

ENCLOSURE 2

AEL Compliance Plan

BOP150001

**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Emission Unit: U2 (4) Natural Gas - Fired Boilers with 10.0 MM Btu/hr > Heat Input < 100 MMBTU/hr

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	No visible emissions except for a period of not longer than three minutes in any consecutive 30 minute period. [N.J.A.C. 7:27-3.2]	None.	None.	None.

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2	<p>The owner or operator of an industrial/commercial/institutional boiler or other indirect heat exchanger with a gross heat input of at least five million BTU per hour or more shall adjust the combustion process annually in the same quarter of each calendar year. The adjustment of the combustion process shall be done in accordance with the procedure set forth at N.J.A.C. 7:27-19.16. [N.J.A.C. 7:27-16.8(b)], [N.J.A.C. 7:27-16.8(c)] and [N.J.A.C. 7:27-19.7(g)]</p>	<p>Monitored by periodic emission monitoring annually. The owner or operator shall perform the adjustment of the combustion process in accordance with the specific procedures for combustion adjustment monitoring specified in NJDEP Technical Manual 1005 and the procedure set forth at N.J.A.C. 7:27-19.16(a) as follows: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly; 4. Minimize the total emissions of NO_x and CO consistent with the manufacturer's specifications; 5. Measure the concentrations in the effluent stream of NO_x, CO and O₂ in ppmvd, before and after the adjustment is made; and 6. Convert the emission values of NO_x, CO and O₂ concentrations measured in lb/MMBTU according to the following formula: $Lb/MMBTU = ppmvd * MW * F \text{ dry factor} * O_2 \text{ correction factor} / 387,000,000$, where: ppmvd is the concentration in parts per million by volume, dry basis, of NO_x or CO; MW is the Molecular Weight for NO_x=46 lb/lb-mole, CO=28 lb/lb-mole; F Dry factor for: Natural Gas = 8,710 dscf/MMBTU, Residual or fuel oil = 9,190 dscf/MMBTU; O₂ correction factor: $(20.9\%)/(20.9\% - O_2 \text{ measured})$, where O₂ measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]</p>	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system upon performing combustion adjustment of the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NO_x and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O₂ (in percent dry basis) at which the CO and NO_x concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent test performed after taking any corrective action, including concentrations and converted emission values in (lb/MMBTU); 7. The type and amount of fuel used over the 12 months prior to the annual adjustment; 8. Any other information which the Department or the EPA has required as a condition of approval of any permit or certificate issued for the source operation. The records must be retained for a minimum of five years and to be made readily accessible to the Department upon request. [N.J.A.C. 7:27-19.16(b)]</p>	<p>Submit a report: Annually. The owner or operator shall submit an annual adjustment combustion process report to the department within 45 days after the adjustment of the combustion process is completed. The report shall be submitted electronically to: www.njdeponline.com. Instructions for submitting this report online are specified at: http://www.nj.gov/dep/aqpp/adjustment.htm. [N.J.A.C. 7:27-19.16(d)] and [N.J.A.C. 7:27-19.16(c)]</p>

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3	The owner or operator of the adjusted equipment or source operation shall ensure that the operating parameter settings are established and recorded after the combustion process is adjusted and that the adjusted equipment or source operation is maintained to operate consistent with the annual adjustment. [N.J.A.C. 7:27-19.16(e)]	Other: Monitored by the operating parameter settings that are established after the combustion process is adjusted in order to operate consistent with the annual adjustment. [N.J.A.C. 7:27-19.16(e)].	Other: The owner or operator shall record the operating parameter settings that are established after the combustion process is adjusted and retain until the next annual adjustment, to be made readily accessible to the Department upon request. [N.J.A.C. 7:27-19.16(e)].	None.
4	An exceedance of an emission limit that occurs during an adjustment of the combustion process under N.J.A.C. 7:27-19.16(a) is not a violation of N.J.A.C. 7:27-19 if it occurs as a result of the adjustment. After the combustion adjustment has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under N.J.A.C. 7:27-19 or under an operating permit issued pursuant to N.J.A.C. 7:27-22. [N.J.A.C. 7:27-19.16(f)]	None.	None.	None.
5	VOC (Total) \leq 1.41 tons/yr based on annual fuel use limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	NO _x (Total) \leq 13.7 tons/yr based on annual fuel use limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
7	CO \leq 16.1 tons/yr based on annual fuel use limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	SO ₂ \leq 0.054 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	TSP \leq 1.95 tons/yr based on annual fuel use limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	PM-10 (Total) \leq 1.95 tons/yr based on annual fuel use limit. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	All requests, reports, applications, submittals, and other communications required by 40 CFR 60 shall be submitted in duplicate to the EPA Region II Administrator. [40 CFR 60.4(a)]	None.	None.	None.

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Emission Unit: U2 (4) Natural Gas - Fired Boilers with 10.0 MM Btu/hr > Heat Input < 100 MMBTU/hr

Operating Scenario: OS4 98.5 MMBtu/hr Natural Gas-fired Boiler #2, located in Building 362 - NJ-68

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 59.1 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	CO \leq 9.31 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	NOx (Total) \leq 9.66 lb/hr. NOx emission limit is calculated based on the AP 42 emission factor of 100 lb/MM scf. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	NOx (Total) \leq 0.1 lb/MMBTU. This is a state-only facility specific applicable requirement pursuant to [N.J.A.C. 7:27-19.13]. This requirement becomes federally enforceable upon the effective date of EPA's approval on NJDEP's source specific SIP revision as published in the Federal Register. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	NOx (Total) \leq 0.05 lb/MMBTU. Maximum allowable NOx emission rate for an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross heat input rate of at least 50 million BTU per hour: This requirement was substituted by the state-only facility specific requirements pursuant to [N.J.A.C. 7:27-19.13]. The Permittee will need to submit an administrative amendment application once the source specific SIP revision is approved by EPA. [N.J.A.C. 7:27-19.7(i)2]	None.	None.	Submit the required air permit application(s): Upon occurrence of event The Permittee shall submit an administrative amendment application to this permit consistent with EPA approval of this SIP revision. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	The Alternative NO _x Emission Limit will expire in ten (10) years from the date of approval of modification BOP150001. Any alternative emission limit approved by the Department after May 19, 2009 shall have a term of 10 years, unless the source operation or item of equipment with the alternative emission limit is modified, altered or reconstructed during the term of the plan. If the source operation or item is modified, altered or reconstructed, N.J.A.C. 7:27-19.13(b)6 or N.J.A.C. 7:27-19.13(k), as applicable, shall also apply. [N.J.A.C. 7:27-19.13(b)2]	None.	None.	Submit a report: As per the approved schedule. If the owner or operator of a facility that has an approved 10-year term alternative emission limit plans to continue operating under an alternative emission limit beyond the existing limit's expiration date, the owner or operator shall submit a request for a new alternative emission limit at least one year prior to the termination date of the existing alternative emission limit. The existing alternate emission limit shall terminate on its termination date or on the date of the Department's final action on the proposed new alternative emission limit, whichever is later. [N.J.A.C. 7:27-19.13(b)7]. [N.J.A.C. 7:27-19.13(b)7]
7	PM-10 (Total) \leq 0.713 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	SO ₂ \leq 0.0563 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	TSP \leq 0.713 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	VOC (Total) \leq 0.516 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
11	VOC (Total) \leq 50 ppmvd @ 7% O ₂ . [N.J.A.C. 7:27-16.8(b)1]	None.	None.	None.
12	CO \leq 100 ppmvd @ 7% O ₂ . [N.J.A.C. 7:27-16.8(b)2]	None.	None.	None.
13	The permittee shall operate and maintain Low NO _x Burners on the boiler. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Natural Gas Usage $\leq 108.6 \text{ MMft}^3$ during any 12 consecutive months, based on BOP150001. [N.J.A.C. 7:27-22.16(a)]	Natural Gas Usage: Monitored by fuel usage totalizing meter continuously. [N.J.A.C. 7:27-22.16(o)]	<p>Natural Gas Usage: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. Cubic feet per consecutive 12-month period shall be calculated by the sum of the cubic feet consumed during any one month added to the sum of the cubic feet consumed during the preceding 11 months.</p> <p>This procedure will begin with the first full month following the final issuance of the Operating Permit. This accounting will not include fuel consumption during months prior to the approval of the Operating Permit. The permittee will select the time period for accounting, such as fiscal month, calendar month or production month. Once selected, the period must not be changed without prior approval from NJDEP. [N.J.A.C. 7:27-22.16(o)]</p>	None.
15	Maximum Gross Heat Input $\leq 98.5 \text{ MMBTU/hr}$ (HHV). [N.J.A.C. 7:27-22.16(e)]	None.	Other: Maintain readily accessible records showing maximum heat input rate. [N.J.A.C. 7:27-22.16(o)].	None.

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Emission Unit: U2 (4) Natural Gas - Fired Boilers with 10.0 MM Btu/hr > Heat Input < 100 MMBTU/hr

Operating Scenario: OS5 61.4 MMBtu/hr Natural Gas-fired Boiler #3, located in Building 362

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 36.8 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	CO \leq 6.69 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	NOx (Total) \leq 6.02 lb/hr. NOx emission limit is calculated based on the AP 42 emission factor of 100 lb/MM scf. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	NOx (Total) \leq 0.1 lb/MMBTU. This is a state-only facility specific applicable requirement pursuant to [N.J.A.C. 7:27-19.13]. This requirement becomes federally enforceable upon the effective date of EPA's approval on NJDEP's source specific SIP revision as published in the Federal Register. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	NOx (Total) \leq 0.05 lb/MMBTU. Maximum allowable NOx emission rate for an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross heat input rate of at least 50 million BTU per hour: This requirement was substituted by the state-only facility specific requirements pursuant to [N.J.A.C. 7:27-19.13]. The Permittee will need to submit an administrative amendment application once the source specific SIP revision is approved by EPA. [N.J.A.C. 7:27-19.7(i)2]	None.	None.	Submit the required air permit application(s): Upon occurrence of event The Permittee shall submit an administrative amendment application to this permit consistent with EPA approval of this SIP revision. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
6	The Alternative NO _x Emission Limit will expire in ten (10) years from the date of approval of modification BOP150001. Any alternative emission limit approved by the Department after May 19, 2009 shall have a term of 10 years, unless the source operation or item of equipment with the alternative emission limit is modified, altered or reconstructed during the term of the plan. If the source operation or item is modified, altered or reconstructed, N.J.A.C. 7:27-19.13(b)6 or N.J.A.C. 7:27-19.13(k), as applicable, shall also apply. [N.J.A.C. 7:27-19.13(b)2]	None.	None.	Submit a report: As per the approved schedule. If the owner or operator of a facility that has an approved 10-year term alternative emission limit plans to continue operating under an alternative emission limit beyond the existing limit's expiration date, the owner or operator shall submit a request for a new alternative emission limit at least one year prior to the termination date of the existing alternative emission limit. The existing alternate emission limit shall terminate on its termination date or on the date of the Department's final action on the proposed new alternative emission limit, whichever is later. [N.J.A.C. 7:27-19.13(b)7]. [N.J.A.C. 7:27-19.13(b)7]
7	PM-10 (Total) \leq 0.444 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	TSP \leq 0.444 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	VOC (Total) \leq 0.322 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	VOC (Total) \leq 50 ppmvd @ 7% O ₂ . [N.J.A.C. 7:27-16.8(b)1]	None.	None.	None.
11	CO \leq 100 ppmvd @ 7% O ₂ . [N.J.A.C. 7:27-16.8(b)2]	None.	None.	None.
12	The permittee shall operate and maintain Low NO _x Burners on the boiler. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
13	Natural Gas Usage \leq 57 MMft ³ during any 12 consecutive months, based on BOP150001. [N.J.A.C. 7:27-22.16(a)]	Natural Gas Usage: Monitored by fuel usage totalizing meter continuously. [N.J.A.C. 7:27-22.16(o)]	<p>Natural Gas Usage: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. Cubic feet per consecutive 12-month period shall be calculated by the sum of the cubic feet consumed during any one month added to the sum of the cubic feet consumed during the preceding 11 months.</p> <p>This procedure will begin with the first full month following the final issuance of the Operating Permit. This accounting will not include fuel consumption during months prior to the approval of the Operating Permit. The permittee will select the time period for accounting, such as fiscal month, calendar month or production month. Once selected, the period must not be changed without prior approval from NJDEP. [N.J.A.C. 7:27-22.16(o)]</p>	None.
14	Maximum Gross Heat Input \leq 61.4 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(a)]	None.	Other: Maintain readily accessible records showing maximum heat input rate.[N.J.A.C. 7:27-22.16(o)].	None.