

**STATEMENT OF BASIS  
WELLBORN CABINET, INC.  
CLAY COUNTY  
Facility No. 304-S008**

Wellborn Cabinet is currently operating with the following Air Permits: A major source operating permit (MSOP), renewed on January 10, 2019; Air Permit X011, issued on July 20, 2018; and two Air Permits X038 and X039, issued on January 6, 2020. On January 17, 2019, an authorization to operate (ATO) was granted for Air Permit X011. On February 12, 2020, this facility submitted additional information to incorporate Air Permit X011 into their current MSOP application.

**OPERATIONS:**

Wellborn Cabinet operates approximately 4,000 hours annually, manufacturing wooden kitchen and bathroom cabinets. The facility's SIC and NAICS Codes are 2434 and 337110, respectively.

**AIR PERMIT X011:**

Air Permit X011 consist of: Two (2) Automated Spray Lines (ASL), Regenerative Thermal Oxidizer (RTO) and an existing Baghouse #3: Lines # 001 and # 002, each with [brush sander, duster, reciprocating spray machine and an electric oven], RTO – [5.0 MMBtu/hr natural gas fired].

The RTO has a designer and manufacturer guaranteed destruction and removal efficiency (DRE) of 95.0%, and is described as an Anguil, Model No. 200 natural gas-fired burner, a VOC emissions control device. The particulate matter (PM) emissions from the sander and duster are emitted to an existing baghouse (Baghouse #3) for control and disposal.

Wellborn Cabinet has limited their VOC and PM emissions from the two (2) ASLs to avoid exceeding the PSD significant net emissions increases.

**EQUIPEMENT / EMISSIONS:**

Wellborn Cabinet is in compliance with their PSD and MACT Standards for the Wooden Furniture Industry requirements. This facility's PSD facility-wide VOC emissions limitation is 717 tons per year (TPY) during any consecutive 12-month period, based on the premise that all VOC applied are emitted.

MSOP's Unit 008 and Air Permit X011's VOC emissions are limited to 39.9 and 39.5 tons a year, respectively. Air Permit X011's PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions limitations are (24.5/14.5/9.5 tons) during any consecutive 12-month period, respectively. Air Permits X038 (Line 001), and X039 (Line 001) are for One (1)

Lumber Planing and Cutting Line with Baghouse No. 13, and One (1) MDF Board Line with Baghouse No. 14, respectively. Both Air Permits X038 and X039 have PSD synthetic minor PM emissions limitations.

**Air Permit X011's Regenerative Thermal Oxidizer (RTO):**

The initial performance test of the RTO demonstrated a 95.0% DRE. The minimum operational temperature of the combustion chamber of the RTO shall be determined by 3-run arithmetic average testing. The RTO shall operate at a predetermined set-point temperature until an additional test is required by the Department. If future testing is required by ADEM, a new temperature parameter shall be established. The temperature data must be continuously recorded on a chart or other permanent record form which shows continuous temperature readings of the combustion chamber temperature. The record must be maintained for at least five years following the data recording.

The RTO must have an audible alarm or easily detectable signal which will provide a warning when the combustion chamber temperature decreases to less than the established minimum operational temperature (3-hour rolling average). If the 3-hour rolling average falls below the minimum operational temperature for more than 15 minutes, the process(es) will automatically shut down or the facility will provide ADEM a statement that the process(es) shutdown was impractical. This failure to shutdown may be viewed as an exceedance by the Department.

The RTO's 95.0% DRE is maintained during the two (2) ASL's different modes of operations to control its VOC emissions. The RTO will not operate until it has reached the required minimum heat set-point temperature, which will in turn allow the two (2) ASL to operate.

**Greenhouse Gas for the RTO:**

The potential GHG emissions from the 5.0 MMBtu/hr RTO are negligible with the CO<sub>2e</sub> at 2,644 tpy.

**Air Permit X011's Baghouse #3:**

The two (2) ASL's PM emissions are regulated under the PSD synthetic minor limits. This facility is considered a Class 1 County and their allowable emissions are calculated using:

$$"E = 3.59P^{0.62}"$$

where, E = Emissions in pounds per hour = 10.37 lbs/hr  
P = Process weight per hour in tons per hour = 5.54 tons/hr

The particulate matter emissions are regulated under ADEM Rules 335-3-4-.04(1), 335-3-4-.01(1) and 335-3-4-.02.

The collected wood dust is combusted in their wood waste boilers.

Wellborn Cabinet's VOC and PM / PM<sub>10</sub> / PM<sub>2.5</sub> emissions from the two (2) ASL are limited to 39.5 and 24.5 / 14.5 / 9.5 tons during any consecutive 12 months period, respectively.

**PSD APPLICABILITY:**

Source	Pollutant	Potential (tpy)	Significant Threshold (tpy)
Surface Coating	VOC	39.5	40
Sander/Duster	PM	0.088	25
	PM <sub>10</sub>	0.066	15
	PM <sub>2.5</sub>	0.062	10

PM emissions are based on utilizing Baghouse #3

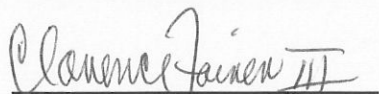
The two (2) ASLs estimated emissions are below any PSD major source thresholds; therefore, a best available control technology (BACT) determination review are not necessary at this time. The RTO and Baghouse #3 reduces the two (2) ASLs' allowable VOC and PM emissions below a major source addition, respectively.

**REQUIREMENTS:**

Wellborn Cabinet has requested to maintain their VOC and PM emissions from the two (2) ASLs below the PSD's deminimis thresholds. This facility is located in an attainment area for all pollutants. There are no other NESHAP, New Source Performance Standards (NSPS), greenhouse gases (GHG) or control techniques guidelines (CTG) applicable to this facility.

**RECOMMENDATION:**

Based on their modifying MSOP application and the above analysis, I recommend incorporating Air Permit X011's [Two (2) Automated Spray Lines (ASL), a Regenerative Thermal Oxidizer (RTO), and the existing Baghouse #3] into their current MSOP. Air Permit X011 will be incorporated into their current MSOP pending the 30 days e-notice and EPA's 45 days review.



Clarence Fairer III  
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Air Division  
CF/cf

February 13, 2020  
Date