

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Region: Asheville Regional Office
County: Caldwell
NC Facility ID: 1400007
Inspector's Name: Patrick Ballard
Date of Last Inspection: 08/16/2022
Compliance Code: 3 / Compliance - inspection

Issue Date:

<p align="center">Facility Data</p> <p>Applicant (Facility's Name): Bernhardt Furniture Company - Plants 3&7</p> <p>Facility Address: Bernhardt Furniture Company - Plants 3&7 1502 Morganton Boulevard Lenoir, NC 28645</p> <p>SIC: 2511 / Wood Household Furniture NAICS: 337122 / Nonupholstered Wood Household Furniture Manufacturing</p> <p>Facility Classification: Before: Title V After: Fee Classification: Before: Title V After:</p>	<p align="center">Permit Applicability (this application only)</p> <p>SIP: 15A NCAC 02D .0504, 02D .0512, 02D .0516, 02D .0521, 02D .1111, 02Q .0317 NSPS: N/A NESHAP: MACT Subpart JJ, Subpart JJJJJ, Subpart DDDD PSD: N/A PSD Avoidance: N/A NC Toxics: (NCGS) 143-215.107(a)(5) (House Bill 952) 112(r): N/A Other: 40 CFR Part 64 (CAM)</p>
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Contact Data			Application Data	
Facility Contact	Authorized Contact	Technical Contact	<p>Application Number: 1400007.21A & 1400007.18A Date Received: 10/29/2021 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 02000/T32 Existing Permit Issue Date: 08/25/2017 Existing Permit Expiration Date: 07/31/2022</p>	
Eddie Pitts Corporate Environmental Manager (828) 759-6348 1839 Morganton Blvd Lenoir, NC 28645	John Cahill CFO and Senior VP (828) 759-6538 1839 Morganton Boulevard Lenoir, NC 28645	Eddie Pitts Corporate Environmental Manager (828) 759-6348 1839 Morganton Blvd Lenoir, NC 28645		

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	0.2800	5.42	44.07	6.64	4.69	1.84	1.09 [Toluene]
2020	0.3800	7.35	45.59	8.99	5.44	3.34	2.37 [Toluene]
2019	0.4400	8.80	65.53	10.76	6.63	4.60	3.24 [Toluene]
2018	0.8800	17.38	71.95	21.28	11.60	4.78	2.57 [Toluene]
2017	0.2600	5.08	83.05	6.22	4.15	6.42	4.02 [Toluene]

<p>Review Engineer: Gautam Patnaik</p> <p>Review Engineer's Signature: _____ Date: xx/xx/2023</p>	<p align="center">Comments / Recommendations:</p> <p>Issue: 02000T33 Permit Issue Date: Permit Expiration Date: xx/xx/2023</p>
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I. Facility Description.

The facility is a wood furniture manufacturing complex consisting of two plants (3 and 7). Plant 3 manufactures office furniture such as desks and shelves, and Plant 7 manufactures office chairs. Operations at Plants 3 and 7 include wood furniture finishing, boilers with associated control devices, and wood drying kilns. The facility has a couple of firetube design wood fuel-fired boilers subject to GACT Subpart JJJJJ, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers."

II. Purpose of Applications

Application No. 1400007.21A is for the renewal of the current permit as follows:

The current Air Quality Permit No. 02000T32 for this facility was issued on August 25, 2017, with an expiration date of July 31, 2022 and is being renewed in accordance with 15A NCAC 02Q .0513. The renewal application was received on October 29, 2021, or at least nine months prior to the expiration this date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Note: On 1/31/2023 the applicant sent via e-mail a letter signed by the responsible official for the facility regional office on 1/24/2023, requesting the removal of the existing biomass boilers (ID Nos. ES-721, and ES-722). Thus, these boilers will be removed from the permit.

This permit renewal will also incorporate a TV-502(b)(10) application (No. 1400007.18A).

The 502(b)(10) application was received on April 3, 2018. The 502(b)(10) modification involves the changing of spray booth numbers 332, 333, 340 and 342 to dry filter booths. Currently there are seventeen baffle-type spray booths (Nos. 326 through 342) and this will result in:

Thirteen baffle-type spray booths (Nos. 326, 327, 328, 329, 330, 331, 334, 335, 336, 337, 338, 339, and 341) and four dry filter booths (ID. Nos 332, 333, 340, and 242).

However, in a discussion with the applicant they mentioned they do not have any plans to make the above changes and responded in an e-mail: "Please make the new permit T33 the same as T32 we did not make any of the proposed changes to make 4 spray booths filter media instead of baffles." Thus, no changes were made to the above requested spray booths.

III. Application Chronology

The table below outlines the modifications to the Title V permit starting from the permit renewal (Air Quality Permit No. 02000T29 issued on September 13, 2012):

Table:

Application #	Air Quality Permit #	Sources Added
1400007.13A	02000T30	This application submittal is to modify the facility's existing permit to add HAP minor limitations.
1400007.16A	02000T31	Add controls to boilers ES-320 and ES-321 including addition of an Oxygen (O2) sensor in each stack and automated controls that use this O2 reading to reduce the over and under fire air insertion automatically.
1400007.16B	02000T32	Renewal Only – No Modifications

IV. Regulatory Review:

The modified permit will be updated to reflect the most current stipulations and shell guidance language for all applicable regulations.

The sources at this facility are subject to the following regulations:

- 15A NCAC 2D .0504: “Particulates from Wood Burning Indirect Heat Exchangers”

This rule applies to fuel burning equipment that burns 100 percent wood.

As per the current permit for boilers (ID Nos. ES-320 and ES-321) emissions of particulate matter from the combustion of wood that are discharged from these sources into the atmosphere shall not exceed 0.55 pounds per million Btu heat input and emissions of particulate matter for boilers (ID Nos. ES-721 and ES-722) shall not exceed 0.57 pounds per million Btu heat input.

The testing, monitoring, record keeping, and reporting requirement all comply with the most current stipulations in the shell. The latest inspection did not cite any violation to this rule and continued compliance with this regulation is expected.

- 15A NCAC 02D .0516: “Sulfur Dioxide Emissions from Combustion Sources

The boilers (ID Nos. ES-320, ES-321, ES-721, and ES-722) are subject to the above rule, however these boilers are not subject to any monitoring, recordkeeping, and reporting requirements for sulfur dioxide emissions from wood fuel combustion from the above sources. Wood is inherently low in sulfur content and compliance with this rule is expected.

Note: On 1/31/2023 the applicant sent via e-mail a letter signed by the responsible official for the facility regional office on 1/24/2023, requesting the removal of the existing biomass boilers (ID Nos. ES-721, and ES-722).

- 15A NCAC 02D .0521: "Control of Visible Emissions"

Sources manufactured after July 1, 1971 must not have visible emissions of more than 20 percent opacity when averaged over a six-minute period.

Sources manufactured as of July 1, 1971 must not have visible emissions of more than 40 percent opacity when averaged over a six-minute period.

The following sources are subject to 02D. 0521:

- the boilers that remain on the Title V permit (ID Nos. ES-320, ES-321),
- the woodworking operations (ID Nos. ES-WDSP-3 and ES-WDSP-7),
- the wood furniture finishing operations (ID Nos. ES-SBP-3-326 through ES-SBP-3-342 and ES-SBP-7-730 through ES-SBP-7-740) and (ID Nos. ES-SBP-7-741, ES-SBP-7-742 and ES-SBP-7-725 through ES-SBP-7-729), and fly ash separator (ID No. ES-322).

There is no change to the opacity standards for the above sources.

The testing, monitoring, record keeping, and reporting requirement all comply with the most current stipulations in the shell. The latest inspection did not cite any violation to this rule and continued compliance with this regulation is expected.

- 15A NCAC 02D .1111: "Maximum Achievable Control Technology"

The applicant has requested the removal of boilers ES-721 and ES-722 as a part of this renewal application.

The two wood-fired boilers (ID Nos. ES-320, ES-321) in the biomass subcategory with an oxygen trim system, are subject to MACT Subpart JJJJJ " National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers".

There are no changes to the compliance dates, notification of compliance status, general compliance requirements, performance tune-up requirements, energy assessment requirements, recordkeeping, and reporting requirements as specified in Section 2.1 A. 4. of the permit.

- 15A NCAC 02D .0512: "Particulates from Miscellaneous Wood Products Finishing Plants"

This regulation does not set an emissions limit however requires the facility not cause, allow, or permit particulate matter caused by the working, sanding, or finishing of wood to be discharged from any stack, vent, or building into the atmosphere without providing, as a minimum for its collection, adequate duct work and properly designed collectors.

All sources below are subject to the above requirement:

Sources in Section 2.1 B - woodworking operations (ID No. ES-WDSP-3) and associated bagfilters (ID Nos. CD-311, CD-312, CD-313, and CD-317) and cyclones (ID Nos. CD-301, and CD-307), and

woodworking operations (ID No. ES-WDSP-7) and associated bagfilters (ID Nos. CD-711 and CD-718) and cyclones (ID Nos. CD-703 and CD-705), and

sources in Section 2.1 C - twenty-eight baffle-type spray booths (ID Nos. ES-SBP-3-326 through ES-SBP-3-342 and ES-SBP-7-730 through ES-SBP-7-740),
Seven dry filter-type spray booths (ID Nos. ES-SBP-7-725 through ES-SBP-7-729, ES-SBP-7-741, and ES-SBP-7-742),
Fifteen drying ovens (ID Nos. ES-SBP-3-360 through ES-SBP-3-368, and ES-SBP-7-761 through ES-SBP-7-766),
One dip tank (ID No. ES-SBP-7-776),
One washoff tank (ID No. ES-SBP-7-771), and
Three flat-line roll coaters and associated UV curing ovens (ID Nos. ES-SBP-3-369, ES-SBP-3-372, and ES-SBP-3-373).

The monitoring, record keeping, reporting requirements for this regulation has already been updated as per the shell guidance. Continued compliance is expected from the above sources pertaining to this regulation.

MACT Subpart JJ: “National Emissions Standard for Wood Furniture Manufacturing Operations”

See Section “V. TV Permit Revisions with respect to Boiler MACT Revisions,” of this review, below.

- 15A NCAC 02Q .0317: “Avoidance Conditions - limitation to Avoid Being Major for Hazardous Air Pollutants for 15A NCAC 02D .1111: Maximum Achievable Control Technology”

To avoid the applicability of MACTs Section 2.2 c. of the permit limits Hazardous Air Pollutants (HAPs) to less than 10 tons per year any individual HAP and less than 25 tons per year any combination of HAPs. Thus, this facility is considered an area source and the monitoring, record keeping, and reporting requirements have already been updated to the guidance shell requirements.

V. NSPS, NESHAPS/MACT, PSD, Attainment Status, 12(r), Air Toxics (NCGS) 143-215.107(a)(5) (House Bill 952), CAM and Compliance Status:

NSPS

None of the sources at this facility are subject to any NSPS regulations.

NESHAP/MACT

The facility has taken a federally enforceable limit as per the current permit to become a minor source for HAP emissions and thus exempted from the “Rubber Tire Manufacturing” MACT.

Thus, some sources are subject to MACTs for Area Sources:

MACT Subpart JJJJJJ "National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers," and

MACT Subpart JJ “National Emission Standards for Wood Furniture Manufacturing Operations,”

MACT Subpart DDDD “Plywood and Composite Wood Products” only requires initial notification

Attainment Status

This facility is located in Caldwell County, which is currently designated as an attainment area. The minor source baseline dates for this County have not been triggered for PM₁₀, SO₂ and NO_x emissions.

This permit renewal does not consume or expand increments for any pollutants.

PSD

Caldwell County is designated as in attainment. This facility is classified as a Major source for PSD purposes, based on the potential emissions of VOC from the facility.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in this rule.

CAM

The Compliance Assurance Monitoring (CAM) Rule (40 CFR Part 64) applies to pollutant-specific emissions units (PSEU) that are pre-control major sources and use a control device to comply with an emissions limit. None of the sources at this facility are currently subject to a CAM plan. This renewal does not change the pre-control emission from any sources to be qualified for a CAM plan.

The facility uses cyclones and bagfilters to control the emissions of PM and PM₁₀ from some of the sources, however the maximum potential pre-controlled emissions are less the amount to be qualified as a major source for CAM applicability.

Compliance with Toxics – (NCGS) 143-215.107(a)(5) (House Bill 952)

The facility primary operations are wood furniture manufacturing and combustion sources, which are exempt from toxics per:

15A NCAC 02Q .0702 EXEMPTIONS

“(a) A permit to emit toxic air pollutants shall not be required under this Section for:

...

(18) combustion sources as defined in Rule .0703 of this Section except new or modified combustion sources permitted on or after July 10, 2010;

...

(23) wood furniture manufacturing operations as defined in 40 CFR 63.801(a) that comply with the emission limitations and other requirements of 40 CFR Part 63 Subpart JJ, provided that the terms of this exclusion shall not affect the authority of the Director under Rule .0712 of this Section; ...". The current permit does not have any toxics emissions limits. This renewal does not cause any increase in toxics emissions.

This renewal will not present an unacceptable risk to human health in accordance with North Carolina General Statute (NCGS) 143-215.107(a)(5) (House Bill 952).

Compliance Status

Mr. Patrick Ballard, of the Asheville Regional Office performed an inspection on 08/16/2022. In his report he concluded that "Based on this inspection, Bernhardt Plants 3 and 7 appear to be in compliance with their current air permit, and NESHAP (Subpart JJ)."

V. "TV Permit Revisions with respect to Boiler MACT Revisions"

The draft permit was updated by my colleague Joe Voelker to update regulations (MACT Subpart JJJJ) as per his e-mail "TV Permit Revisions with respect to Boiler MACT Revisions" issued on 10/10/2022.

Currently the four boilers (ID Nos. ES-320, ES-321, ES-721, and ES-722) are listed under a single MACT language, Joe suggested "one for the units with trim. One for the units without. I would recommend not combining them as it will make future reviews easier. This facility became minor upon issuance of T30 on June 18, 2013, before the normal compliance date for a boiler at an area source under 6J. This has implications with respect to the compliance date in the conditions. These boilers were existing under the MACT while major and had 112j applicability, hence they are existing boilers that went from major to area and therefore had 180 days from the compliance date to do initial tune up and energy assessments."

As per Joe's suggestion the Subpart JJJJ pertaining to these boilers are broken up into two parts:

Section 2.1 A. 4, address GACT 6J with **an oxygen trim system** (ID No. ES-320 and ES-321 only) and

The applicant requested the removal of boilers ID Nos. ES-721, and ES-722 as a part of this permit renewal.

Section 2.1 A. 4 of the permit:

The salient features MACT Subpart JJJJ for biomass-fired boiler (>10 million Btu per hour maximum heat input rate), that are considered existing biomass boiler with oxygen trim, for boilers (ID No. ES-320 and ES- 321) are as mentioned below:

Applicability

40 CFR 63.11200(f) refers to “boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.”

Compliance Dates

40 CFR 63.11210(j) (existing major to minor) is for boilers located at existing major sources of HAP that limit their potential to emit (e.g., make a physical change or take a permit limit) such that the existing major source becomes an area source, the facility must comply with the applicable provisions as specified in paragraphs (j)(1).

40 CFR 63.11210(j)(1) requires existing boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2014, or upon the existing major source commencing operation as an area source. This requirement has been met on September 16, 2013

Notifications

63.11225(h)(4) (NOCS) The applicant must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63. The facility shall submit a Notification of Compliance Status. The notification shall be signed by a responsible official and submitted by January 15, 2015. [40 CFR 63.11225(4)] This requirement has been met on September 16, 2013.

Work Practice Requirements

The work practice requirements in Section 2.1 A.4.g of the modified permit is similar to the boiler “Performance Tune-up Requirements” in Section 2.1 A.4.g of the current permit, requiring a tune-up every five years

However, 2.1 A.4.g. i. (H) of the modified permit as per 40 CFR 63.11223(c) requires to “set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.”

Energy Assessment Requirements

The one-time energy assessment was performed on May 16, 2013 and August 20, 2013 for Plant 3 Boilers (ES-320 and ES-321).

Section 2.1 A. 5 of the permit:

Biomass-fired boiler (>10 million Btu per hour maximum heat input rate), that are considered existing biomass boiler with **no** oxygen trim (ID No. ES-721, and ES-722).

On 1/24/2023 the applicant explained that “the reason that boilers ES 721 & ES 722 have not had an energy assessment to satisfy EPA requirements in Subpart JJJJJ in the Code of Federal Regulations (40 CFR 63) is because **they have not operated since 2009**. We have been under the assumption that we would not have to comply as long as the boilers did not operate and that if we ever did operate them, they would have to be in compliance. Based on our last inspection of the boilers, they are not repairable and do not even have stacks any more, they will never be made operable. Being old school we typically do not take things off of permits, instead we just

mark them on all reports as not operating. This is the second time the Plant 3 & 7 permit has been sent for renewal since they stopped being operated and it has never been an issue before. However if it is simpler to just remove them from the permit and will simplify getting our permit renewed, just tell me what I need to do to make it happen.”

On 1/31/2023 the applicant sent via e-mail a letter signed by the responsible official for the facility regional office on 1/24/2023, requesting the removal of the existing biomass boiler with no oxygen trim (ID No. ES-721, and ES-722). Thus, these boilers are removed from the permit.

For the sake of this review the following compliance dates missed are mentioned:

Applicability

40 CFR 63.11200(b) is for biomass boilers with no oxygen trim [Note - 40 CFR 63.11200(f) Refers to boilers with an oxygen trim system.]

Section 2.1 A. 5, address GACT 6J with **No oxygen trim system** (ID No. ES-721, and ES-722)

Compliance Dates

The current permit required boilers (ES-721 and ES-722) must achieve compliance with the initial tune up and energy assessment requirements no later than March 21, 2014, or upon the existing major source commencing operation as an area source.

For requirements for 40 CFR 63.11210(j)(1), boilers located at existing major sources of HAP that limit their potential to emit such that the existing major source becomes an area source, the facility must comply as follows:

Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJ within 180 days of the later of March 21, 2014, or upon the existing major source commencing operation as an area source. Thus, the facility must have achieved compliance with the initial tune up and energy assessment requirements no later than **September 17, 2014**. [40 CFR 63.11196(a)(1) and (3), 63.11210(j)(1)]. Note – **This compliance date has not been met for the above boilers.**

Notifications

As per 40 CFR 63.11225(h)(4) the facility must submit the Notification of Compliance Status (NOCS) no later than 120 days after the applicable compliance date specified in 40 CFR 63.11196 and as per 40 CFR 63.11196(a)(1) for existing affected boiler subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.

Thus, compliance date to submit a Notification of Compliance Status was by **January 15, 2015**. [40 CFR 63.11225(4)] Note – **This compliance date has not been met for the above boilers.**

Work Practice Requirements

The facility must meet the standards as per as per 40 CFR 63.11201(b): “must comply with each work practice standard, emission reduction measure, and management practice specified in Table

2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement.”

Energy Assessment Requirements

The applicant shall conduct a one-time energy assessment performed by a qualified energy assessor. [40 CFR 63.11201(b), Table 2 to 40 CFR 63 Subpart JJJJJ] Note – **This compliance date has not been met for the above boilers.**

V. Consistency Determination, Comments, and Recommendations

- A zoning consistency determination is not required for this renewal.
- A professional engineer’s seal is not required for this renewal.
- On xx/xx/2023 the regional office, the applicant, and the Stationary Source Compliance Branch (SSCB) were provided a copy of the draft permit and review for this application for their comments. All comments will be taken into consideration.

VI. Miscellaneous

- The responsible official in the draft permit matches the information on IBEAM.
- The facility address matches the information on IBEAM.
- There are no new insignificant activities being added with this renewal.
- One instance of the word “assure” has been changed to “ensure” in the modified permit.
- Removed word “Subpart” from the permit sources table (i.e., NSPS Subpart III, etc.,).
- All old testing requirements have been deleted.
- Updated language from the shell for regulations (example 15A NCAC 02D .0515, .0521, .0516, etc., where required).
- Updated General Conditions.

(Note)

Format/check reference to Section in the permit: (Sample examples as follows: “is required under Section 2.1 A.8.f below,” “opacity standard in Section 2.1 A.8.c above,” “limit in Section 2.1 A.8.c above,” “according to Section 2.1 A.8.g below.” “performance testing in Section 2.1 A.8.f.i above,”).

VIII. Permit Modification/Changes

Table of changes made in Air Quality Permit No. 02000T33

Page No.	Section	Description of Changes
1	Cover letter	Added revised cover page, updated letterhead, changed Permit revision number and date
2	Cover letter	Copy to Brad Akers Acting Air Permit Section Chief, EPA Region 4 (permit and review)
3	Cover letter	Added page containing “Notice Regarding The Right to Contest A Division Of Air Quality Permit”.
4	Cover letter	Revised the Summary Of “Changes To The Permits” table.

Page No.	Section	Description of Changes
1	Permit	Changed Permit number Changed "Replaces Permit" number Revised effective date of Permit Revised application numbers Revised complete applications date
2	Table of Contents	Changed Insignificant Activities list to Section 3 of the permit and the General Conditions as Section 4 of the permit
3	List of Acronyms	Added list of acronyms
4	Table of all permitted emission	Removed page numbers
4	Table of all permitted emission	Removed wood fuel-fired boilers ES-721 and ES-722
6	2.1 A.	Removed wood fuel-fired boilers ES-721 and ES-722
11	2.1 A. 4.	Updated MACT Subpart JJJJJ
33	SECTION 3	Insignificant Activities per 15A NCAC 02Q .0503(8)
34 through 42	SECTION 4	General Conditions Updated