

STATEMENT OF BASIS

To: Reviewers
Through: Lori Bocchino, Operating Permit Program Manager
From: Hillary Killorn, P.E., Operating Permit Engineer
Subject: Draft Chapter 6, Section 3 Operating Permit 3-3-105
Saratoga Forest Management, Saratoga Studmill
Date: March 24, 2015

Introduction

Attached for your review is the draft renewal Wyoming Air Quality Standards and Regulations (WAQSR) Ch 6, Sec 3 operating permit for the Saratoga Studmill. The facility produces kiln-dried, finished, dimension studs from a mix of softwood logs. Emission sources include a 75 MMBtu/hr wood fired boiler (unit 02), a dry kiln system with three kilns (unit 04), storage bins with cyclones (units 06 and 07), target boxes (units 06a, 08a and 09), and other various milling and log yard equipment.

Permitting History

All permits and waivers are listed to document the permitting history. The permits and waivers in this first paragraph have no remaining applicable requirements. CT-791 (5/23/88): allowed construction of a high temperature Olivine ceramic wood waste burner (unit 03) as a replacement for an existing tepee shell type burner. Unit 03 has since been dismantled. CT-1122 (12/16/94): was issued for construction of a 39.2 MMBtu/hr wood fired boiler (unit 01) to replace an existing wood fired boiler. The boiler was constructed but this permit was superseded by Permit MD-338. Waiver (7/1/97): allowed for disposal of hydrocarbon soaked material in the wood waste burner (unit 03). Conditions for disposal of this material are now included in Permit MD-505. Permit MD-338 (10/23/97)/MD-338A (1/20/99): allowed modifications to the two existing boilers, unit 01 and unit 02 (a 24 MMBtu/hr wood fired boiler). Unit 01 was converted to natural gas (becoming rated at 31 MMBtu/hr). Permit MD-338A amended Permit MD-338 to revise the allowable emission limits set for unit 01. Unit 01 has since been dismantled and unit 02 was replaced under Permit MD-505. Notice of Violation and Order Docket 3038-99 (1/6/99)/Compliance Order (2/19/99): A review of the results of performance tests for the unit 02 wood waste boiler conducted July 1998 showed particulate emissions above the permit allowable limit. An electrostatic precipitator (ESP) was installed and testing conducted in September 1999 demonstrated compliance with the particulate emission limit.

The following permit has applicable requirements:

Permit MD-505 (7/25/00): allowed modifications at the facility including replacement of the existing unit 02 wood fired boiler with a new 75 MMBtu/hr wood fired boiler, construction of a third lumber drying kiln, rebuilding of the two existing drying kilns, and increasing the annual allowable lumber production to 125 million board feet. Applicable permit requirements include opacity, NO_x and particulate emission limits for the 75 MMBtu/hr wood fired boiler (unit 02). Unit 02 is also required to comply with applicable requirements of 40 CFR 60 Subpart Dc, which includes operation of a continuous opacity monitoring system (COMS). A QA/QC plan for the COMS has been submitted as required. The permit allows disposal of hydrocarbon soaked sawdust generated from spills at the facility in unit 02. Spills greater than 25 gallons require Division approval prior to disposal.

Applicable Requirements

In addition to the WAQSR Ch 6, Sec 2 permit requirements listed above, the sources at the facility are subject to the visible emission limits set forth in WAQSR Ch 3, Sec 2.

The 75 MMBtu/hr wood fired boiler (unit 02) is subject to any applicable requirements from WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart Dc for *Small Industrial-Commercial-Institutional Steam Generating Units*.

Cyclone (units 06 and 07) and target box (units 06a, 08a and 09) particulate emission limits are calculated using the WAQSR Ch 3, Sec 2 process weight tables.

Periodic Monitoring and CAM

Opacity of emissions from the wood fired boiler (unit 02) shall be monitored by the COMS.

WAQSR Ch 7, Sec 3 Compliance Assurance Monitoring (CAM) requirements apply to the ESP controlled wood fired boiler (unit 02) for particulate emissions. Monitoring consists of operating the COMS on the boiler stack and performing EPA reference method tests for particulate emissions at least once every five years. The effectiveness of the CAM monitoring parameters shall be evaluated and verified during the required reference method testing.

Periodic monitoring of NO_x emissions from the wood fired boiler (unit 02) shall consist of EPA reference method testing at least once every five years. The boiler is also required to be maintained in accordance with manufacturer's specifications to ensure that emissions do not exceed permitted limits.

The permittee shall monitor and record the quantity of any hydrocarbon spills, soaked up with sawdust, disposed of in the wood fired boiler (unit 02).

The permittee shall monitor the amount of wood processed through the dry kiln system (unit 04) to ensure operations do not exceed the 125 MM board feet per year limit.

Studies within the lumber processing industry have yielded particulate emissions factors for cyclones (units 06 and 07) and target boxes (units 06a, 08a and 09) that indicate the process weight emission limits from WAQSR Ch 3, Sec 2 are significantly higher than the actual potential emissions from each source. This is due in part to the nature of the material being processed: wet and dry wood chips and shavings containing very little fine dust. Therefore, the potential particulate emissions included in the operating permit application for these sources have been calculated using the industry emission factors. The Division agrees that these emission factor based calculations more accurately reflect the source's potential emissions, far below the process weight table limits. Periodic monitoring of the cyclones (units 06 and 07) and target boxes (units 06a, 08a and 09) shall consist of monthly observations of visible emissions from each source to ensure compliance with both WAQSR Ch 3, Sec 2 particulate and visible emission limits.

Periodic monitoring of opacity from the dry kiln system (unit 04) shall consist of monthly observations of visible emissions.