



ADMINISTRATIVE RULES OF MONTANA



17.8.321 KRAFT PULP MILLS

- (1) For the purposes of this rule, the following definitions apply:
 - (a) "Continual monitoring" means sampling and analysis, in a continuous or times sequence, using techniques which will adequately reflect actual emission levels or concentrations on a continuous basis.
 - (b) "Cross recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor that on a quarterly basis contains more than seven weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28%.
 - (c) "Kraft mill" or "mill" means any pulping process which uses, for cooking liquor, an alkaline sulfate solution containing sodium sulfide.
 - (d) "Noncondensables" means gases and vapors from the digestion and evaporation processes of a mill that are not condensed with the equipment used in those processes.
 - (e) "Parts per million" means parts of a contaminant per million parts of gas by volume.
 - (f) "Recovery furnace" means either a straight kraft recovery furnace or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.
 - (g) "Recovery furnace stack" means the stack from which the products of combustion from the recovery furnace are emitted to the ambient air.
 - (h) "Straight kraft recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor that on a quarterly basis contains seven weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28% or less.
 - (i) "Total reduced sulfur (TRS) " means hydrogen sulfide, mercaptans, dimethyl sulfide, dimethyl disulfide, and any other organic sulfides present.
- (2) No person or persons shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any kraft pulping mill total reduced sulfur in excess of 0.087 pounds per 1,000 pounds of black liquor from each recovery furnace stack or 17.5 parts per million, expressed as hydrogen sulfide on a dry gas basis, whichever is more restrictive or such other limit of TRS that proves to be reasonably attainable utilizing the latest in design of recovery furnace equipment, controls and procedures but not more than 0.087 pounds of TRS per 1,000 pounds of black liquor.
- (3) Noncondensables from digesters and multiple-effect evaporators shall be treated to reduce the emission of TRS equal to the reduction achieved by thermal oxidation in a lime kiln.

- (4) Every kraft mill in the state shall install equipment for the continual monitoring of TRS.
 - (a) The monitoring equipment shall be capable of determining compliance with these standards and shall be capable of continual sampling and recording of the concentrations of TRS contaminants during a time interval not greater than 30 minutes.
 - (b) The sources monitored shall include, but are not limited to, the recovery furnace stacks and the lime kiln stacks.
 - (c) Each mill shall sample the recovery furnace, lime kiln, and smelt tank for particulate emissions on a regularly scheduled basis in accordance with its approved sampling program.
 - (d) Equipment shall be ordered within 30 days after a monitoring program has been approved in writing by the director. The equipment shall be placed in effective operation in accordance with the approved program within 60 days after delivery.
- (5) Unless otherwise authorized by the director, data shall be reported by each mill at the end of each calendar month as follows:
 - (a) Daily average emission of TRS gases expressed in pounds of sulfur per 1,000 pounds of black liquor fired for each source included in the approved monitoring program.
 - (b) The number of hours each day that the emission of TRS gases from each recovery furnace stack exceeds 17.5 parts per million dry and the maximum concentration of TRS measured each day.
 - (c) Emission of TRS gases in pounds of sulfur per 1,000 pounds of black liquor fired in the kraft recovery furnace on a monthly basis and pounds of sulfur per hour for the other sources included in the approved monitoring program. Emission of particulates in pounds per hour based upon a sampling conducted in accordance with the approved monitoring program.
 - (d) Average daily kraft pulp production in air-dried tons and average daily black liquor burning rate.
 - (e) Other emission data as specified in the approved monitoring program.
- (6) Each kraft mill shall furnish, upon request of the director, such other pertinent data as may be required to evaluate the mill's emission control program. Each mill shall immediately report abnormal mill operations which result in increased emissions of air contaminants, following procedures set forth in the approved monitoring program.
- (7) All TRS emission standards in this rule will be based on average daily emissions. The TRS limitations in this rule will not preclude a requirement to install the highest and best practicable treatment and control available. New mills or mills expanding existing facilities may be required to meet more restrictive TRS emission limits.
- (8) No person may cause or authorize to be discharged into the outdoor atmosphere, from any recovery furnace installed on or before November 23, 1968, emissions that exhibit 35% opacity or greater averaged over six consecutive minutes. For recovery furnaces, this opacity limitation supersedes any other opacity limitation contained in this chapter, including ARM 17.8.304 and 17.8.340.
- (9) No person may cause or authorize to be discharged into the outdoor atmosphere, from any recovery furnace installed after November 23, 1968, emissions that exhibit 20% opacity or greater

averaged over six consecutive minutes for more than 6% of the six-minute time periods during which a source is operating within any calendar quarter.

- (10) No person may cause or authorize to be discharged into the outdoor atmosphere, from any recovery furnace installed after September 4, 1976, emissions that exhibit 20% opacity or greater averaged over six consecutive minutes for more than 3% of the six-minute time periods during which a source is operating within any calendar quarter.
- (11) For the purposes of this rule, excess opacity emissions means any six-minute average opacity of 35% or greater for any recovery furnace installed on or before November 23, 1968, and 20% or greater for any recovery furnace installed after November 23, 1968.
- (12) No person may cause or authorize to be discharged into the outdoor atmosphere, from any recovery furnace subject to (9) or (10) , emissions that exhibit 20% opacity or greater averaged over a 24-hour period, starting at 5:00 a.m. each calendar day.
- (13) During any period of excess opacity emissions, any person subject to (8) , (9) , or (10) must operate the recovery furnaces and associated control equipment in accordance with good air pollution control practices for minimizing emissions.
- (14) Any person subject to (8) , (9) , or (10) of this rule shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) to monitor and record the opacity of emissions discharged into the atmosphere from any recovery furnace subject to this rule. The COMS shall be installed, calibrated, maintained, and operated in compliance with the requirements of 40 CFR Part 60.13 and Appendix B thereto, performance specification 1. In addition, the COMS shall comply with any other requirements of 40 CFR Part 60 regarding the installation, calibration, maintenance, and operation of COMS for kraft pulp mill recovery furnaces and any other applicable requirement in this chapter regarding the installation, calibration, maintenance, and operation of COMS.
- (15) COMS will be the primary measure of compliance with the opacity limits specified in (8) , (9) , and (10) of this rule, except that 40 CFR Part 60, appendix A, method 9, may be used as a measure of compliance when there is reason to believe that COMS data is not accurate or when COMS data is unavailable.
- (16) Any person subject to (14) shall report every time period of excess opacity emissions from any recovery furnace, as determined by the COMS or other compliance determination method as provided for in (15) , and shall report every time period when the COMS was not operational. These reports must be submitted on forms provided by the department and must be made in compliance with department procedures and applicable requirements for submittal of excess emissions reports. These reports must be submitted to the department quarterly, within 30 days after the end of each calendar quarter.

Authorizing statute(s): 75-2-111, 75-2-203, MCA

Implementing statute(s): 75-2-203, MCA

History: Eff. 12/31/72; AMD, 1995 MAR p. 1572, Eff. 8/11/95; TRANS, from DHES, 1996 MAR p. 2285; AMD, 1999 MAR p. 279, Eff. 2/12/99.