



DEPARTMENT ORDER

**Madison Electric Works
Somerset County
Madison, Maine
A-1100-71-B-A**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #1**

FINDINGS OF FACT

After review of the air emission license amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Madison Electric Works (Madison Electric) was issued Air Emission License A-1100-71-A-N on July 1, 2014, for the operation of emission sources associated with their utility services facility.

Madison Electric has requested an amendment to their license in order to change the designation of their generator from emergency to non-emergency so that it can participate in the Demand Response program. Madison Electric plans to install controls on the generator and proposes a fuel limit for Generator #1 of 45,800 gallons, to be tracked on a calendar year basis.

The equipment addressed in this license amendment is located on Jones Street at the Jones Street substation in Madison, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Stationary Engine

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Generator #1	12.58	1349	Distillate Fuel, 0.0015%	91.60	1986	1987

C. Definitions

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emission” levels as defined in the Department’s *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Significant Emission Levels
PM	0.06	0.38	0.32	100
PM ₁₀	0.06	0.38	0.32	100
SO ₂	0.01	0.005	-0.005	100
NO _x	1.56	10.04	8.48	100
CO	0.41	0.80	0.39	100
VOC	0.04	0.28	0.24	50

This modification is determined to be a minor modification and has been processed as such.

E. Facility Classification

With the annual fuel limit on Generator #1, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because the licensed emissions are below the major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Generator #1

Madison Electric operates a Caterpillar 3512 Generator Set consisting of an engine and an electrical generator. This non-emergency generator is rated at 1,349 kW, fires distillate fuel, and has a maximum heat input value of 12.58 MMBtu/hr. The generator was manufactured in 1986.

1. BACT Findings

a. Particulate Matter (PM and PM₁₀)

PM emissions from new distillate-fired engines of this size are generally controlled through engine design and the use of Diesel Particle Filters (DPF). As an existing generator that was manufactured in 1986, modifications to the engine design are not possible. Although this generator is being permitted as non-emergency, its main purpose will be for emergency backup and Demand Response. Both of these situations are expected to happen infrequently. The annual fuel limit of 45,800 gallons imposed in this air license equates to 500 hours of run time for Generator #1 when operating at its maximum capacity. The limited operating hours resulting from the licensed fuel limit makes the use of a DPF or any other add-on controls for PM economically infeasible. Therefore, the Department finds the annual fuel limit, the firing of ultra-low sulfur fuel, and a PM emission limit of 0.12 lb/MMBtu to constitute BACT for PM and PM₁₀ emissions from the Generator #1.

b. Sulfur Dioxide (SO₂)

Generator #1 is being licensed as a non-emergency generator with a licensed annual fuel limit. This unit will fire ultra-low sulfur distillate fuel having a maximum sulfur content of 0.0015% by weight. The limited annual operating hours resulting from the licensed fuel limit reduce the generator's potential for generating SO₂ emissions, making the use of wet scrubbers or other additional SO₂ add-on control methods economically unfeasible. The most practical method for limiting SO₂ emissions from Generator #1 is the use of a low sulfur fuel. The Department finds the use of ultra-low sulfur distillate fuel and an emission limit of 0.02 lb/hr to constitute BACT for SO₂ emissions from Generator #1.

c. Nitrogen Oxides (NO_x)

Potentially available control options for reducing emissions of NO_x from distillate fuel-fired generators include selective catalytic reduction (SCR) and non-selective catalytic reduction (NSCR).

SCR and NSCR are both post-combustion NO_x reduction technologies. SCR uses ammonia to react with NO_x in the gas stream in the presence of a base metal catalyst to form nitrogen and water. The base metal catalyst material for SCR is selected to achieve optimal removal efficiency and is based on the expected temperature range of the exhaust gases emitted from the engine. SCR becomes significantly less effective if it is not operated within the designed temperature range, and can result in higher ammonia usage and slip. NSCR uses a catalyst to convert CO, NO_x and hydrocarbons into carbon dioxide, nitrogen and water without the use of an additional reagent. NSCR catalyst efficiency is dependent on the oxygen (O₂) level in the exhaust gas, and requires precise air-to-fuel control to maintain high NO_x reduction effectiveness without increasing hydrocarbon emissions. The temperature of the exhaust gas also significantly affects the performance of NSCR systems, and is influenced by the ambient operating conditions, engine loading and engine speed conditions.

SCR and NSCR are best suited for applications where the engines are operated within tightly controlled parameters, such as base loading. The infrequent operation and low runtime of Generator #1 will result in inconsistent operating patterns involving multiple startup and cooldown cycles of the engine at varying speed and load conditions. The low annual runtime of Generator #1 will also limit its potential to generate NO_x emissions, thus minimizing the impact that SCR or NSCR would have on potential emissions from Generator #1. The inconsistent nature of the need for Generator #1 to run, coupled with the diminished effect that SCR or NSCR would have on the already limited emissions from Generator #1 renders these control options both technically and economically infeasible.

The Department finds proper operation and maintenance of the engine and an emission limit of 40.26 lb/hr to constitute BACT for NO_x emissions from Generator #1.

d. Carbon Monoxide (CO)

Madison Electric proposes to use an oxidation catalyst and associated ancillary equipment on Generator #1 to reduce CO emissions to 23 ppmvd at 15% O₂ or reduce CO emissions from the engine by a minimum of 70%, pursuant to 40 C.F.R. Part 63, Subpart ZZZZ, Table 2(d) Item 3.

The Department finds that proper operation and maintenance of the engine, the installation of an oxidation catalyst with associated ancillary equipment sized and operated to reduce the CO emissions to 23 ppmvd at 15% O₂ or to achieve a minimum of 70% reduction in CO from the engine exhaust, and an emission limit of 3.21 lb/hr to be BACT for CO emissions from Generator #1.

e. Volatile Organic Compounds (VOC)

VOC emissions from distillate-fired engines are the result of incomplete combustion, caused by conditions such as insufficient residence time or limited oxygen availability. VOC emissions from limited use, distillate fuel-fired engines are generally controlled through proper operation and maintenance. The proposed oxidation catalyst being installed for CO emissions control will also reduce VOC emissions from this engine. The Department finds that the proper operation and maintenance of the engine and the oxidation catalyst with associated ancillary equipment, and an emission limit of 1.13 lb/hr to be BACT for VOC emissions from Generator #1.

2. The BACT emission limits for Generator #1 are based on the following:

PM/PM ₁₀	- 0.12 lb/MMBtu from 06-096 C.M.R. ch. 115, BACT
SO ₂	- combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	- 3.2 lb/MMBtu from AP-42 dated 10/96
CO	- 0.26 lb/MMBtu, based on a 70% reduction of the emission factor from AP-42 dated 10/96
VOC	- 0.09 lb/MMBtu from AP-42 dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Generator #1 are the following:

Unit	Pollutant	lb/MMBtu
Generator #1	PM	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1 12.58 MMBtu/hr Distillate fuel	1.51	1.51	0.02	40.27	3.21	1.13

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time Madison Electric may elect to comply with the following work practice standards from 06-096 C.M.R. ch. 101 in lieu of the numerical opacity limit:

- a. Madison Electric shall maintain a log (written or electronic) of the date, time, and duration of all generator startups.
 - b. Generator #1 shall be operated in accordance with the manufacturer's emission-related operating instructions.
 - c. Madison Electric shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.
 - d. Generator #1 and its associated air pollution control equipment shall be operated at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.
3. New Source Performance Standards (NSPS)

Due to the date of manufacture of the compression ignition emergency engine listed above, the engine is not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CIICE)*, 40 C.F.R. Part 60, Subpart IIII since the unit was manufactured prior to April 1, 2006. [40 C.F.R. § 60.4200]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP):
40 C.F.R. Part 63, Subpart ZZZZ

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is applicable to the engine listed above. The unit is considered to be an existing, stationary reciprocating internal combustion engine at an area HAP source and is not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt these units from the federal requirements. [40 C.F.R. § 63.6585]

a. A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart ZZZZ requirements is listed below.

- (1) Madison Electric shall comply with the requirement to meet the CO emission limit of 23 ppmvd at 15% O₂ or to reduce CO emissions by 70% or more through the use of an oxidation catalyst.
- (2) Madison Electric has elected to demonstrate compliance through the use of a continuous parameter monitoring system (CPMS).
- (3) Madison Electric shall comply with the following operation and maintenance requirements:

(40 C.F.R. § 63.6603(a) and Tables 2(b) and 2(d))

Operating Limitations from Table 2(b)	
Generator #1	<ul style="list-style-type: none">- Maintain the catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and- Maintain the temperature of the Generator #1 exhaust so that the catalyst inlet temperature is greater than or equal to 450° F and less than or equal to 1350° F.
Requirements from Table 2(d)	
Generator #1	<ul style="list-style-type: none">- Limit the concentration of CO in the Generator #1 exhaust to 23 ppmvd at 15% O₂; or- Reduce CO emissions by 70% or more.

(4) Continuous Parameter Monitoring System (CPMS)

- (i) Madison Electric shall install, operate, and maintain a CPMS system on Generator #1.
- (ii) Madison Electric shall monitor the catalyst inlet temperature and reduce this data to 4-hour rolling averages to demonstrate compliance with the limitations on the catalyst inlet temperature range.
- (iii) Madison Electric shall monitor the pressure drop across the catalyst once per month to demonstrate compliance with the operating limit established during the last performance test.
- (iv) Madison Electric shall prepare a site-specific monitoring plan that addresses the requirements outlined in 40 C.F.R. § 63.6625(b)(1).
- (v) The CPMS shall be continuously operated in accordance with the site-specific monitoring plan at all times that Generator #1 is in operation, except for minor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities.
- (vi) The CPMS shall collect data at least once every 15 minutes.
- (vii) The minimum tolerance for a CPMS measuring temperature is 5° F or 1% of the temperature measurement range of the instrument, whichever is larger.
- (viii) CPMS audit procedures shall be performed at least annually.

[40 C.F.R. § 63.6625(b), § 63.6635 and Table 6]

(5) Performance Tests

- (i) Madison Electric shall conduct an initial performance test in accordance with Table 4 of Subpart ZZZZ within 180 days of startup after installation of controls. [40 C.F.R. § 63.6612(a)]
- (ii) Madison Electric shall conduct three separate test runs for each performance test. Each test run must be at least one (1) hour, unless otherwise specified. [40 C.F.R. § 63.6620(d)]
- (iii) The percent load at which the engine was operated during a performance test shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination shall be included in the notification of compliance status. The report shall contain the information specified in 40 C.F.R. § 63.6620(i).
- (iv) During the performance test, Madison Electric must establish the pressure drop across the catalyst to be used to demonstrate compliance per the CPMS. [40 C.F.R. § 63.6630(b)]
- (v) If Madison Electric changes the catalyst, they shall reestablish the values of the operating parameters measured during the performance test. In order to reestablish the operating parameters, Madison Electric shall conduct a performance test to demonstrate that the required emission limitation is being met. [40 C.F.R. § 63.6640(b)]

- (vi) Madison Electric shall conduct performance tests a minimum of every three (3) years. [40 C.F.R. § 63.6640(a), Table 3 and Table 6].
- (6) The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or Madison Electric shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
[40 C.F.R. § 63.6625(e)]
- (7) Madison Electric shall operate on Generator #1 a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere.
[40 C.F.R. § 63.6625(g)(1)]
- (8) **Startup Idle and Startup Time Minimization Requirements**
During periods of startup Madison Electric shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 C.F.R. § 63.6625(h) and 40 C.F.R. Part 63, Subpart ZZZZ Table 2(d).]
- (9) **Ultra-Low Sulfur Distillate Fuel Requirement**
The distillate fuel fired in Generator #1 shall not exceed 15 ppm (0.0015%) sulfur by weight. [40 C.F.R. § 63.6604(a)]
- (10) **Reporting**
Madison Electric shall keep all records required by Subpart ZZZZ including, but not limited to, the following:
- (i) A copy of each notification and report that was submitted to comply with Subpart ZZZZ, including all supporting documentation;
 - (ii) Records of the occurrence and duration of each malfunction of the engine, pollution control equipment, or monitoring equipment;
 - (iii) Records of performance tests and performance evaluations;
 - (iv) Records of actions taken during periods of malfunction to minimize emissions, including corrective actions taken to restore normal operation;
 - (v) Monitoring data from the CPMS; and
 - (vi) Records of maintenance conducted on Generator #1 and control equipment to demonstrate the equipment was operated and maintained according to the maintenance plan.
- [40 C.F.R. § 63.6655(f)]

- (11) Semiannual Compliance Reports. [40 C.F.R. § 63.6650 and Table 7]
- (i) For semiannual compliance reports each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
 - (ii) Madison Electric shall submit to the EPA and the Bureau of Air Quality semiannual reports which must be postmarked or delivered no later than **January 31st** and **July 31st**, whichever date is the first date following the end of the semiannual reporting period. The facility's designated responsible official must sign this report.
 - (iii) All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.
 - (iv) The compliance report shall contain information listed below:
 - (a) Company name and address.
 - (b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
 - (c) Date of report and beginning and ending dates of the reporting period.
 - (d) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR Part §63.6605(b), including actions taken to correct a malfunction.
 - (e) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.
 - (f) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in 40 CFR Part §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

An example form can be found on EPA's RICE rule implementation page at this link: <https://www.epa.gov/stationary-engines/implementation-tools-neshap-reciprocating-internal-combustion-engines>.

(12) Additional Reporting

Madison Electric shall submit to the Department and the EPA all reports required by Subpart ZZZZ including, but not limited to, the following:

- (i) Notification of Intent to Conduct a Performance Test at least 60 days before the performance test is scheduled to begin. [40 C.F.R. § 63.6645(g)]
- (ii) Notification of Compliance Status within 60 days of completion of the initial compliance test. [40 C.F.R. § 63.6645(h)]

- (a) There shall be no bypassing of the air pollution control equipment at any time that the engine is operating.
- (b) The air pollution control equipment shall be operated and maintained in accordance with the manufacturer's written instructions.

C. Annual Emissions

Madison Electric shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on an annual fuel limit of 45,800 gallons of distillate fuel for Generator #1.

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Generator #1	0.4	0.4	0.1	10.0	0.8	0.3
Total TPY	0.4	0.4	0.1	10.0	0.8	0.3

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License Amendment A-1100-71-B-A subject to the conditions found in Air Emission License A-1100-71-A-N and the following conditions.

Severability. The invalidity or unenforceability of any provision of this License Amendment or part thereof shall not affect the remainder of the provision or any other provisions. This License Amendment shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

The following shall replace Specific Condition (16) of Air Emission License A-1100-71-A-N (dated July 1, 2014) in its entirety:

(16) Generator #1

- A. Generator #1 shall be limited to 45,800 gallons of distillate fuel per year, based on a calendar year total. A fuel meter shall be maintained and operated to demonstrate compliance. [06-096 C.M.R. ch. 115, BACT]
- B. The distillate fuel fired in Generator #1 shall have a maximum sulfur content of 0.0015% by weight. Compliance shall be demonstrated by fuel records from the supplier that documents the type of fuel delivered and the sulfur content of the fuel. [06-096 C.M.R. ch. 115, BACT]
- C. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 C.M.R. ch. 115, BACT

D. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1 12.58 MMBtu/hr Distillate Fuel	1.51	1.51	0.02	40.27	3.21	1.13

E. Visible Emissions

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time Madison Electric may elect to comply with the following work practice standards in lieu of the numerical opacity limit: [06-096 C.M.R. ch. 115, BACT]

1. Madison Electric shall maintain a log (written or electronic) of the date, time, and duration of all generator startups.
2. Generator #1 shall be operated in accordance with the manufacturer's emission-related operating instructions.
3. Madison Electric shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.
4. Generator #1 and its associated air pollution control equipment shall be operated at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.

F. Madison Electric shall install an oxidation catalyst on Generator #1 that is designed to meet the emission limit of 23 ppmvd at 15% O₂ or shall reduce the CO emissions from the engine by 70% or more as required by Subpart ZZZZ. Madison Electric shall demonstrate compliance with either the CO emission limit or with the reduction requirements of Subpart ZZZZ by the use of a CPMS. [06-096 C.M.R. ch. 115, BACT]

G. Generator #1 shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ, including the following: [incorporated under 06-096 C.M.R. ch. 115, BACT]

1. Madison Electric shall meet the following operational limitations for Generator #1:

- a. The concentration of CO in the engine exhaust shall not exceed 23 ppmvd at 15% O₂, or emissions of CO from the engine exhaust shall be reduced by the oxidation catalyst by a minimum of 70%;
- b. Minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which the time the non-startup limitations apply;
- c. Maintain the catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and
- d. Maintain the temperature of the engine exhaust so that the catalyst inlet temperature is greater than or equal to 450° F and less than 1350° F.

[40 C.F.R. § 63.6603(a), Table 2(b) and Table 2(d)]

2. Madison Electric shall operate on Generator #1 a closed crankcase ventilation system that prevents crankcase emissions from being released to the atmosphere.
[40 C.F.R. § 63.6625(g)(1)]

3. A log shall be maintained documenting compliance with all operating limitations.
[40 C.F.R. § 63.6603(a) and Table 2(d)]

4. Continuous Parameter Monitoring System (CPMS)

- a. Madison Electric shall install, operate and maintain a CPMS on Generator #1.
- b. Madison Electric shall use the CPMS to monitor the catalyst inlet temperature and reduce this data to 4-hour rolling averages to demonstrate compliance with the limitations on the catalyst inlet temperature range.
- c. Madison Electric shall use the CPMS to monitor the pressure drop across the catalyst at least once per month to demonstrate compliance with the operating limit established during the last performance test.
- d. Madison Electric shall prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements required by 40 C.F.R. § 63.6625(b)(1).
- e. The CPMS shall be continuously operated in accordance with the site-specific monitoring plan at all times that Generator #1 is in operation, except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities.

- f. The CPMS shall collect data at least once every 15 minutes.
- g. The minimum tolerance for a CPMS measuring temperature is 5° F or 1% of the temperature measurement range of the instrument, whichever is larger.
- h. CPMS audit procedures shall be performed at least annually.
[40 C.F.R. § 63.6625(b), § 63.6635, and Table 6]

5. Performance Tests

- a. Madison Electric shall conduct an initial performance test in accordance with Table 4 of Subpart ZZZZ within 180 days of startup after installation of controls. [40 C.F.R. § 63.6612(a)]
- b. Madison Electric shall conduct three separate test runs for each performance test. Each test run must be at least one (1) hour, unless otherwise specified. [40 C.F.R. § 63.6620(d)]
- c. The percent load at which the engine was operated during a performance test shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination shall be included in the notification of compliance status. The report shall contain the information specified in 40 C.F.R. § 63.6620(i).
- d. During the performance test, Madison Electric shall establish the pressure drop across the catalyst to be used to demonstrate compliance per the CPMS. [40 C.F.R. § 63.6630(b)]
- e. If Madison Electric changes the catalyst, they shall reestablish the values of the operating parameters measured during the performance test. In order to reestablish the operating parameters, Madison Electric shall conduct a performance test to demonstrate that the required emission limitation is being met. [40 C.F.R. § 63.6640(b)]
- f. Madison Electric shall conduct performance tests a minimum of every three (3) years. [40 C.F.R. § 63.6640(a), Table 3 and Table 6].

6. General Requirements to Minimize Emissions

At all times, Madison Electric shall operate and maintain Generator #1, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

7. Recordkeeping

Madison Electric shall keep all records required by Subpart ZZZZ including, but not limited to, the following:

- a. A copy of each notification and report that was submitted to comply with Subpart ZZZZ, including all supporting documentation;
- b. Records of the occurrence and duration of each malfunction of the engine, pollution control equipment, or monitoring equipment;
- c. Records of performance tests and performance evaluations;
- d. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions taken to restore normal operation;
- e. Monitoring data from the CPMS; and
- f. Records of maintenance conducted on Generator #1 and control equipment to demonstrate the equipment was operated and maintained according to the maintenance plan.

[40 C.F.R. § 63.6655(f)]

8. Semiannual Compliance Reports [40 CFR §63.6650, Table 7]

- a. For semiannual compliance reports each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
- b. Madison Electric shall submit to the EPA and the Bureau of Air Quality semiannual reports which must be postmarked or delivered no later than **January 31st** and **July 31st**, whichever date is the first date following the end of the semiannual reporting period. The facility's designated responsible official must sign this report.
- c. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.
- d. The compliance report shall contain information listed below:
 - (1) Company name and address.
 - (2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
 - (3) Date of report and beginning and ending dates of the reporting period.
 - (4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR Part §63.6605(b), including actions taken to correct a malfunction.

- (5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.
- (6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in 40 CFR Part §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

9. Additional Reporting Requirements

Madison Electric shall submit to the Department and the EPA all reports required by Subpart ZZZZ including, but not limited to, the following:

- a. Notification of Intent to Conduct a Performance Test at least 60 days before the performance test is scheduled to begin. [40 C.F.R. § 63.6645(g)]
 - b. Notification of Compliance Status within 60 days of completion of the initial compliance test. [40 C.F.R. § 63.6645(h)]
- H. Generator #1 shall be operated and maintained according to the manufacturer's emission-related written instructions, or Madison Electric shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the generator in a manner consistent with good air pollution control practice for minimizing emissions.
- I. There shall be no bypassing of the air pollution control equipment at any time that Generator #1 is in operation.
- J. The air pollution control equipment shall be operated and maintained in accordance with the manufacturer's written instructions.

The following new Specific Condition (18) is being added to Air Emission License A-1100-71-A-N (dated July 1, 2014):

(18) **Parameter Monitors**

If any parameter monitor is recording accurate and reliable data less than 98% of the source-operating time within any quarter of the calendar year, the Department may initiate enforcement action. The Department may include in that enforcement action any period of time that the parameter monitor was not recording accurate and reliable data during that quarter unless the licensee can demonstrate to the Department's satisfaction that the failure of the system to record such data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions. This condition applies to the CPMS that is required to be in operation whenever Generator #1 is in operation. [06-096 C.M.R. ch. 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 29th DAY OF April, 2019.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 

GERALD D. REID, COMMISSIONER *for*

The term of this amendment shall be concurrent with the term of Air Emission License A-1100-71-A-N.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 7, 2019

Date of application acceptance: February 12, 2019

Date filed with the Board of Environmental Protection:

This Order prepared by Patric J. Sherman, Bureau of Air Quality.

