TITLE 26 - DEPARTMENT OF THE ENVIRONMENT

SUBTITLE 11 - AIR QUALITY

CHAPTER 14 - CONTROL OF EMISSIONS FROM KRAFT PULP MILLS

.01 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) "Brown stock washer" means an installation that removes spent cooking liquor from raw pulp to maximize chemical recovery and minimize carry over of cooking liquor into the bleaching plant.

(2) "Black liquor" means a combination of spent "cooking liquor" (water solution of sodium sulfate and sodium hydroxide) and pulp wash water containing dissolved wood compounds which is the by pro duct of cooking wood chips at an elevated temperature and pressure.

(3) "Clean condensates" means all condensates from the pulp mill and evaporators that are not specifically identified in the definition of "foul condensates ," incl uding the condensates which have been processed through a condensate stripper to remove 90 percent or more of the VOC contamina nts.

(4) "Combusted" means burned in a boiler or thermal oxidizer with a minimal temperature of 1 ,200F and a residence time not less than 0.5 seconds or in a flare.

(5) "Condensa te" means condensed process steam from the digester and evaporator areas that contain VOCs and other process chemicals. including both foul and clean condensates.

(6) "Condensate steam stripper" means a multi-stage distillation unit that uses steam to remove organics and TRS compounds from process condensate streams.

(7) "Digester" means an installation that uses cooking chemicals and heat to separate fiber from other organics in wood chips.

(8) "Digester blow tank system" means all the process equipment. including accumulators and condensers, used to separate the cooked pulp and spent cooking liquor from non-condensable gases and condensates.

(8- 1) "Evaporator" means equipment that is used primarily to increase the solids content of spent cooking liquor from the pulp washing systems.

(9) "Foul condensates" means condensed process steam from the digester blow tank systems and

the primary and secondary condensates generated from the evaporator effect when liquor is introduced.

(I 0) "Knotters" means a mechanical device used to separate uncooked knots from the pulp and spent cooking liquor mixture prior to brownstock washing.

(11) "Kraft pulp mill" means a group of installations which use an alkaline sulfide solution containing sodium hydroxide and sodium sulfide for a cooking liquor in its wood pulping process.

(12) "Oven-dried pulp (ODP)" means oven-dried, unbleached kraft pulp.

(12- 1) " Recovery boiler" means an enclosed combustion device in which concentrated spent liquor is burned to:

(a) Recover sodium and sulfides;

(b) Dispose of unwanted dissolved wood components; and

(c) Generate steam.

(13) "Smelt dissolving tank" means an installation that processes the fluid discharge from a recovery boiler.

(14) "Total reduced sulfur (TRS)" means any compound of sulfur in a reduced state discharged from a kraft pulp mill consisting primarily of hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide.

.02 Applicability.

A. The requirements of this chapter apply to a person who owns or operates a kraft pulp mill.

B. Any source which is subject to the provisions of this chapter is also subject to the provisions of any other chapter. However, when this chapter establishes an emissions standard for a specific installation which differs from the general emission standards in COMAR 26.11.06.0 1--.09, this chapter lakes precedence.

.03 - .05 Not in SIP]

.06 Control of Volatile Organic Compounds.

A. Applicability. This regulation applies to a person who owns or operates an installation that has actual VOC emissions of 20 pounds or more per day that is located at a kraft pulp mill that has a potential to emit total plantwide VOC emissions of 25 tons or more per year.

B. Control of VOC Emissions from Specific Installations.

(1) Condensate steam strippers. Off gases from condensate steam strippers shall be collected and combusted.

(2) Digester Blow Tank Systems and Knotters.

(a) Condensates from digester blow tank systems shall be collected and treated in a condensate steam stripper or other control system.

(b) The non-condensable exhaust from a digester blow tank system shall be collected and combusted.

(3) Evaporators.

(a) All non-condensable gases from evaporators shall be collected and combusted.

(b) Condensates from the evaporators shall be segregated so that the foul condensates are collected and treated in a condensate steam stripper or other control system.

(4) Brown Stock Washers.

(a) Wash water for brown stock washers shall consist of any combination of fresh or clean water and clean condensates.

(b) Air emissions from the brown stock washers shall be collected and combusted.

(5) Recovery Boilers.

(a) A recovery boiler that burns black liquor as fuel shall be equipped with a black liquor oxidation unit.

(b) At least 50 percent of the flue gas generated annually from recovery boilers shall be treated with a dry bottom precipitator with a salt cake mix tank.

(6) Smelt Dissolving Tanks. Only clean water or clean condensates shall be used in the scrubbing solution makeup liquids.

(7) The evaporators, digester blow tank systems, and brown stock washers shall be controlled by removing 90 percent or greater of the condensate VOC loading by demonstrating:

(a) That the VOC removal or destruction efficiencies of the condensate stream stripper is 90 percent or greater; or

(b) Through a system analysis of the condensate stripper, evaporators, digester blow system tanks, and brown stock washers that VOC removal or destruction efficiency is 90 percent or greater.

C. Control of VOC Emissions from Miscellaneous Sources. VOC emissions from all other miscellaneous sources at a kraft pulp mill including screen rooms, black liquor oxidizer, black liquor storage tanks, pulp storage tanks, pulp mill sewer vents, bleach rooms, and paper machines, shall be reduced by processing pulp from the brown stock washers in conformance with §B(4) of this regulation.

D. Testing and Record Keeping.

(1) Tests shall be performed annually using EPA Test Method 25D found in 40 CFR Part 60 or other approved methods by the Department as part of a State Implementation Plan (SIP) revision to demonstrate the collective VOC removal efficiency of the condensate steam stripper and other control systems as required.

(2) All other VOC emissions tests shall be performed using EPA test methods 25, 25A, or 25B which are found in 40 CFR Part 60.

(3) On or before March 1, 2001, a person who owns or operates a kraft pulp mill shall submit a test protocol to the Department for approval.

(4) The test results of each test shall be submitted to the Department within 60 days following completion of each test.

(5) Stack test reports and other records relating to compliance with the requirements in this chapter shall be maintained for not less than 5 years and made available to the Department upon request.

.07 Control of NO_x Emissions from Fuel Burning Equipment.

A. Applicability and NO_x Emission Standards.

(1) This regulation applies to any fuel burning equipment with a maximum design heat input capacity of greater than 250 million Btu per hour located at any Kraft pulp mill.

(2) The total combined NO_x emissions of all fuel burning equipment at the Luke Kraft pulp mill to which this regulation applies may not exceed the following:

(a) Except as provided in §B(1) of this regulation, an emission limit of 0.70 pounds of NO_x per million Btu and 947 tons of NO_x during the period May 1 through September 30 of each year; and

(b) An emission rate of 0.99 pounds of NO_x per million Btu during the period October 1 through April 30 of each year.

(3) Compliance with the emission limit in §A(2)(b) of this regulation shall be demonstrated as a 30 day rolling average.

B. Demonstrating Compliance.

(1) If during the period May 1 through September 30 of any year the NO_x emission limit in §A(2)(a) of this regulation is exceeded, the owner or operator of a Kraft pulp mill shall acquire one NO_x ozone season allowance (as that term is defined at COMAR 26.11.01.01B(24-1)) for each ton or partial ton of NO_x emissions in excess of the limit in §A(2)(a) of this regulation.

(2) The total number of NO_x ozone season allowances acquired pursuant to §B(1) of this regulation for any one period may not exceed 95 and shall be of the same vintage year in which the emission limit is exceeded.

(3) NO_x ozone season allowances acquired pursuant to §B(1) of this regulation shall be acquired on or before November 30 and shall be submitted to the Department for retirement by December 30 of the year in which the emission limit is exceeded.

C. Achieving Compliance Through the Use of NO_x Ozone Season Allowances. The owner or operator of a Kraft pulp mill subject to this regulation that achieves compliance through the use of allowances pursuant to §B of this regulation shall:

(1) Acquire the NO_x ozone season allowances from a source that has been allocated allowances, a NO_x ozone season allowance broker or other entity that has NO_x ozone season allowances and agrees to transfer them; and

(2) Transfer the NO_x ozone season allowances to the Department for retirement.

D. Monitoring and Reporting Requirements.

(1) For boilers or combustion units at a Kraft pulp mill subject to this regulation, the owner or operator of the Kraft pulp mill shall:

(a) Continuously monitor NO_x emissions with a CEM system in accordance with 40 CFR Part 75, Subpart H and 40 CFR §51.121(i)(4); and

(b) Maintain records and submit reports in accordance with 40 CFR Part 75.

(2) The owner or operator of a Kraft pulp mill subject to this regulation shall include emissions data obtained from a CEM pursuant to §D(1) of this regulation in the CEM quarterly reports submitted to the Department pursuant to COMAR 26.11.01.11E(2).