force Majeure, or if the United States and Consumers cannot agree on the length of the delay actually caused by the Force Majeure Event, the matter shall be resolved in accordance with Section XVI (Dispute Resolution) of this Consent Decree.

219. Burden of Proof. In any dispute regarding Force Majeure, Consumers shall bear the burden of proving that any delay in performance or any other violation of any requirement of this Consent Decree was caused by or will be caused by a Force Majeure Event. Consumers shall also bear the burden of proving that Consumers gave the notice required by this Section XV (Force Majeure) and the burden of proving the anticipated duration and extent of any delay(s) attributable to a Force Majeure Event. An extension of one compliance date based on a particular event may, but will not necessarily, result in an extension of a subsequent compliance date.

220. Events Excluded. Unanticipated or increased costs or expenses associated with the performance of Consumers' obligations under this Consent Decree shall not constitute a Force Majeure Event.

221. Potential Force Majeure Events. The Parties agree that, depending upon the circumstances related to an event and Consumers' response to such circumstances, the kinds of events listed below are among those that could qualify as Force Majeure Events within the meaning of this Section: construction, labor, or equipment delays; Malfunction of a Unit or emission control device; unanticipated coal supply or pollution control reagent delivery interruptions; acts of God; acts of war or terrorism; and orders by a government official, government agency, other regulatory authority, or a regional transmission organization, acting under and authorized by applicable law, that directs Consumers to supply electricity in response to a system-wide (state-wide or regional) emergency or is necessary to preserve the reliability of the bulk power system. Depending upon the circumstances and Consumers' response to such circumstances, failure of a permitting authority to issue a necessary permit in a timely fashion may constitute a Force Majeure Event where the failure of the permitting authority to act is beyond the control of Consumers and Consumers has taken all steps available to it to obtain the necessary permit, including, but not limited to: submitting a complete permit application; responding to requests for additional information by the permitting authority in a timely fashion; and accepting lawful permit terms and conditions after expeditiously exhausting any legal rights to appeal terms and conditions imposed by the permitting authority.

222. As part of the resolution of any matter submitted to this Court under Section XVI (Dispute Resolution) regarding a claim of Force Majeure, the United States and Consumers by

agreement, or this Court by order, may in appropriate circumstances extend or modify the schedule for completion of work under this Consent Decree to account for the delay in the work that occurred as a result of any delay agreed to by the United States or approved by the Court. Consumers shall be liable for stipulated penalties pursuant to Section XIV (Stipulated Penalties) for its failure thereafter to complete the work in accordance with the extended or modified schedule (provided that Consumers shall not be precluded from making a further claim of Force Majeure with regard to meeting any such extended or modified schedule).

#### **XVI. DISPUTE RESOLUTION**

223. The dispute resolution procedure provided by this Section XVI (Dispute Resolution) shall be available to resolve all disputes arising under this Consent Decree, provided that the Party invoking such procedure has first made a good faith attempt to resolve the matter with the other Party.

224. The dispute resolution procedure required herein shall be invoked by one Party giving written notice to the other Party advising of a dispute pursuant to this Section. The notice shall describe the nature of the dispute and shall state the noticing Party's position with regard to such dispute. The Party receiving such a notice shall acknowledge receipt of the notice, and the Parties in dispute shall expeditiously schedule a meeting to discuss the dispute informally not later than 14 Days following receipt of such notice.

225. Disputes submitted to dispute resolution under this Section shall, in the first instance, be the subject of informal negotiations between the Parties. Such period of informal negotiations shall not extend beyond 30 Days from the date of the first meeting between the Parties' representatives unless they agree in writing to shorten or extend this period.

226. If the Parties are unable to reach agreement during the informal negotiation period, the United States shall provide Consumers with a written summary of their position regarding the dispute. The written position provided by the United States shall be considered binding unless, within 45 Days thereafter, Consumers seeks judicial resolution of the dispute by filing a petition with this Court. The United States may submit a response to the petition within 45 Days of filing.

227. The time periods set out in this Section XVI (Dispute Resolution) may be shortened or lengthened upon motion to the Court of one of the Parties to the dispute, explaining the Party's basis for seeking such a scheduling modification.

228. This Court shall not draw any inferences nor establish any presumptions adverse to either Party as a result of invocation of this Section XVI (Dispute Resolution) or the Parties' inability to reach agreement.

229. As part of the resolution of any dispute under this Section XVI (Dispute Resolution), in appropriate circumstances the Parties may agree, or this Court may order, an extension or modification of the schedule for the completion of the activities required under this Consent Decree to account for the delay that occurred as a result of dispute resolution. Consumers shall be liable for stipulated penalties pursuant to Section XIV (Stipulated Penalties) for its failure thereafter to complete the work in accordance with the extended or modified schedule, provided that Consumers shall not be precluded from asserting that a Force Majeure Event has caused or may cause a delay in complying with the extended or modified schedule.

230. The Court shall decide all disputes pursuant to applicable principles of law for resolving such disputes. In their filings with the Court under Paragraph 226, the Parties shall

state their respective positions as to the applicable standard of law for resolving the particular dispute.

## XVII. PERMITS

231. Unless expressly stated otherwise in this Consent Decree, in any instance where otherwise applicable law or this Consent Decree requires Consumers to secure a permit to authorize construction or operation of any device, including all preconstruction, construction, and operating permits required under State law, Consumers shall make such application in a timely manner. EPA will use its best efforts to review expeditiously all permit applications submitted by Consumers in order to meet the requirements of this Consent Decree.

232. Notwithstanding the previous Paragraph 231, nothing in this Consent Decree shall be construed to require Consumers to apply for or obtain an NSR permit for physical changes in, or change in the method of operation of, any Consumers System Unit that would give rise to claims resolved by Paragraph 182 through 183, subject to Paragraphs 184 through 187 of this Consent Decree.

233. When permits are required, Consumers shall complete and submit applications for such permits to the applicable agency to allow sufficient time for all legally required processing and review of the permit request, including requests for additional information by the applicable agency. Any failure by Consumers to submit a timely permit application for a Consumers System Unit shall bar any use by Consumers of Section XV (Force Majeure) of this Consent Decree, where a Force Majeure claim is based on permitting delays.

234. Notwithstanding the reference to Consumers' Title V Permits in this Consent Decree, the enforcement of such permits shall be in accordance with their own terms and the Act

and its implementing regulations. Consumers' Title V Permits shall not be enforceable under this Consent Decree, although any term or limit established by or under this Consent Decree shall be enforceable under this Consent Decree regardless of whether such term has or will become part of a Title V Permit, subject to the terms of Section XXVII (Termination) of this Consent Decree.

235. Within 180 Days after the Date of Entry of this Consent Decree, Consumers shall modify any applicable Title V Permit application(s) for the Campbell and Karn plants, or apply for modifications of its Title V Permits, to include a schedule for all Unit-specific, plant-specific, and system-specific performance, operational, maintenance, and control technology requirements established by this Consent Decree including, but not limited to, any (a) 30-Day, 90-Day and 365-Day Rolling Average Emission Rates, (b) System-Wide Annual NO<sub>x</sub> and SO<sub>2</sub> Tonnage Limitations, (c) the requirements pertaining to the Surrender of NO<sub>x</sub> and SO<sub>2</sub> Allowances, (d) PM Emission Rate and annual stack test requirements, and (e) PM CEMS monitoring requirements.

236. Within one year from the Date of Entry of this Consent Decree, Consumers shall either apply to permanently include the requirements and limitations enumerated in Paragraph 235 of this Consent Decree into a federally enforceable non-Title V permit or request a site-specific revision to the Michigan SIP to include such requirements and limitations.

237. Consumers shall provide the United States with a copy of each application for a federally enforceable permit or Michigan SIP amendment, as well as a copy of any permit proposed as a result of such application, to allow for timely participation in any public comment opportunity.

238. Prior to termination of this Consent Decree, Consumers shall obtain enforceable provisions in its Title V permits that incorporate all Unit-specific, plant-specific, and system-specific performance, operational, maintenance, and control technology requirements enumerated in Paragraph 235 of this Consent Decree.

239. If Consumers proposes to sell or transfer to an entity unrelated to Consumers ("Third Party Purchaser") part or all of its Operational or Ownership Interest covered under this Consent Decree, Consumers shall comply with the requirements of Section XX (Sales or Transfers of Operational or Ownership Interests) of this Consent Decree with regard to that Operational or Ownership Interest prior to any such sale or transfer.

#### **XVIII. INFORMATION COLLECTION AND RETENTION**

240. Any authorized representative of the United States, including its attorneys, contractors, and consultants, upon presentation of credentials, shall have a right of entry upon the premises of a Consumers System Unit at any reasonable time for the purpose of:

- a. monitoring the progress of activities required under this Consent Decree;
- b. verifying any data or information submitted to the United States in accordance with the terms of this Consent Decree;
- c. obtaining samples and, upon request, splits of any samples taken by Consumers or its representatives, contractors, or consultants; and
- d. assessing Consumers' compliance with this Consent Decree.

241. Consumers shall retain, and instruct its contractors and agents to preserve, all non-identical copies of all records and documents (including records and documents in electronic form) now in its or its contractors' or agents' possession or control, and that directly relate to

Consumers' performance of its obligations under this Consent Decree for the following periods:

(a) until December 31, 2023, for records concerning physical or operational changes undertaken in accordance with Section IV (NO<sub>x</sub> Emission Reductions and Controls), Section V (SO<sub>2</sub> Emission Reductions and Controls), and Section VI (PM Emission Reductions and Controls); and (b) until December 31, 2019, for all other records. This record retention requirement shall apply regardless of any corporate document retention policy to the contrary.

242. All information and documents submitted by Consumers pursuant to this Consent Decree shall be subject to any requests under applicable law providing public disclosure of documents unless (a) the information and documents are subject to legal privileges or protection or (b) Consumers claims and substantiates in accordance with 40 C.F.R. Part 2 that the information and documents contain confidential business information.

243. Nothing in this Consent Decree shall limit the authority of EPA to conduct tests and inspections at Consumers' facilities under Section 114 of the Act, 42 U.S.C. § 7414, or any other applicable federal law, regulation, or permit.

#### XIX. NOTICES

244. Unless otherwise provided herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

##### As to the United States of America:

(if by mail service)  
Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611, Ben Franklin Station  
Washington, DC 20044-7611

DJ# 90-5-2-1-09771

(if by commercial delivery service)  
Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
ENRD Mailroom, Room 2121  
601 D Street, NW  
Washington, DC 20004  
DJ# 90-5-2-1-09771

and

(if by mail service)  
Director, Air Enforcement Division  
Office of Enforcement and Compliance Assurance  
U.S. Environmental Protection Agency  
Mail Code 2242A  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

(if by commercial delivery service)  
Director, Air Enforcement Division  
Office of Enforcement and Compliance Assurance  
U.S. Environmental Protection Agency  
Ariel Rios South Building, Room 1119  
1200 Pennsylvania Avenue, NW  
Washington, DC 20004

and

Director, Air Division  
U.S. EPA Region 5  
77 W. Jackson Blvd. (AE-17J)  
Chicago, IL 60604

As to Consumers:

Catherine M. Reynolds  
General Counsel  
Consumers Energy Company  
One Energy Plaza  
Jackson, MI 49201

and

Kevin J. Finto  
Hunton & Williams LLP  
Riverfront Plaza, East Tower  
951 East Byrd Street  
Richmond, VA 23219

245. All notifications, communications, or submissions made pursuant to this Section shall be sent either by: (a) overnight mail or overnight delivery service with signature required for delivery, or (b) certified or registered mail, return receipt requested. All notifications, communications, and submissions (a) sent by overnight, certified, or registered mail shall be deemed submitted on the date they are postmarked, or (b) sent by overnight delivery service shall be deemed submitted on the date they are delivered to the delivery service.

246. Either Party may change either the notice recipient or the address for providing notices to it by serving the other Party with a notice setting forth such new notice recipient or address.

## **XX. SALES OR TRANSFERS OF OPERATIONAL OR OWNERSHIP INTERESTS**

247. If Consumers proposes to sell or transfer an Operational or Ownership Interest to a Third Party Purchaser, Consumers shall advise the Third Party Purchaser in writing of the existence of this Consent Decree prior to such sale or transfer, and shall send a copy of such written notification to the Plaintiff pursuant to Section XIX (Notices) of this Consent Decree at least 60 Days before such proposed sale or transfer.

248. No sale or transfer of an Operational or Ownership Interest shall take place before the Third Party Purchaser and the United States have executed, and the Court has approved, a modification pursuant to Section XXIII (Modification) of this Consent Decree making the Third

Party Purchaser a party to this Consent Decree and jointly and severally liable with Consumers for all the requirements of this Consent Decree that may be applicable to the transferred or purchased Operational or Ownership Interests.

249. This Consent Decree shall not be construed to impede the transfer of any Operational or Ownership Interests between Consumers and any Third Party Purchaser so long as the requirements of this Consent Decree are met. This Consent Decree shall not be construed to prohibit a contractual allocation – as between Consumers and any Third Party Purchaser of Operational or Ownership Interests – of the burdens of compliance with this Consent Decree, provided that both Consumers and such Third Party Purchaser shall remain jointly and severally liable to the United States for the obligations of this Consent Decree applicable to the transferred or purchased Operational or Ownership Interests.

250. If the United States agrees, the United States, Consumers, and the Third Party Purchaser that has become a party to this Consent Decree pursuant to Paragraph 248 may execute a modification that relieves Consumers of its liability under this Consent Decree for, and makes the Third Party Purchaser liable for, all obligations and liabilities applicable to the purchased or transferred Operational or Ownership Interests. Notwithstanding the foregoing, however, Consumers may not assign, and may not be released from, any obligation under this Consent Decree that is not specific to the purchased or transferred Operational or Ownership Interests, including the obligations set forth in Sections IX (Environmental Mitigation Projects) and X (Civil Penalty). Consumers may propose and the United States may agree to restrict the scope of the joint and several liability of any purchaser or transferee for any obligations of this

Consent Decree that are not specific to the transferred or purchased Operational or Ownership Interests, to the extent such obligations may be adequately separated in an enforceable manner.

251. Paragraphs 248 through 250 of this Consent Decree do not apply if an Ownership Interest is transferred solely as collateral security in order to consummate a financing arrangement (not including a sale-leaseback), so long as Consumers: (a) remains the operator (as that term is used and interpreted under the Act) of the subject Unit(s); (b) remains subject to and liable for all obligations and liabilities of this Consent Decree; and (c) supplies the United States with the following certification within 30 Days after the transfer:

Certification of Change in Ownership Interest Solely for Purpose of Consummating Financing. We, the Chief Executive Officer and General Counsel of Consumers Energy Company ("Consumers"), hereby jointly certify under Title 18 U.S.C. Section 1001, on our own behalf and on behalf of Consumers, that any change in Consumer's Ownership Interest in any Unit that is caused by the creation of a collateral security interest in such Unit(s) pursuant to the financing agreement consummated on [insert applicable date] between Consumers and [insert applicable entity]: a) is made solely for purpose of providing collateral security in order to consummate a financing arrangement; b) does not impair Consumer's ability, legally or otherwise, to comply timely with all terms and provisions of the Consent Decree entered in *United States v. Consumers Energy Company*, Civil Action \_\_\_\_; c) does not affect Consumers' operational control of any Unit covered by that Consent Decree in a manner that is inconsistent with Consumers' performance of its obligations under the Consent Decree; and d) in no way affects the status of Consumers' obligations or liabilities under that Consent Decree.

#### **XXI. EFFECTIVE DATE**

252. The effective date of this Consent Decree shall be the Date of Entry.

#### **XXII. RETENTION OF JURISDICTION**

253. This Court shall retain jurisdiction of this case after entry of this Consent Decree to enforce compliance with the terms and conditions of this Consent Decree and to take any action necessary or appropriate for the interpretation, construction, execution, or modification of

the Consent Decree, or for adjudication of disputes. During the term of this Consent Decree, either Party to this Consent Decree may apply to this Court for any relief necessary to construe or effectuate this Consent Decree.

### **XXIII. MODIFICATION**

254. The terms of this Consent Decree may be modified only by a subsequent written agreement signed by the United States and Consumers. Where the modification constitutes a material change to any term of this Consent Decree, it shall be effective only upon approval by this Court.

### **XXIV. GENERAL PROVISIONS**

255. When this Consent Decree specifies that Consumers shall achieve and maintain a 30-Day Rolling Average Emission Rate, the Parties expressly recognize that compliance with such 30-Day Rolling Average Emission Rate shall commence immediately upon the date specified and that compliance as of such specified date (e.g., December 30) shall be determined based on data from the specified compliance date and the 29 prior Unit Operating Days (e.g., December 1-30).

256. When this Consent Decree specifies that Consumers shall achieve and maintain a 90-Day Rolling Average Emission Rate, the Parties expressly recognize that compliance with such 90-Day Rolling Average Emission Rate shall commence immediately upon the date specified and that compliance as of such specified date (e.g., December 30) shall be determined based on data from the specified compliance date and the 89 prior Unit Operating Days (e.g., October 2 to December 30).

257. When this Consent Decree specifies that Consumers shall achieve and maintain a 365-Day Rolling Average Emission Rate, the Parties expressly recognize that compliance with such 365-Day Rolling Average Emission Rate shall commence immediately upon the date specified and that compliance as of such specified date (e.g., 365 Days from the Date of Entry) shall be determined based on data from the specified compliance date and the 364 prior Unit Operating Days (e.g., the 365 Days immediately following the Date of Entry). Similarly, if the specified date is June 30, 2015, compliance as of such specified date shall be determined based on data from July 1, 2014 to June 30, 2015.

258. This Consent Decree is not a permit. Compliance with the terms of this Consent Decree does not guarantee compliance with all applicable federal, state, or local laws or regulations. The emission rates and removal efficiencies set forth herein do not relieve Consumers from any obligation to comply with other state and federal requirements under the Clean Air Act, including Consumers' obligation to satisfy any State modeling requirements set forth in the Michigan SIP.

259. This Consent Decree does not apply to any claim(s) of alleged criminal liability.

260. In any subsequent administrative or judicial action initiated by the United States for injunctive relief or civil penalties relating to the facilities covered by this Consent Decree, Consumers shall not assert any defense or claim based upon principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, or claim splitting, or any other defense based upon the contention that the claims raised by the United States in the subsequent proceeding were brought, or should have been brought, in the instant case; provided, however,

that nothing in this Paragraph is intended to affect the validity of Section XI (Resolution of Civil Claims).

261. Nothing in this Consent Decree shall relieve Consumers of its obligation to comply with all applicable federal, state, and local laws and regulations, including, but not limited to, the Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) implementing regulations, National Ambient Air Quality Standards, the National Emission Standards for Hazardous Air Pollutants From Coal and Oil-Fired Electric Utility Steam Generating Units (Utility MACT or MATS), Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial Commercial-Institutional Steam Generating Units (Utility NSPS). Nothing in this Consent Decree should be construed to provide any relief from the emission limits or deadlines specified in such regulations, including, but not limited to, deadlines for the installation of pollution controls required by any such regulations, nor shall this Consent Decree be construed as a pre-determination of eligibility for the one year extension that may be provided under 42 U.S.C. § 7412(i)(3)(B).

262. Subject to the provisions in Section XI (Resolution of Civil Claims), nothing contained in this Consent Decree shall be construed to prevent or limit the rights of the United States to obtain penalties or injunctive relief under the Act or other federal, state, or local statutes, regulations, or permits.

263. Each limit and/or other requirement established by or under this Consent Decree is a separate, independent requirement.

264. Performance standards, emissions limits, and other quantitative standards set by or under this Consent Decree must be met to the number of significant digits in which the standard or limit is expressed. For example, an Emission Rate of 0.100 is not met if the actual Emission Rate is 0.101. Consumers shall round the fourth significant digit to the nearest third significant digit, or the third significant digit to the nearest second significant digit, depending upon whether the limit is expressed to three or two significant digits. For example, if an actual Emission Rate is 0.1004, that shall be reported as 0.100, and shall be in compliance with an Emission Rate of 0.100, and if an actual Emission Rate is 0.1005, that shall be reported as 0.101, and shall not be in compliance with an Emission Rate of 0.100. Consumers shall report data to the number of significant digits in which the standard or limit is expressed.

265. This Consent Decree does not limit, enlarge, or affect the rights of any Party to this Consent Decree as against any third parties.

266. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Consent Decree, and supersedes all prior agreements and understandings among the Parties related to the subject matter herein. No document, representation, inducement, agreement, understanding, or promise constitutes any part of this Consent Decree or the settlement it represents, nor shall they be used in construing the terms of this Consent Decree.

267. Each Party to this action shall bear its own costs and attorneys' fees.

#### **XXV. SIGNATORIES AND SERVICE**

268. The undersigned representative of Consumers, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice, certifies that

he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind to this document the Party he or she represents.

269. This Consent Decree may be signed in counterparts, and such counterpart signature pages shall be given full force and effect.

270. Each Party hereby agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

271. Unless otherwise ordered by the Court, the Plaintiff agrees that Consumers will not be required to file any answer or other pleading responsive to the concurrently filed Complaint in this matter until and unless the Court expressly declines to enter this Consent Decree, in which case Consumers shall have no less than 30 days after receiving notice of such express declination to file an answer or other pleading in response to the Complaint

#### **XXVI. PUBLIC COMMENT**

272. The Parties agree and acknowledge that final approval by the United States and entry of this Consent Decree is subject to the procedures of 28 C.F.R. § 50.7, providing for notice of the lodging of this Consent Decree in the Federal Register, an opportunity for public comment, and the right of the United States to withdraw or withhold consent if the comments disclose facts or considerations that indicate that this Consent Decree is inappropriate, improper, or inadequate. Consumers shall not oppose entry of this Consent Decree by this Court or challenge any provision of this Consent Decree unless the United States has notified Consumers, in writing, that the United States no longer supports entry of this Consent Decree.

## **XXVII. TERMINATION**

273. Once Consumers has:
- a. completed the requirements of Sections IV (NO<sub>x</sub> Emission Reductions and Controls), V (SO<sub>2</sub> Emission Reductions and Controls), VI (PM Emission Reductions and Controls), VIII (Wind Power Commitment), IX (Environmental Mitigation Projects);
  - b. maintained continuous compliance with this Consent Decree, including continuous operation of all pollution controls required by this Consent Decree, for a period of 24 months, and has successfully completed all actions necessary to Retire or Refuel to Natural Gas any Unit required or elected to be Retired or Refueled to Natural Gas as required by this Consent Decree;
  - c. paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree;
  - d. either included the requirements and limitations enumerated in this Consent Decree into a federally enforceable permit or obtained a site-specific amendment to the Michigan SIP for each plant in the Consumers System, as required by Section XVII (Permits) of this Consent Decree such that the requirements and limitations enumerated in this Consent Decree, including all Unit-specific, plant-specific, and system-specific performance, operational, maintenance, and control technology requirements established by this Consent Decree become and remain “applicable requirements” as that term is defined in 40 C.F.R. Part 70.2; and

e. certified that the date of Consumers' Request for Termination is later than December 31, 2019,

Consumers may serve upon the United States a Request for Termination, stating that Consumers has satisfied those requirements, together with all necessary supporting documentation.

274. Following receipt by the United States of Consumers' Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Consumers has complied with the requirements for termination of this Consent Decree. If the United States agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

275. If the United States does not agree that the Decree may be terminated, Consumers may invoke Dispute Resolution under Section XVI of this Decree. However, Consumers shall not seek Dispute Resolution of any dispute regarding termination, under Paragraph 224 of Section XVI, until 60 days after service of its Request for Termination or receipt of an adverse decision from the United States, whichever is earlier.

#### **XXVIII. FINAL JUDGMENT**

276. Upon approval and entry of this Consent Decree by this Court, this Consent Decree shall constitute a final judgment between the Parties.

Signature Page for *United States of America v. Consumers Energy Company* Consent Decree

FOR THE UNITED STATES DEPARTMENT OF JUSTICE

Respectfully submitted,

SAM HIRSCH  
Acting Assistant Attorney General  
Environment and Natural Resources  
Division  
United States Department of Justice

JASON A. DUNN  
Senior Attorney  
Environmental Enforcement Section  
Environment and Natural Resources  
Division

Signature Page for *United States of America v. Consumers Energy Company* Consent Decree

FOR THE UNITED STATES DEPARTMENT OF JUSTICE

Respectfully submitted,

BARBARA L. McQuade  
United States Attorney  
Eastern District of Michigan

[REDACTED]  
ELLEN CHRISTENSEN  
Assistant United States Attorney  
Eastern District of Michigan  
211 W. Fort St., Suite 2001  
Detroit, MI 48226

Signature Page for *United States of America v. Consumers Energy Company* Consent Decree

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respectfully submitted,

CYNTHIA GILES  
Assistant Administrator  
Office of Enforcement and  
Compliance Assurance  
United States Environmental  
Protection Agency

PHILLIP A. BROOKS  
Director, Air Enforcement Division  
United States Environmental  
Protection Agency

MELANIE SHEPHERDSON  
Attorney-Advisor  
United States Environmental  
Protection Agency

Signature Page for *United States of America v. Consumers Energy Company* Consent Decree

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respectfully submitted,

SUSAN HEDMAN  
Regional Administrator  
United States Environmental  
Protection Agency, Region 5

ROBERT A. KAPLAN  
Regional Counsel  
United States Environmental  
Protection Agency, Region 5

SABRINA ARGENTIERI  
Associate Regional Counsel  
United States Environmental  
Protection Agency, Region 5

*Michael R. Berman*  
MICHAEL R. BERMAN  
Associate Regional Counsel  
United States Environmental  
Protection Agency, Region 5

Signature Page for *United States of America v. Consumers Energy Company* Consent Decree

FOR CONSUMERS ENERGY COMPANY

By:

Jackson Hanson  
Senior Vice-President

## APPENDIX A

### ENVIRONMENTAL MITIGATION PROJECTS

Consumers shall spend no less than \$ 7.7 million and shall comply with the requirements of this Appendix and with Section IX (Environmental Mitigation Projects) of the Consent Decree to implement and secure the environmental benefits of each Project. Nothing in the Consent Decree or in this Appendix shall require Consumers to spend any more than a total of \$7.7 million on Environmental Mitigation Projects.

#### **I. National Park Service Ecological Restoration (\$500,000)**

- A. Within 45 Days from the Date of Entry of the Consent Decree, Consumers shall pay \$500,000 to the National Park Service in accordance with 16 U.S.C. § 19jj for the restoration of land, watersheds, vegetation, and forests using techniques designed to improve ecosystem health and mitigate harmful effects from air pollution. Projects will focus on ecological restoration or invasive species remediation in the Cuyahoga Valley National Park and the Sleeping Bear Dunes National Lakeshore Park.
- B. Payment of the amount specified in the preceding Paragraph shall be made to the Natural Resources Damage and Assessment Fund managed by the United States Department of the Interior. Instructions for transferring funds will be provided to Consumers by the National Park Service. Notwithstanding Section I.A of this Appendix, payment of funds is not due until ten (10) days after receipt of payment instructions. Upon payment of the required funds into the Natural Resource Damage and Assessment Fund, Consumers shall have no further responsibilities regarding the implementation of the ecological restoration or invasive species projects implemented by the National Park Service in connection with this provision.

#### **II. Overall Schedule and Budget for Additional Environmental Mitigation Projects**

- A. Within 180 Days from the Date of Entry, unless otherwise specified by this Appendix, Consumers shall submit proposed plans (Project Plans) to EPA for review and approval pursuant to Section XIII of the Consent Decree (Review and Approval of Submittals) for spending \$ 7.2 million in Project Dollars for the Projects specified in Sections III-VII of this Appendix. EPA reserves the right to disapprove any project after an analysis of its Project Plan.
- B. Consumers may, at its election, consolidate the Project Plans required by this Appendix into one or more Project Plans.
- C. Unless otherwise specified by this Appendix, Consumers may, at its election, spread its payments for Environmental Mitigation Projects over a five-year period commencing upon the Date of Entry. Consumers may also accelerate its payments to better effectuate a Project Plan, but Consumers shall not be entitled to any reduction in the nominal amount of the required payments by virtue of the early expenditures. Any funds

designated for a specific Project that are left unspent, or are projected to be left unspent, at the Project's completion may be redirected by Consumers, after consultation with and approval by EPA, to one or more of the Projects listed in Sections III-VII below.

- D. All proposed Project Plans shall include the following:
  - 1. A plan for implementing the Project.
  - 2. A summary-level budget for the Project.
  - 3. A time line for implementation of the Project.
  - 4. A description of the anticipated environmental benefits of the Project including an estimate of any emission reductions or mitigation expected to be realized, and the methodology and any calculations used in the derivation of such expected benefits, reductions, or mitigation.
  - 5. An estimate of the cost-effectiveness of the proposed Project expressed in dollars per ton of pollutant reduction.
- E. Upon approval by EPA of the Project Plan(s) required by this Appendix, Consumers shall complete the approved Projects according to the approved Project Plan(s). Nothing in the Consent Decree shall be interpreted to prohibit Consumers from completing the Projects ahead of schedule.
- F. If Consumers opts not to perform a Project for which it has submitted a Plan that has been approved by EPA, then it shall indicate withdrawal from the Project in its next progress report due pursuant to Section XII (Periodic Reporting) of the Consent Decree. Consumers will not have any obligation for such Project pursuant to the Consent Decree, provided that Consumers is otherwise in compliance with the Environmental Mitigation Project requirements of the Consent Decree, which may include performing one or more Projects approved by EPA pursuant to Sections III-VII of this Appendix.
- G. Nothing in this Appendix shall relieve Consumers of its obligation to comply with all applicable federal, state, and local laws and regulations, including, but not limited to, any obligations to obtain any permits pursuant to the Clean Water Act or Clean Air Act.

**III. Vehicle Replacement, Retrofit and Fueling Infrastructure Projects (Up to \$3.0 million)**

A. Consistent with the requirements of the Consent Decree and Appendix, Consumers shall propose a Plan and shall spend up to \$ 3.0 million on vehicle replacement and/or retrofit projects and/or fueling infrastructure projects.

B. Definitions:

1. “Alternative Fuel Vehicle” means a vehicle that runs exclusively or partially on a non-petroleum fuel (e.g., Compressed Natural Gas (CNG), Plug-in Extended Range Hybrid Vehicle (PHEV), or Plug-in Electric Vehicle (PEV)).
2. “Compressed Natural Gas (CNG) Vehicle” means a vehicle that runs exclusively on CNG.
3. “Plug-In Electric Vehicle (PEV)” means a vehicle that does not utilize an internal combustion engine and instead relies entirely on battery power for propulsion.
4. “Plug-in Extended Range Hybrid Vehicle (PHEV)” means a vehicle that can be charged from an external source and can generate, store, and utilize electric power to reduce the vehicle’s consumption of fossil fuel. These vehicles typically operate exclusively under battery power for a designated range, switching to gasoline when battery power is depleted.
5. “Renewable Energy Credit” means a credit granted pursuant to MCL 460.1039 or the national Green-e Energy program that represents generated renewable energy.

C. Vehicle Replacement and Retrofit Projects

1. Vehicle Replacement Projects

- a. Consumers would replace existing gasoline and/or diesel powered vehicles (passenger cars, light trucks, and heavy duty service vehicles) with newly manufactured Alternative Fuel Vehicles and/or CNG Vehicles (collectively, Vehicle Replacement Project). Such vehicles may be owned by Consumers or shall be publicly owned motor vehicles.
- b. All Vehicle Replacement Project vehicles shall meet all applicable engine standards, certifications, and/or verifications and shall be retained and operated for their useful life.
- c. Consumers shall receive Project Dollar credit for only the incremental cost of a Vehicle Replacement Project vehicle, as compared to the cost of a newly manufactured, similar motor vehicle powered by conventional diesel or gasoline engines

- d. Vehicles that are being replaced shall be permanently retired from use by Consumers or any other entity and shall be disposed of in accordance with all applicable laws. Consumers reserves the right to sell the vehicles for salvage.
  - e. Consumers may consider and implement additional options to enhance Alternative Fuel Vehicle and/or CNG vehicle usage, such as to:
    - 1) Provide a purchase incentive for acquisition of PHEV, PEV, CNG vehicle;
    - 2) Fund low-interest loans through banks and dealers for such vehicles; or
    - 3) Provide direct cash incentives to consumers for such vehicle purchase.
2. Vehicle Retrofit Projects
- a. Consumers would retrofit existing diesel engines with engines that have emission control equipment designed to reduce emissions of NO<sub>x</sub>, particulates, and/or ozone precursors. Such engines may be owned by Consumers or shall be publicly owned motor vehicles.
  - b. Consumers must provide a mechanism for each replaced engine to be properly disposed of, which must include destruction of the engine block.
  - c. Consumers shall receive Project Dollar credit for only the cost of the new engine and the retrofit process of an engine for a Vehicle Retrofit Project.
  - d. For any third party whom Consumers might contract with to carry out any of the project, Consumers shall establish minimum standards that include prior experience in performing engine retrofits.
3. The following vehicles shall be prioritized for retrofit or replacement in the Project:
- (a) diesel vehicles
  - (b) older model vehicles,
  - (c) high use vehicles,
  - (d) vehicles in areas with poor air quality, and
  - (e) vehicles in areas with public health concerns related to vehicle pollution, which may include environmental justice communities.
4. In addition to the information required to be included in periodic reports submitted pursuant to Paragraph 188 of the Consent Decree, for each Vehicle Replacement Project, Consumers shall include the following information (unless such information has already been submitted in a prior report or plan):
- (a) identification of the vehicles replaced or retrofitted during the period covered by the periodic report,
  - (b) the method to account for the amount of Project Dollars that will be credited for each Vehicle Replacement Project vehicle,
  - (c) the per vehicle Project Dollars spent during the period covered by the periodic report, and
  - (d) identification of any additional incentive option programs that will be administered to encourage vehicle replacements for Alternative Fuel Vehicles and/or CNG vehicles.

**D. Fuel Infrastructure Projects**

1. Fuel infrastructure projects shall be designed to enhance the electric vehicle charging infrastructure or compressed natural gas fueling infrastructure in Michigan.
2. Consumers may undertake enhancements to the electric vehicle charging or compressed natural gas fueling infrastructure by funding creation of one or more charging stations for electric vehicles or natural gas fueling stations. Prioritization shall be consistent with the Vehicle Replacement or Retrofit Projects and at locations in Bay, Monroe, Muskegon, Ottawa, Jackson and adjacent counties in Michigan, but may also be selected in accordance with Subsection 3 below.
3. If Consumers elects to undertake this Project, it may partner with third party organizations to handle funding and selection of locations in Michigan. Locations would be sought to maximize the number of vehicles that could utilize the chargers or natural gas fueling station while striving to expand the network of electric vehicle charging stations or natural gas fueling stations in Michigan. Potential sites could consist of locations that provide public access, including parking lots at mass transit terminals/stops, large industrial facilities or similar employers, residences, and shopping malls. Locations for charging stations could be targeted for areas where vehicles could be left for several hours to fully charge the electric vehicle's battery system or which meet the U.S. Department of Energy's Workplace Charging Initiative.
4. Emission reductions - overall emissions reductions would depend upon the number of vehicles utilizing the facilities and would be based upon the type of vehicle the Alternative Fuels Vehicle or CNG vehicle replaces in the general geographic area, the emissions characteristics and the annual vehicle miles traveled (VMT). For five years post-charging station installation, Consumers would commit to effectively offset the electrical usage associated with the vehicle charging station(s) through the use of renewable energy credits (RECs), as defined.

**E. In addition to the other requirements of this Appendix, the Project Plan required to be submitted pursuant to Section II of this Appendix shall include the following:**

1. The process and criteria for selection of vehicles and locations to participate in a Vehicle Replacement or Retrofit Project or Fueling Infrastructure Project;
2. Any third party(ies) that Consumers proposes would have a coordination or management role in the Vehicle Replacement or Retrofit Project or Fueling Infrastructure Project(s), but not including vehicle manufacturers or dealers who would provide vehicles; and
3. The basis (including a discussion of cost) for selecting the make and model of the Vehicle Replacement Project or Vehicle Retrofit Project Vehicle chosen for this Project, including information about other available vehicles and why such vehicles were not selected.

4. The cost and anticipated emissions reductions from the Project.

**IV. Renewable Energy (Wind Energy, Solar Photovoltaic (PV) or Anaerobic Digestion) Development or Installation Projects (Up to \$ 4.0 million)**

A. Consistent with the requirements of the Consent Decree, Consumers shall propose a Plan and shall spend up to \$ 4.0 million on Wind Energy, Solar Photovoltaic (PV), or Anaerobic Digestion with Nutrient Recovery/Removal Development or Installation Projects.

B. Definitions:

1. “Anaerobic digestion” is a biological process in which microorganisms break down organic matter in the absence of oxygen. A biodigester or digester is an airtight chamber in which anaerobic digestion of manure, biosolids, food waste, other organic wastewater streams or a combination of these feedstocks occurs. This process produces commodities such as biogas (a blend of methane and carbon dioxide), animal bedding, and fertilizer.
2. “Development Projects” are projects that involve Consumers proposing to execute a long-term power purchase agreement (“PPA”) with one or more third-party project developers (the “Project Developers”) with respect to development of a new or an expansion of an existing “Renewable Energy System”<sup>1</sup> as defined by Michigan Public Act 295<sup>2</sup> and located within Michigan.
3. “Installation Projects” are projects that involve Consumers contributing monetary funds or equivalent equipment to Project Developers and/or Non-Profits for installation of a new or expansion to an existing Renewable Energy System located in Michigan and owned by Non-Profits or installed at local schools, government or municipality-owned (or co-owned) facilities/property, or facilities/property owned by non-profit groups, or at farm(s).
4. “Nutrient Recovery” is the recovery of stable and useful nutrient-containing products from wastewater and solids, including anaerobically digested manure.
5. “Nutrient Removal” is the reduction, elimination, or rendering insoluble of nutrient constituents in wastewater and solids, including anaerobically digested manure.
6. “Project Contract Beneficiary” is the party(s) who receives renewable energy system operation and maintenance funding and/or other related services or financial benefits

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<sup>1</sup> PA 295 defines a Renewable Energy System as a facility, electricity generation system, or set of electricity generation systems that use 1 or more renewable energy resources to generate electricity and defines renewable energy resource.

<sup>2</sup> Michigan Clean, Renewable, and Energy Efficiency Act of 2008, Public Act 295.

from Consumers and who owns the site upon which the renewable energy system is installed.

7. "Project Escrow" is the monetary fund or account that is separate from other site owner's project development funding and is set aside to support the operation and maintenance activities of the system.
8. "Project Service Contract" is the renewable energy system service contract that provides for operation and maintenance of the renewable energy system. Such Project Service Contract would include annual system checkups and normal component replacements, including installation of new system components as needed to ensure the ongoing operation and maintenance and performance of the system.
9. "Solar PV" involves Projects that generate electricity using a Solar Photovoltaic (PV) system.
10. "Wind Energy" involves Projects that generate electricity using a wind energy conversion system as defined by Michigan Public Act 295.

#### C. Development or Installation Project Plans

1. Consumers shall describe in the Plans submitted to EPA for review and approval, how Consumers shall maintain the emissions avoided or reduced by the Wind Energy, Anaerobic Digestion with Nutrient Recovery/Removal and/or Solar PV Project(s) it implements.
2. The Plan required to be submitted pursuant to this Section of this Appendix, shall also satisfy the following criteria:
  - a. Describe how the proposed Projects in the Plan are consistent with the requirements of this Section and the Consent Decree, and how the Projects will result in the emission reductions projected to be reduced pursuant to this Section.
  - b. Include a budget and schedule for completing each Wind Energy, Anaerobic Digestion with Nutrient Recovery/Removal and/or Solar PV Project on a phased schedule (if applicable), and the supporting methodologies and calculations for the budget.
  - c. Describe the methodology and include any calculations that Consumers proposes to use in order to document the emission reductions associated with any proposed Project to be implemented as part of this Section.
  - d. Describe the process and criteria Consumers will use to select the potential Project Beneficiaries, including such factors as base electricity usage, wind or

solar or anaerobic digester feedstock access availability, and other relevant criteria.

- e. Provide the supporting costs and activities associated with the Project Service Contract, including the schedule and monetary installments for deposits to the Project Escrow to support the operation and maintenance activities of the system and a demonstration that the Project Escrow includes appropriate restrictions on the Project Contract Beneficiary's use of escrow funds in accordance with the requirements of this section.
  - f. Identify any person or entity, other than Consumers, that will be involved in the Project(s) and describe the third-party's role in the Project and the basis for asserting that such entity is able and suited to perform the intended role. Any proposed third-party must be legally authorized to perform the proposed role and to receive Project Dollars. This does not include contractors or installers who would complete the siting analysis and/or installation of the Wind Energy, Anaerobic Digestion with Nutrient Recovery/Removal, or Solar PV systems but does include any proposed affiliate or third party who would have a coordination or project management role in the Project.
  - g. Identify the expected nameplate capacity (kilowatts-ac for Wind Energy, kilowatts for Anaerobic Digestion with Nutrient Recovery/Removal, and kilowatts-dc for Solar PV) and energy output of each system.
3. Upon EPA's approval of the Plan, Consumers shall complete the Wind Energy, Anaerobic Digestion with Nutrient Recovery/Removal and/or Solar PV Project(s) according to the approved plan and schedule.

#### D. Development Projects with Consumers (i.e., PPAs)

- 1. Consistent with the requirements of this Appendix, Consumers may propose a Plan to execute a PPA with one or more Project Developers with respect to the development of a new or an expansion to an existing Wind Energy and/or Solar PV installation or installations in Michigan.
- 2. Consumers shall execute the PPA as quickly as practicable, but in any event, no later than 2 years after plan approval. Consumers shall only be credited Project Dollars on this Project within the first 5 years of performance (as measured from the day that power is first purchased under each PPA). For purposes of calculating the Project Dollars, Consumers shall only count the increment between the wholesale price of wind generated or solar generated electricity (including the cost of the Renewable Energy Credits ("RECs")<sup>3</sup>) that is charged under the PPA(s) with respect to any period, minus Consumers' average market clearing cost at the Midcontinent Independent System Operator ("MISO") system level for such period.

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<sup>3</sup> RECs refer to a program in which credits are generated from the creation of Renewable Energy Systems, which include wind, solar, and biomass/anaerobic digestion developments. RECs are known as Renewable Energy Credits in Michigan and are further defined in PA 295.

3. The PPA will include a term of at least 10 years for which Consumers commits to purchase the power generated and, if generated, acquire associated RECs from the Wind Energy or Solar PV installations.
4. Consumers shall not use and will retire all RECs generated during the first 10 years of performance (as measured from the day the power is first purchased under each PPA) (the "Initial 10 Years") in accordance with all applicable rules, and shall identify these RECs as retired in the Michigan Renewable Energy Certification System ("MIRECS") or any other tracking system designated as acceptable by the program recognizing the RECs. Consumers shall not use the RECs generated during the Initial 10 Years of the PPA(s) for compliance with any renewable portfolio standard ("RPS") or for any other REC compliance purpose during the Initial 10 Years.
5. The Project shall be considered completed for purposes of the Consent Decree after the Initial 10 Years. Consumers may choose to continue to purchase power or otherwise continue the Project(s) following the Initial 10 Years, but will no longer be bound by the terms governing Environmental Mitigation Projects identified in Section IX of the Consent Decree and this Appendix, including but not limited to limitations of the use of RECs. RECs generated following the Initial 10 Years may be used for any purpose authorized by law, including but not limited to satisfying regulatory requirements or sales of RECs to help offset the additional costs of the PPA.
6. In addition to the other requirements of this Appendix, the Project Plan required to be submitted pursuant to this Section II of this Appendix shall include the following:
  - a. Describe how the proposed Project in the Plan is consistent with the requirements of this Section and the Consent Decree, and how the Project will result in emissions reductions pursuant to this Section.
  - b. Provide that Consumers will enter into a long-term PPA with one or more Project Developers by no later than 2 years after the date of Plan approval.
  - c. Include an anticipated schedule for issuing Requests for Proposals ("RFPs") for Renewable Energy System development and an overall schedule for implementing this project.
  - d. Describe the process that Consumers will use to select appropriate Renewable Energy System development(s) to participate in the Project.
  - e. Identify the Project Developer that Consumers proposes for the PPA, including any proposed third-party who would have a coordination or project management role in the Project, but not including prospective developers who would respond to a RFP.
  - f. In the case of Solar PV, provide that the development will have at least a combined aggregate 250 kW of generating capacity (direct current) and will be

interconnected with the utility grid with appropriate metering and monitoring to track the net power output and identify the expected capacity (kW) and energy output of the development(s);

- g. In the case of Wind Energy, provide that the development will have at least a combined aggregate 100 kW of generating capacity (alternating current) and will be interconnected with the utility grid with appropriate metering and monitoring to track the net power output and identify the expected capacity (kW) and energy output of the development(s);
- h. Provide that Consumers shall report the actual kW hours generated each year for the initial 10 years in each report required by Paragraph 188 of the Consent Decree.
- i. In addition to the information required to be included in each report required by Paragraph 188 of the Consent Decree, Consumers shall include in that report the identity of the details of the Wind Energy or Solar PV, including the total generating capacity (kW) of each system and development, components installed, total cost, expected energy output, environmental benefits, and the actual kW-hours generated for the Initial 10 Years.

#### **E. Installation Projects**

Consistent with the requirements of this Appendix, Consumers may propose a plan to install Wind Energy, Anaerobic Digestion with Nutrient Recovery/Removal or Solar PV Projects at federal, state, local, or Tribal government-owned buildings, facilities, property, schools, and/or buildings, facilities and/or property owned by nonprofit organizations or at a farm at any location within the State of Michigan.

##### **1. Wind Energy**

- a. For a Wind Energy Project, the development(s) should consist, at a minimum, of:
  - (1) installation of wind turbine(s) at a single location with unrestricted wind access, producing a total installed capacity of at least 10 kW alternating current;
  - (2) appropriate wind turbine foundation or mounting equipment for the type of roof or Project site location;
  - (3) wiring, conduit, and associated switch gear and metering equipment required for interconnecting the wind turbine(s) to the utility grid;
  - (4) appropriate monitoring equipment and controls to enable staff tracking and monitoring of the total and hourly energy output of the system (kW hours), hourly ambient wind speed (m/s), and appropriate voltage, power, and current metrics.
- b. The Wind Energy Project shall be installed on the customer side of the meter and ownership of the system, and any environmental benefits that result from the installation of the Wind Project(s), including associated RECs, shall be conveyed to the owner at the site (the “Project Beneficiary”).

- c. Consumers shall ensure that there is a manufacturer parts warranty (“Parts Warranty”) in place for the major subcomponents of the Wind Energy Project, which, at a minimum, covers the wind turbine for 10 years.
- d. Consumers also shall fund one or more service contracts (“Project Service Contract(s)”) for the benefit of the Project Beneficiary that provides for operation and maintenance of the Wind Energy project for 20 years from the date of installation. The Project Service Contract shall, at a minimum, provide for annual system checkups and for normal component replacements, including installation of new system components as needed to ensure the ongoing maintenance and performance of the system for no less than 20 years for Wind Energy.
- e. Consumers shall fund the cost of the Project Service Contract by depositing funds in an escrow account (“Project Escrow”) that limits the use of the Project Escrow funds by the Project Beneficiary to use for purposes of maintaining the Wind Energy Project.
- f. Services under the Parts Warranty and Project Service Contract may be performed by third-party provider(s) and administered by the Project Beneficiary by way of payment from the Payment Escrow. Other than with respect to its funding of the escrow, Consumers is not responsible for any repair and maintenance costs for the Wind Energy Project.

## 2. Anaerobic Digestion with Nutrient Recovery/Removal

- a. For an Anaerobic Digestion with Nutrient Recovery/Removal Project(s), the Project(s), at a minimum, must consist, of: (1) the installation of the anaerobic digester system, which includes the digester, engine-generator set, and all related piping, pumps, and controls at a single location with planned biomass feedstock access, producing a total installed capacity of at least 150 kW alternating current; (2) the appropriate anaerobic digester system foundation and structural equipment for the project site location; (3) wiring, conduit, and associated switch gear and metering equipment required for interconnecting the anaerobic digester system generator(s) to the utility grid; (4) digestate storage and feedstock storage (if the project accepts off-site feedstocks) that minimizes, to the greatest extent practicable, any loss of feedstock or digestate to the environment; (5) technology for nutrient recovery or nutrient removal; (6) appropriate monitoring equipment and controls to enable staff tracking and monitoring of the total and hourly energy output of the system (kW hours), hourly digester temperature (°C), biogas production and appropriate voltage, power, and current metrics; (7) monitoring system and data collection to track and monitor nutrient recovery or removal effectiveness, including total volume of feedstock digested, total volume of digester outputs treated, nutrient recovery/removal efficiencies, and nutrient content ratio of generated products, and data shall be made available to the EPA; (8) a contingency plan for fate of

nutrients in the event of system failure (i.e., enough crop-land on-site for agronomic application of digester outputs); and (9) a plan for the disposition or use of the digestate that ensures minimal migration of nutrients into any waters of the State or waters of the United States.

- b. The Anaerobic Digestion with Nutrient Recovery/Removal Project(s) shall be installed on the customer side of the meter and ownership of the system, and any environmental benefits that result from the installation of the Anaerobic Digestion with Nutrient Recovery/Removal Project(s), including associated RECs, shall be conveyed to the Project Beneficiary.
- c. Consumers shall ensure that there is a Parts Warranty in place for the major subcomponents of the Anaerobic Digestion with Nutrient Recovery/Removal Project(s), which, at a minimum, covers the digester design for 10 years, digester equipment for 3 years, and engine-generator set for 1 year.
- d. Consumers also shall fund one or more Project Service Contract(s) for the benefit of the Project Beneficiary that provides for operation and maintenance of the Anaerobic Digestion with Nutrient Removal/Recovery Project(s) for 20 years from the date of operation. The Project Service Contract(s) shall, at a minimum, provide for annual system checkups and for normal component maintenance and replacements, including installation of new system components as needed to ensure the ongoing maintenance and performance of the system for no less than 20 years. Consumers shall fund the escrow in aggregate amount equal to 50% of the anticipated operation and maintenance of the Anaerobic Digestion with Nutrient Recovery/Removal Project(s) for 20 years. Consumers shall ensure that the Project Beneficiary has a binding obligation to fund or otherwise secure the funding for the remaining 50% of the operation and maintenance of the Anaerobic Digestion with Nutrient Recovery/Removal Project(s) from the date of operation.
- e. Consumers shall fund the cost of the Project Service Contract by depositing funds in Project Escrow that limits the use of the Project Escrow funds by the Project Beneficiary to use for purposes of maintaining the Anaerobic Digestion with Nutrient Removal/Recovery Project(s).
- f. Services under the Parts Warranty and Project Service Contract may be performed by third-party provider(s) and administered by the Project Beneficiary by way of payment from the Payment Escrow. Other than with respect to its funding of the escrow, Consumers is not responsible for any repair and maintenance costs for the Anaerobic Digestion with Nutrient Removal/Recovery Project(s).
- g. In addition to the other requirements of this Appendix, the Project Plan required to be submitted pursuant to this Section of this Appendix shall also include a

project feasibility study that analyzes the technical and financial viability of the proposed project and identifies any additional sources of project funding.

### 3. Solar PV Project

- a. For a Solar PV Project, the development(s) should consist, at a minimum, of: (1) the installation of conventional flat panel or thin film solar photovoltaics ("PV Projects") at a single location with unrestricted solar access, producing a total installed capacity of at least 10 kW direct current; (2) a grid-tie inverter, appropriately sized for the capacity of solar panels installed at the location; (3) the appropriate solar panel mounting equipment for the type of roof or project site location; (4) wiring, conduit, and associated switch gear and metering equipment required for interconnecting the solar generator(s) to the utility grid; and (5) appropriate monitoring equipment to enable the school students and/or staff to track and monitor the total and hourly energy output of the system (kW hours), environmental benefits delivered (e.g. approximate pounds of NO<sub>x</sub>, SO<sub>2</sub>, and CO<sub>2</sub> avoided), hourly ambient temperature and cell temperature (°C), irradiance (W/M<sup>2</sup>), and appropriate voltage, power, and current metrics.
- b. The Solar PV Project shall be installed on the customer side of the meter and ownership of the system, and any environmental benefits that result from the installation of the Solar PV Project(s), including associated RECs, shall be conveyed to the Project Beneficiary.
- c. Consumers shall ensure that there is a Parts Warranty in place for the major subcomponents of the Solar PV Project(s), which, at a minimum, covers the solar panels (modules) for 25 years and the inverters for 10 years.
- d. Consumers also shall fund one or more Project Service Contract(s) for the benefit of the Project Beneficiary that provides for operation and maintenance of the Solar PV Project(s) for 25 years from date of installation. The Project Service Contract(s), at a minimum, provide for annual system checkups, solar panel (module) cleaning, and for normal component replacements, including installation of new system components as needed to ensure the ongoing maintenance and performance of the system for no less than 20 years.
- e. Consumers shall fund the cost of the Project Service Contract by depositing funds in Project Escrow that limits the use of the Project Escrow funds by the Project Beneficiary to use for purposes of maintaining the Solar PV Project(s).
- f. Services under the Parts Warranty and Project Service Contract may be performed by third-party provider(s) and administered by the Project Beneficiary by way of payment from the Payment Escrow. Other than with respect to its funding of the escrow, Consumers is not responsible for any repair and maintenance costs for the Solar PV Project(s).

4. In addition to the information required to be included in each report required by Paragraph 188 of the Consent Decree, Consumers shall include in that report the identity of the buildings/property where the Wind Energy, Anaerobic Digestion with Nutrient Recovery/Removal, or Solar PV system(s) are installed, the total capacity (kilowatts) of each system, components installed, total cost, expected energy output, actual kW-hours generated, and environmental benefits realized.

**V. Wood Burning Appliances Project (No less than \$1.0 million and up to \$2.0 million)**

- A. Consistent with the requirements of Section II of this Appendix, Consumers shall propose a plan to spend no less than \$1.0 million and up to \$2.0 million in Project Dollars to sponsor a wood-burning appliance replacement and/or retrofit project (WBAR Project) that Consumers shall ensure shall be implemented by one or more state, local or tribal air pollution control agencies, or by one or more third-party non-profit organizations or entities.
- B. The WBAR Project shall replace or retrofit inefficient, higher-polluting wood-burning or coal appliances with cleaner-burning, more energy-efficient heating appliances and technologies, such as by: (1) retrofitting older hydronic heaters (a.k.a., outdoor wood boilers) to meet EPA Phase II hydronic heater standards; (2) replacing older hydronic heaters with EPA Phase II hydronic heaters, or with EPA-certified wood stoves, other cleaner-burning, more energy-efficient hearth appliances (e.g., wood pellet, gas, or propane appliances), or EPA Energy Star qualified heating appliances; (3) replacing non-EPA-certified wood stoves with EPA-certified wood stoves or cleaner-burning, more energy-efficient hearth appliances; and (4) replacing or retrofitting wood-burning fireplaces with EPA Phase II qualified retrofit devices or cleaner-burning natural gas fireplaces. The appliances that are replaced under the WBAR Project shall be permanently removed from use and appropriately disposed.
- C. The WBAR Project shall provide incentives for the wood-burning appliance replacements and retrofits through rebates, vouchers, discounts, and for income-qualified residential homeowners, full replacement costs. A wood moisture meter shall be provided to every WBAR Project participant that receives a new wood-burning appliance or retrofits an existing wood-burning appliance.
- D. To qualify for the WBAR Project, the wood-burning appliance or fireplace must be in regular use in a primary residence or in a frequently used non-residential building (e.g., churches, greenhouses, schools) during the heating season, and preference shall be given to those appliances that are a primary or a significant source of heat.
- E. The WBAR Project shall be implemented within the Lower Peninsula of the State of Michigan. In determining the specific areas to implement this project within the aforementioned geographic areas, Consumers shall give priority to: (1) areas with high amounts of air pollution (e.g., non-attainment areas); (2) areas located within a geography and topography that make them susceptible to high levels of particle

pollution; (3) areas that have a significant number of older and/or higher-polluting wood or coal-burning appliances; and/or (4) areas with dense residential populations.

- F. No greater than 15% of the Project Dollars provided to the Implementing Entity shall go towards administrative support and outreach costs associated with implementation of the WBAR Project.
- G. Each WBAR Project participant shall receive information related to proper operation of their new appliance and the benefits of proper operation (e.g., lower emissions, better efficiency), including, if applicable, the importance of burning dry seasoned wood. The costs associated with this element of the WBAR Project shall not be considered part of the 15% administrative costs, and shall be marginal as compared to the total Project Dollars attributed to the WBAR Project.
- H. Consumers shall ensure that the Implementing Entity consult with EPA's Residential Wood Smoke Reduction Team and implement the Wood Burning Appliances Project consistent with the materials available on EPA's Burn Wise website at <http://www.epa.gov/burnwise>.
- I. Consumers shall complete the WBAR Project not later than three years after approval of the Project Plan(s), except that Consumers may request an extension of time to complete the Project if it appears likely that all Project Dollars designated under the Plan will not be spent within such three year period despite Consumers' best efforts to implement the WBAR Project.
- J. In addition to the information required to be included in periodic reports submitted pursuant to Paragraph 188 of the Consent Decree, Consumers shall include the following information with respect to the WBAR Project for each period covered by the periodic report: (1) a description of the proposed outreach to raise awareness within the geographic area of the WBAR Project, and (2) the number and type of appliances made available through the WBAR Project, the cost per unit, and the value of the rebate or incentive per unit.
- K. In addition to the information required to be included in the Project completion report submitted pursuant to Paragraph 178 of the Consent Decree, Consumers shall include the following information with respect to the WBAR Project: (1) the number and type of appliances made available through the WBAR Project, (2) the cost per unit, and (3) the value of the rebate or incentive per unit.
- L. Consumers shall describe how the proposed Project in the plan required to be submitted pursuant to Section II of this Appendix is consistent with the requirements of this Section and of the Consent Decree. In that plan, Consumers shall also include the following information: (1) identification of the proposed Implementing Entity, (2) identification of any other entities with which the Implementing Entity proposes to partner to implement the WBAR Project (e.g., the Hearth, Patio, and Barbecue Association of America, the Chimney Safety Institute of America, the American Lung

Association, weatherization offices, individual stove retailers, entities that will dispose of the old appliances), (3) a description of the schedule and the budgetary increments in which Consumers shall provide the Project Dollars to implement the WBAR Project, (4) an estimate of the number and type of appliances Consumers intends to subsidize or make available through the WBAR Project, the cost per unit, and the value of the rebate or incentive per unit, (5) the criteria the Implementing Entity will use to determine which income-qualified owners shall be eligible for full cost replacement, and (6) a description of proposed outreach to raise awareness within the geographic area of the WBAR Project.

- M. Performance: Upon approval of the WBAR Project Plan by EPA, Consumers shall complete the Project according to the approved plan and schedule.

## **VI. Energy Efficiency Projects (Up to \$500,000)**

- A. Consistent with the requirements of Section II of this Appendix, Consumers shall propose a plan to spend up to \$500,000 in Project Dollars on Energy Efficiency Projects for low income residents and/or public schools to reduce or avoid emissions of criteria pollutants.
- B. Consumers shall submit a Plan to EPA for review and approval consistent with Section II of this Appendix. Consumers shall describe in the Plan submitted to EPA how Consumers shall achieve and maintain the emission reductions associated with the Energy Efficiency Projects.
- C. The Plan required to be submitted pursuant to this Section of this Appendix shall also satisfy the following criteria:
  - 1. Describe how the proposed Projects in the Plan are consistent with the requirements of this Section and the Consent Decree, and how the Projects will result in the emission reductions projected to be reduced pursuant to this Section.
  - 2. Include a budget and schedule for completing the Energy Efficiency Projects and the supporting methodologies and calculations for the budget.
  - 3. Describe the methodology and include any calculations that Consumers proposes to use in order to document the emission reductions associated with any proposed Project to be implemented as part of this Section.
- D. Upon EPA's approval of the Plan, Consumers shall complete the Projects according to the Plan and schedule.
- E. For purposes of this Section, Energy Efficiency Projects include but are not limited to: "Extreme Energy Makeovers" for communities of homes or public schools located in Michigan. This Project would retrofit a community of low-income housing residences or public schools, with the most cost-effective energy-reduction packages on actual

homes or school buildings and monitor the results, with a goal to achieve 25% energy use reduction.

**VII. Land Acquisition, Donation and Ecological Restoration Project (Up to \$ 2.0 million)**

- A. Consistent with the requirements of Section II of this Appendix, Consumers must submit a Plan to EPA for review and approval for the use of up to \$ 2.0 million in Project Dollars for acquisition, donation, and/or restoration of ecologically significant lands, watersheds, vegetation, and/or forests that are part of, adjacent to, or near the Consumers service territories (Land Acquisition and Restoration Project). The Project Dollars for this Project are in addition to the funding described in Section I of this Appendix (National Park Service Ecological Restoration). The goal of this Project is the protection through acquisition, donation, and/or restoration of ecologically significant land, watersheds, vegetation, and forests using adaptive management techniques designed to improve ecosystem health and mitigate harmful effects from air pollution.
- B. Definitions.
  - 1. “Land Acquisition” means purchase of interests in land, including fee ownership, easements, or other restrictions that run with the land that provide for the perpetual protection of the acquired land.
  - 2. “Land Donation” means transfer of ownership of Consumers land in fee or direct payment of funds to a non-profit organization or governmental agency to acquire and provide for perpetual protection of the land.
  - 3. “Restoration” may include (but is not limited to) reforestation or revegetation (using plants native to the area) and/or removal of non-native invasive plant species, as well as land restoration work for supporting such vegetative restorations.
- C. Land Acquisition, Donation, and Restoration Project(s) shall apply to land that is ecologically and/or environmentally significant. Prioritization shall be considered in Bay, Monroe, Muskegon, or Ottawa Counties in the state of Michigan, but may be considered for any ecologically and/or environmentally significant property in the State
- D. Land Acquisition, Donation, and Restoration Project(s) must also incorporate sufficient provisions to ensure the perpetual protection of the acquired, donated and/or restored land, unless the land is already under the ownership of a governmental entity or non-profit that has a legal duty to conserve the land in perpetuity. Any proposal for acquisition or donation of land must identify fully all owners of the interests in the land. Every proposal for acquisition or transfer of land must identify the ultimate holder of the interests and provide a basis for concluding that the proposed holder of title is appropriate for long-term protection of the ecological and/or environmental benefits sought to be achieved through the acquisition or donation.

- E. Consumers shall submit a Plan to acquire, donate, and/or restore ecologically significant land that includes:
  - 1. A general description of the area proposed to be acquired, donated, and/or restored, including a map clearly identifying the location of the land relative to the Units addressed in the Consent Decree. The map should also clearly identify all city, state or federal publicly protected lands/parks in the area surrounding the proposed land to be acquired, donated, or restored.
  - 2. A justification of why the area should be considered ecologically and/or environmentally significant and warrants preservation and/or restoration.
  - 3. A description of the projected cost of the land acquisition, donation, and/or restoration.
  - 4. Identification of any person or entity, other than Consumers, that will be involved in the Land Acquisition, Donation, or Restoration project. Consumers' plan shall describe the third-party's role in the action and the basis for asserting that such entity is able and suited to perform the intended role, including any proposed third party who would have a coordination or project management role.
  - 5. A schedule for completing and funding each portion of the Land Acquisition, Donation, or Restoration Project.
- F. Upon EPA's approval of the Project Plan, Consumers may transfer up to \$2,000,000 of Project Dollars to one or more land acquisition funds or non-profit organization(s), for partial or full implementation of the land acquisitions and/or restoration described in the Project Plan.
- G. Performance: All Project Dollars shall be expended in accordance with subsections A through F above.
- H. Project Completion Report: In addition to the information required by Section II of this Appendix, Consumers' project completion report for this Project shall include any reports related to this Project that any applicable third party fund or organization provide to Consumers.

## APPENDIX B

### **Determination of Unit Specific NO<sub>x</sub> or SO<sub>2</sub> Mass Emissions for Those Units Where 40 CFR Part 75 NO<sub>x</sub> or SO<sub>2</sub> Mass Emissions Are Measured at a Common Stack**

For JH Campbell Units 1 and 2 and JC Wedock Units 7 and 8, as of the Date of Entry, NO<sub>x</sub> mass emission rates are monitored at the associated common stacks via the use of NO<sub>x</sub> concentration and flow CEMS. In addition, each of the preceding individual units are equipped with duct-level NO<sub>x</sub> and diluent (i.e., CO<sub>2</sub>) concentration CEMS to permit the determination of unit specific NO<sub>x</sub> lb/mmBtu emission rates. The following procedures shall be used to calculate unit level NO<sub>x</sub> mass emission rates for purposes of conducting rolling average NO<sub>x</sub> lb/mmBtu calculations. If Campbell Units 1 and 2 elect to install unit level SO<sub>2</sub> CEMS only in lieu of installing both unit level SO<sub>2</sub> CEMS and Flow CEMS, the same procedure shall be followed for calculating unit level SO<sub>2</sub> mass emissions except that the value of K in Paragraph c. shall equal 1.660x10<sup>-7</sup> (lb/scf)/ppm.

- a. From 40 C.F.R. Part 75, Appendix F, equation F-15 (already calculated and reported under Part 75), common stack heat input shall be calculated as follows:

$$HI = Q_w \times \frac{1}{F_c} \times \frac{\%CO_{2w}}{100}$$

Where,

- HI* = Common stack hourly heat input rate during unit operation, mmBtu/hr
- Q<sub>w</sub>* = Hourly average volumetric flow rate during unit operation, wet basis, scfh
- F<sub>c</sub>* = Carbon-based F-factor, listed in 40 CFR 75, Appendix A, Section 3.3.5 for each fuel, scf/mmBtu
- % CO<sub>2w</sub>* = Hourly concentration of CO<sub>2</sub> during unit operation, percent CO<sub>2</sub>

- b. From 40 C.F.R. Part 75, Appendix F, Equation F-21a (already calculated and reported under Part 75), individual unit heat input shall be calculated as follows:

$$HI_i = HI_{CS} \times \frac{T_{CS}}{t_i} \times \left[ \frac{MW_i \times t_i}{\sum_{i=1}^n MW_i \times t_i} \right]$$

Where,

- HI<sub>i</sub>* = Heat input rate for a unit, mmBtu/hr
- HI<sub>CS</sub>* = Heat input rate at the common stack, mmBtu/hr
- MW<sub>i</sub>* = Gross electrical output, MWe
- t<sub>c</sub>* = Unit operating time, hour or fraction of an hour
- t<sub>CS</sub>* = Common stack or common pipe operating time, hour or fraction of an hour
- n* = Total number of units using the common stack
- i* = Designation of a particular unit

- c. From 40 C.F.R. Part 75, Appendix F, Equation F-6 (already calculated and reported under Part 75), individual unit NO<sub>x</sub> lb/mmBtu emission rates shall be calculated as follows:

$$E = K \times C_h \times F_c \times \frac{100}{\% CO_2}$$

Where,

- $E$  = Pollutant emission rate during unit operation, lb/mmBtu
- $K$  =  $1.194 \times 10^7$  for NO<sub>x</sub> (lb/scf)/ppm
- $C_h$  = Hourly average NO<sub>x</sub> concentration during unit operation, ppm
- $F_c$  = Carbon-based F-factor, listed in 40 CFR 75, Appendix A, Section 3.3.5 for each fuel, scf/mmBtu
- % CO<sub>2</sub> = Hourly concentration of CO<sub>2</sub> during unit operation, percent CO<sub>2</sub>

- d. To calculate unit level NO<sub>x</sub> mass emissions in each operating hour (not calculated or reported under Part 75), the following calculation shall be performed:

$$E_{(NOx)h} = E \times HI_i$$

Where,

- $E_{(NOx)h}$  = NO<sub>x</sub> mass emission rate for hour "h", in lbs/hr
- $E$  = Pollutant emission rate during unit operation, lb/mmBtu
- $HI_i$  = Heat input rate for a unit, mmBtu/hr

$$M_{(NOx)h} = E_{(NOx)h} \times t_h$$

Where,

- $M_{(NOx)h}$  = NO<sub>x</sub> mass emissions for hour "h", lbs
- $E_{(NOx)h}$  = NO<sub>x</sub> mass emission rate for hour "h", in lbs/hr
- $t_h$  = Unit operating time for hour "h", in hours or fraction of an hour

- e. The preceding unit specific NO<sub>x</sub> mass emissions data shall then be used in accordance with Paragraphs 5, 6, and 7 to calculate 30-day rolling, 90-day rolling and 365-day rolling NO<sub>x</sub> lb/mmBtu emission rates, respectively (as applicable).