

RULE 2.43 BIOMASS BOILERS

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Yolo-Solano AQMD

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(Final draft language November 28, 2023)

100 GENERAL

- 101 **PURPOSE:** The purpose of this rule is to limit the emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) from biomass fueled boilers.
- 102 **APPLICABILITY:** The provisions of this rule are applicable to boilers and steam generators with rated heat inputs of greater than or equal to 5 million BTU per hour and which combust biomass as a fuel.
- 110 **EXEMPTIONS:** The provisions of this rule shall not apply to the following:
- 110.1 **Boilers, Steam Generators, and Process heaters:** Boilers, steam generators, and process heaters which are subject to the provisions of District Rule 2.27 - Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.
- 110.2 **Solid Waste Incinerators:** Combustion units whose primary purpose is to burn municipal solid waste.
- 110.3 **Waste Heat Recovery Boilers:** Waste heat recovery boilers that are used to recover sensible heat from the exhaust of combustion turbines or unfired waste heat recovery boilers used to recover sensible heat from the exhaust of any combustion equipment.

200 DEFINITIONS

- 201 **BIOMASS:** Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. Biomass does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or radioactive waste.
- 202 **BIOMASS FUELED BOILER (BOILER):** Any combustion equipment designed to burn biomass to produce steam, heat water or other fluids, and/or produce electricity, including but not limited to boilers and steam generators.
- 203 **BLOCK 24-HOUR AVERAGE:** the arithmetic average of the hourly NO_x or CO emission rates of a unit as measured over 24 one-hour periods, daily, from 12:00 AM to 11:59 PM, excluding periods of system calibration.

NOx	CO
90 ppm, corrected to 3% O2 (block 24 hour average)	400 ppm, corrected to 3% O2 (block 24 hour average)

302 **STARTUP/SHUTDOWN PROVISIONS:** The emission limits of section 301 shall not apply during startup/shutdown, provided the following requirements are met:

302.1 A normal startup shall not exceed 24 hours in duration. A curing startup shall not exceed 96 hours in duration.

302.2 A shutdown shall not exceed 24 hours.

302.3 The frequency and duration of startup/shutdown periods and their associated emissions shall be minimized as much as technologically feasible.

302.4 During startup/shutdown periods, the owner/operator of an affected unit shall limit the emissions of that unit to less than the following:

NOx	CO
215 ppm, corrected to 3% O2 (block 24 hour average)	400 ppm, corrected to 3% O2 (block 24 hour average)

303 **CONTINUOUS EMISSION MONITORING SYSTEM (CEMS):** The owner/operator of an affected unit shall install, calibrate, maintain, and operate a Continuous Emission Monitoring System (CEMS) for measuring NOx and CO emission concentrations.

303.1 The CEMS shall comply with the requirements specified in 40 Code of Federal Regulations (CFR) Part 60, Appendix B, Specification 2 and Appendix F or other alternative methods approved by the U.S. EPA and the District.

304 **SOURCE TESTING:** The owner/operator of an affected unit subject to the provisions of this rule shall perform a Relative Accuracy Test Audit (RATA) to verify compliance with 40 CFR Part 60, Appendix F at least once every four (4) calendar quarters, in accordance with a District-approved protocol and the procedures listed in Appendix F.

400 ADMINISTRATIVE REQUIREMENTS

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- 601 GENERAL: For the purposes of this Rule, the following test methods (or their most recent approved versions) shall be used. Other alternative test methods that are approved in writing by the District and the EPA may also be used.
- 602 NO_x EMISSION CONCENTRATION: NO_x emission concentrations shall be determined in accordance with U.S. EPA Method 7.
- 603 CO EMISSION CONCENTRATION: CO emission concentrations shall be determined in accordance with U.S. EPA Method 10.
- 604 STACK GAS OXYGEN: The oxygen content of the stack gas shall be determined in accordance with U.S. EPA Method 3.
- 605 STACK GAS VELOCITY (FLOW): Velocity of the stack gases shall be determined in accordance with U.S. EPA Method 2.
- 606 STACK GAS MOISTURE CONTENT: Moisture content of the stack gases shall be determined in accordance with U.S. EPA Method 4.
- 607 FUEL HHV: The HHV of solid fuels shall be determined in accordance with ASTM E 711-87 or ASTM D 2015-96.

