

TITLE V PERMIT RENEWAL APPLICATION

Permit No. V-19-029 R2

AI: 2591



CUMBERLAND
COOPERAGE

Cumberland Cooperage, LLC dba Robinson Stave

1812 Hwy 3434
East Bernstadt, KY 40729

Prepared By:

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December 2024

Trinity
Consultants 

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1. APPLICATION SUMMARY

1.1 Purpose of Application

Cumberland Cooperage, LLC dba Robinson Stave (RS), which is owned by Sazerac Distillers, LLC and located in East Bernstadt, Kentucky, operates a stave mill and cooperage that manufactures wood barrels for the bourbon industry. RS is currently regulated as a Title V source under the Title V operating permit program based on its annual potential-to-emit (PTE) for non-fugitive carbon monoxide (CO) emissions. RS operates under the authority of the Title V Permit V-19-029 R2, issued by the Kentucky Division for Air Quality (KDAQ) on October 4, 2024.

This document and its appendices constitute the renewal application for the RS facility, as required by Condition G.2.a. of the existing permit and 401 KAR 52:020, Section 12. This permit condition and the underlying regulation require that the renewal application be submitted at least six months prior to the expiration date of the permit. This renewal application meets these requirements and requests two changes to the current Title V Permit V-19-029 R2:

1. The addition of the Boiler Blowdown Water Evaporator (EU 11-02), which is characterized by the Off-Permit Change Notification submitted by RS on September 5, 2024, to the Insignificant Activity (IA) list included in Section C of the permit; and
2. The addition of the Portable Buck Saw (EU 09-03), which is characterized by this renewal application, to the IA list included in Section C of the permit.

For the remainder of the site, the current permit accurately identifies applicable regulatory requirements and is based on up-to-date emission calculation methodologies for equipment at RS. In accordance with 401 KAR 52:020, Section 4(2)(c), this renewal application is limited to "only the information that is new or different from the most recent source-wide permit application." Therefore, this renewal application summarizes the scope of permit revisions that have been requested by RS since issuance of the initial Title V permit (V-19-029).

1.2 Organization of Air Permit Application

Following this introduction, a brief description of the existing process operations located at RS is provided in Section 2. Section 2 also identifies each permit action undertaken by RS since issuance of Permit No. V-19-029, which represented the initial Title V operating permit for the facility and was issued in response to the most recent source-wide permit application submitted to date. Section 3 summarizes the requested emission calculation methodology updates documented by the permit actions submitted by RS since the initial permit application. Section 4 provides an overview of applicable regulatory requirements under state and federal air quality programs that have changed since the original application. Each of these sections also discusses relevant considerations for the Portable Buck Saw (EU 09-03) characterized by this application.

Appendix A contains a DEP7007AI form to facilitate the processing of this permit revision application, as well as a DEP7007DD form providing a comprehensive list of IAs at the site, including the Boiler Blowdown Water Evaporator (EU 11-02) and Portable Buck Saw (EU 09-03). Appendix B presents detailed emission calculations for the Portable Buck Saw and the revised facility-wide annual PTE.

2. EXISTING FACILITY AND OPERATIONS DESCRIPTION

2.1 Facility Location

The RS facility is located at 1812 Hwy 3434, East Bernstadt, Kentucky (Laurel County). The Universal Transverse Mercator (UTM) coordinates of the center of the facility's property are (approximately) 4,122,846.99 meters (m) North and 759,769.13 m East (UTM Zone 16, NAD83).

2.2 Facility Operations Summary

The RS facility produces wood barrels for the Kentucky bourbon industry. The facility operates wood- and natural gas-fired boilers, stave and head woodworking / charring operations, and lumber kilns, all of which facilitate the production of wood barrels. Stave and head woodworking operations consist of saws, planers, jointers, sanders, steam and heat tunnels, and a dryer. Additional IAs include various stockpiles, logyard activities, fuel storage tanks, natural gas-fired space heaters, a coating process, and an evaporator system for the wood-fired boiler.

2.3 Recent Permit Actions

The initial Title V operating permit for the RS facility was issued on June 24, 2020. Table 2-1 summarizes all permit actions that have been submitted by RS since issuance of the initial Title V permit.

Table 2-1. Summary of Permit Actions

APE No.	Date	Type of Permit Action	Corresponding Permit Revision	Permit Action Summary
APE2020003	01/2021	Minor Permit Revision	V-19-029 R1	RS submitted a minor permit revision application to modify descriptions and to remove and add various equipment to the RS site.
APE20210001	05/2021	Significant Permit Revision	V-19-029 R1	RS submitted a significant permit revision application to modify descriptions, remove and add equipment, and add a voluntary limit for CO emissions for the RS site.
APE20210002	07/2021	Administrative Permit Amendments	V-19-029 R1	RS submitted a Notification of Change of Name/Ownership to identify both the permittee name and source name as Cumberland Cooperage, LLC dba Robinson Stave.
APE20240002	07/2024	Minor Permit Revision	V-19-029 R2	RS submitted a minor permit revision application to modify existing units, remove, and add equipment to the RS site.
N/A	09/2024	Off-Permit Change	N/A	RS submitted an Off-Permit Change Notification to characterize the addition of the Boiler Blowdown Water Evaporator (EU 11-02).

3. EMISSION CALCULATION UPDATES

In accordance with the provisions outlined in 401 KAR 52:020, Section 4(2)(c), Kentucky's regulations allow applicants to limit the content of a renewal application to encompass solely information that is new or different from the most recent facility-wide permit application. The most recent source-wide permit application submitted by RS to date corresponds to the issuance of Title V Permit V-19-029. Accordingly, Section 3.1 of this renewal application details the air emissions impacts from permit actions occurring since the issuance of this initial Title V permit.

3.1 Emission Calculation Changes from Previous Permit Actions

Refer to Table 3-1 below for a summary of emission calculation updates that have occurred since submittal of the original 2019 permit application.

Table 3-1. Emission Calculation Impacts of Recent Permit Actions

APE# from ORR	Date	Type of Permit Action	Corresponding Permit Revision	Permit Action Emission Calculation Changes
APE20190004	11/2019	Initial Title V Permit	V-19-029 R1	- Lower emission rate for Wood-fired Indirect Heat Exchanger (EU 11) - Update emission rates for Barrel Charring and Head Charring (EU 08-04, EU 08-07) - Addition of Insignificant Activities through detailed emission calculations for Lumber Kilns (EU 14-01) - Addition of 2 Insignificant Activities including a Bullsaw03 and a Debarker03 (EU 01-14, EU 01-13) - Addition of 5 new wood-fired space heaters (EU 05-04, EU 02-08, EU 04-10, EU 01-11, EU 01-12)
APE20200003	01/2021	Minor Permit Revision	V-19-029 R1	- Removal of 3 Emission Units from Woodworking Operations, and 2 natural gas boilers (EU 04, EU 02-02, EU 02-03, EU 08-13, EU 08-23) - Addition of 3 Emission Units to section B for Stave Mill Operations and 1 wood-fired indirect heat exchanger (EU 01-14, EU 01-17, EU 01-19, EU 08-18) - Removal of 4 Insignificant Activities in the Saw Mill Building and 1 the Old Barrel Shop (EU 02-01, EU 02-04, EU 02-05, EU 02-06, EU 01-14) - Addition of 2 Insignificant Activities for Stave mill Operations and 1 for Diesel fuel Storage (EU 14-04, EU 01-16, EU 01-18) - Modification in Barrel Ship, Export Building, Old Barrel Shop, and Fuel Storage Emission Units nomenclature and description (EU 07, EU 09-01, EU 01-13, EU 01-15, EU 14-01)
APE202210001	05/2021	Significant Permit Revision	V-19-029 R1	- Removal of 3 Emission Units (EU 03-01, EU 03-02, EU 03-03) - Removal of 3 Insignificant Activities from the Stave Mill Operations (EU 03-04, EU 03-05, EU 03-06)

APE# from ORR	Date	Type of Permit Action	Corresponding Permit Revision	Permit Action Emission Calculation Changes
				- Change the removal from Insignificant Activities to Section B for Fugitive Wood Operations (EU 01-13, EU 01-14) - Change the removal from Fugitive Wood Operations to Insignificant Activities and update the emission factor(EU 09-02) - Revise the removal of 2 Natural Gas-Fired Indirect Heat Exchangers (EU 08-13, EU 08-23) - Updated voluntary emission limit for the entire facility to less than 225 tpy for CO emissions from all non-fugitive sources - Increase the Maximum Capacity of Emission Units in the Stave Mill 1 and EBC2 Expansion Project.
APE202210002	07/2021	Administrative permit amendments	V-19-029 R1	- Revised Name and Ownership of Robinson Stave, LLC merged into the parent company, Cumberland Cooperage, LLC.
APE20240002	07/2024	Minor Permit Revision	V-19-029 R2	- Modification of Cooperage Woodworking Operations 03 (EU 08-24) - Replacement of EBC3 Grinder with EBC2 Waste Wood Hog (EU 10-02, EU 8-25) - Replacement of Filter 03 with Filter 08 (10-03, 08-08-2) - Addition of EBC2 Sawdust Loadout 1 (EU 08-26) - Replacement of EBC3 Sawdust Loadout with EBC2 Sawdust Loadout 2 (EU 09-01, EU 08-27) - Removal of 1 Emission unit from Woodworking operations and 1 Wood-Fired Indirect Space Heater (EU 10-01, EU 05-04)
N/A	07/2024	Off-Permit Change	N/A	- Addition of a Boiler Blowdown Water Evaporator (EU 11-02) to handle periodic water blowdowns from existing wood-fired boiler (EU 11).

Please refer to the corresponding permit action for specifics and narrative concerning each respective emission unit. Furthermore, detailed potential emission calculations for the Portable Buck Saw (EU 09-03) are provided in Appendix B.

4. APPLICABLE REQUIREMENTS SUMMARY

Section 4.1 provides general air quality regulatory information for the RS facility, including the facility's status with respect to the Prevention of Significant Deterioration (PSD) and Title V permitting programs. Section 4.2 provides relevant regulatory updates to state and federal air regulatory requirements that are addressed in previous permitting actions occurring subsequent to the initial Title V permit application submitted in 2019. Table 4-1 summarizes the regulatory changes associated with each of these permit actions.

4.1 Source Classification

4.1.1 PSD Permitting Program

The RS facility is located in Laurel County, which has been designated by U.S. Environmental Protection Agency (EPA) as an unclassified/attainment area for all criteria pollutants.¹ Therefore, with respect to the federal New Source Review (NSR) permitting program, only PSD requirements could potentially apply to the source.

The PSD preconstruction permitting program in Kentucky has been approved by the EPA and incorporated into the Kentucky State Implementation Plan (SIP) under 401 KAR 51:017 to implement the federal requirements of 40 CFR 51.166 or 52.21. Requirements for a major source can be summarized as follows:

- One of the 28 listed stationary sources that emits, or has the potential to emit, 100 tons per year (tpy) or more of any regulated NSR pollutant, where fugitive emissions from the listed source category must be included in the total; or
- Any source not belonging to one of the listed source categories that emits, or has the potential to emit, 250 tpy or more of any regulated NSR pollutant, where fugitive emissions are not included in the total.

Based on RS's Standard Industry Classification (SIC) code, it does not belong to one of the 28 listed source categories. As documented in the site-wide emissions summary presented in Appendix B, which includes contributions from the Boiler Blowdown Water Evaporator (EU 11-02) and Portable Buck Saw (EU 09-03), the facility's non-fugitive PTE is below the 250 tpy PSD major source threshold for each regulated criteria air pollutant other than CO. While potential unrestricted CO emissions exceed 250 tpy, RS has accepted a voluntary limit in Section D.3 of the current permit to restrict these emissions to less than 225 tpy. Accordingly, RS represents a minor source with respect to the PSD permitting program.

4.1.2 Title V Permitting Program

40 CFR 70 contains the regulations implementing the federal Title V operating permit program. Kentucky has incorporated the provisions of this federal program in its Title V operating program at 401 KAR 52:020. As specified in 401 KAR 52:001, Section 1(46), a major source with respect to the Title V regulations encompasses facilities with potential emissions of 100 tpy of any regulated pollutant, 10 tpy of any single hazardous air pollutant (HAP), and/or 25 tpy of any combination of HAPs. RS is subject to the applicability of 401 KAR 52:020, *Title V Permits*. Potential non-fugitive site-wide emissions of CO exceed 100 tpy.

¹ 401 KAR 51:010 Sections 4 through 9.

Therefore, the facility represents a major source under the Title V permitting program and is subject to Title V permit requirements under 401 KAR 52:020.

4.2 Regulatory Applicability Review

Table 4-1 identifies newly applicable and revised air requirements triggered as a result of the permit actions undertaken by the RS facility since issuance of the initial Title V permit on June 24, 2020. These entries are sorted chronologically by KDAQ's activity number for each permit action.

Table 4-1. Regulatory Impacts of Recent Permit Actions

APE# from ORR	Date	Type of Permit Action	Corresponding Permit Revision	Regulatory Applicability Changes Associated with Permit Action
APE2020 0003	01/2021	Minor Permit Revision	V-19-029 R1	Natural Gas-Fired Indirect Heat Exchangers subject to 401 KAR 59:015.
APE2021 0001	05/2021	Significant Permit Revision	V-19-029 R1	EU 09-02 redesignated as IA, but must maintain compliance with fugitive requirements under 401 KAR 63:010.
APE2021 0002	07/2021	Administrative Permit Amendments	V-19-029 R1	No new Regulations – Notification of Change of Name and Ownership
APE2024 0002	07/2024	Minor Permit Revision	V-19-029 R2	EU 08-26 designated as IA and must comply with general regulation 401 KAR 63:010.
N/A	07/2024	Off-Permit Change	N/A	As a non-fugitive source of PM emissions, EU 11-02 is subject to 401 KAR 59:010.

Furthermore, as a fugitive source of PM emissions, the Portable Buck Saw (EU 09-03) is subject to 401 KAR 63:010.

APPENDIX A. DEP7007 APPLICATION FORMS

DEP7007AI – Administrative Information
DEP7007DD – Insignificant Activities

Division for Air Quality

300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007AI

Administrative Information

- ☐ Section AI.1: Source Information
☐ Section AI.2: Applicant Information
☐ Section AI.3: Owner Information
☐ Section AI.4: Type of Application
☐ Section AI.5: Other Required Information
☐ Section AI.6: Signature Block
☐ Section AI.7: Notes, Comments, and Explanations

Additional Documentation

None

☐ Additional Documentation attachedSource Name: Cumberland Cooperage, LLC dba Robinson StaveKY EIS (AFS) #: 21- 125-00073Permit #: V-19-029 R2Agency Interest (AI) ID: 2591Date: 12/13/2024

Section AI.1: Source Information

Physical Location Address:	Street:	<u>1812 Highway 3434</u>			
	City:	<u>East Bernstadt</u>	County:	<u>Laurel</u>	Zip Code:
Mailing Address:	Street or P.O. Box:	<u>1812 Highway 3434</u>			
	City:	<u>East Bernstadt</u>	State:	<u>Laurel</u>	Zip Code:

Standard Coordinates for Source Physical Location

Longitude: -84.1093 (decimal degrees) Latitude: 37.1864 (decimal degrees)Primary (NAICS) Category: Wood Container and Pallet
Manufacturing Primary NAICS #: 321920

Classification (SIC) Category:Special Products Sawmill**Primary SIC #:**2429**Briefly discuss the type of business conducted at this site:**

Cumberland Cooperage, LLC dba Robinson Stave manufactures oak bourbon barrels. The manufacturing process proceeds from raw logs to finished barrels and includes debarking, sawing, kiln-drying, planning, assembly, and charring.

Description of Area Surrounding Source:☒ Rural Area☐ Industrial Park☐ Residential Area**Is any part of the source located on federal land?**☐ Yes**Number of Employees:**310☐ Urban Area☐ Industrial Area☒ Commercial Area☒ No**Approximate distance to nearest residence or commercial property:**100 ft**Property Area:**70 acres**Is this source portable?**Yes ☐No ☒**What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?****NPDES/KPDES:**☒ Currently Hold☐ Need☐ N/A**Solid Waste:**☐ Currently Hold☐ Need☒ N/A**RCRA:**☐ Currently Hold☐ Need☒ N/A**UST:**☐ Currently Hold☐ Need☒ N/A**Type of Regulated Waste Activity:**☐ Mixed Waste Generator☒ Generator☐ Recycler☐ Other: _____☐ U.S. Importer of Hazardous Waste☐ Transporter☐ Treatment/Storage/Disposal Facility☒ N/A

Section AI.2: Applicant Information

Applicant Name: Troy Lovegrove

Title: (if individual) President and General Manager

Mailing Address: **Street or P.O. Box:** 1812 Highway 3434
City: East Bernstadt **State:** Kentucky **Zip Code:** 40729

Email: (if individual) troy@robinsonstave.com

Phone: 606-843-2740 x8000

Technical Contact

Name: Maren Seibold

Title: Managing Consultant, Trinity Consultants

Mailing Address: **Street or P.O. Box:** 909 Wright's Summit Pkwy
City: Covington **State:** Kentucky **Zip Code:** 41011

Email: mseibold@trinityconsultants.com

Phone: 859-341-8100 x1804

Air Permit Contact for Source

Name: Andrew Leet

Title: Environmental Engineer

Mailing Address: **Street or P.O. Box:** 113 Great Buffalo Trace
City: Frankfort **State:** Kentucky **Zip Code:** 40601

Email: aleet@sazerac.com

Phone: 859-705-8187

Section AI.3: Owner Information☐ **Owner same as applicant****Name:** Sazerac Distillers, LLC**Title:** _____**Mailing Address:** **Street or P.O. Box:** 10101 Linn Station Road
City: Louisville **State:** Kentucky **Zip Code:** 40223**Email:** _____**Phone:** _____**List names of owners and officers of the company who have an interest in the company of 5% or more.****Name****Position**Cumberland Cooperage, LLC is a wholly owned subsidiary of Sazerac Distillers, LLC

Section AI.4: Type of Application

Current Status:
☒ Title V ☐ Conditional Major ☐ State-Origin ☐ General Permit ☐ Registration ☐ None

Requested Action:
(check all that apply)

☐ Name Change ☐ Initial Registration Significant Revision ☐ Administrative Permit Amendment
☒ Renewal Permit ☐ Revised Registration Minor Revision ☐ Initial Source-wide Operating Permit
☐ 502(b)(10) Change ☐ Extension Request Addition of New Facility ☐ Portable Plant Relocation Notice
☐ Revision ☐ Off Permit Change Landfill Alternate Compliance Submittal ☐ Modification of Existing Facilities
☐ Ownership Change ☐ Closure

Requested Status:
☒ Title V ☐ Conditional Major ☐ State-Origin ☐ PSD ☐ NSR ☐ Other: _____

Is the source requesting a limitation of potential emissions?
☐ Yes ☒ No

Pollutant:
Requested Limit:
☐ Particulate Matter

☐ Volatile Organic Compounds (VOC)

☐ Carbon Monoxide

☐ Nitrogen Oxides

☐ Sulfur Dioxide

☐ Lead

Pollutant:
Requested Limit:
☐ Single HAP

☐ Combined HAPs

☐ Air Toxics (40 CFR 68, Subpart F)

☐ Carbon Dioxide

☐ Greenhouse Gases (GHG)

☐ Other

For New Construction:

 Proposed Start Date of Construction:
 (MM/YYYY)

_____ N/A

Proposed Operation Start-Up Date: (MM/YYYY)

_____ N/A

For Modifications:

 Proposed Start Date of Modification:
 (MM/YYYY)

_____ N/A

Proposed Operation Start-Up Date: (MM/YYYY)

_____ N/A

Applicant is seeking coverage under a permit shield.

☒ Yes ☐ No

Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.

Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

- | | |
|--|--|
| ☐ DEP7007A Indirect Heat Exchangers and Turbines | ☐ DEP7007CC Compliance Certification |
| ☐ DEP7007B Manufacturing or Processing Operations | ☒ DEP7007DD Insignificant Activities |
| ☐ DEP7007C Incinerators and Waste Burners | ☐ DEP7007EE Internal Combustion Engines |
| ☐ DEP7007F Episode Standby Plan | ☐ DEP7007FF Secondary Aluminum Processing |
| ☐ DEP7007J Volatile Liquid Storage | ☐ DEP7007GG Control Equipment |
| ☐ DEP7007K Surface Coating or Printing Operations | ☐ DEP7007HH Haul Roads |
| ☐ DEP7007L Mineral Processes | ☐ Confidentiality Claim |
| ☐ DEP7007M Metal Cleaning Degreasers | ☐ Ownership Change Form |
| ☐ DEP7007N Source Emissions Profile | ☐ Secretary of State Certificate |
| ☐ DEP7007P Perchloroethylene Dry Cleaning Systems | ☐ Flowcharts or diagrams depicting process |
| ☐ DEP7007R Emission Offset Credit | ☐ Digital Line Graphs (DLG) files of buildings, roads, etc. |
| ☐ DEP7007S Service Stations | ☐ Site Map |
| ☐ DEP7007T Metal Plating and Surface Treatment Operations | ☐ Map or drawing depicting location of facility |
| ☐ DEP7007V Applicable Requirements and Compliance Activities | ☐ Safety Data Sheet (SDS) |
| ☐ DEP7007Y Good Engineering Practice and Stack Height Determination | ☐ Emergency Response Plan |
| ☐ DEP7007AA Compliance Schedule for Non-complying Emission Units | ☐ Other: _____ |
| ☐ DEP7007BB Certified Progress Report | |

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.


Authorized Signature

12/13/2024

Date

Troy Lovegrove

General Manager and President

Type or Printed Name of Signatory

Title of Signatory

*Responsible official as defined by 401 KAR 52:001.

Section AI.7: Notes, Comments, and Explanations

While Section AI.4 of this form does not request a limitation on potential emissions as part of this renewal permit, Robinson Stave requests that the current limitation on site-wide CO emissions established Section D.3 of the current permit be maintained in the renewal permit.

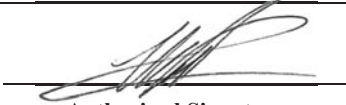
Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	DEP7007DD Insignificant Activities Section DD.1: Table of Insignificant Activities Section DD.2: Signature Block Section DD.3: Notes, Comments, and Explanations
Source Name:	Cumberland Cooperage, LLC dba Robinson Stave
KY EIS (AFS) #:	21- 125-00073
Permit #:	V-19-029 R2
Agency Interest (AI) ID:	2591
Date:	12/13/2024

Section DD.1: Table of Insignificant Activities				
*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.				
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
01-15	Stave Mill 1 Debarker Stockpile	01-15 Stave Mill 1 Debarker Stockpile	401 KAR 63:010	2.43 tpy PM 2.06 tpy PM10 1.21 tpy PM2.5
01-16	Stave Mill 1 Dust Stockpile	01-16 Stave Mill 1 Dust Stockpile	401 KAR 63:010	4.18 tpy PM 3.56 tpy PM10 2.09 tpy PM2.5
03-09	8 Lumber Kilns (Boiler Building)	03-09 8 Lumber Kilns (Boiler Building)	401 KAR 59:010	2.41 tpy CO 2.16E-3 tpy Acetaldehyde
07	Gas Metal Arc Welding (Plantwide)	07 Gas Metal Arc Welding (Plantwide)	401 KAR 59:010	0.02 tpy PM 0.02 tpy PM10 0.02 tpy PM2.5 1.00E-6 tpy CO
08	Yard Area/Haul Road (Plantwide)	08 Yard Area/Haul Road (Plantwide)	401 KAR 63:010	3.81 tpy PM 3.81 tpy PM10 3.81 tpy PM2.5
08-05	EBC2 Heat Tunnel	08-05 EBC2 Heat Tunnel	401 KAR 63:020	0.13 tpy PM 0.13 tpy PM10 0.13 tpy PM2.5 1.72 tpy NOx 1.44 tpy CO
08-16	EBC2 Steam Tunnel 01	08-16 EBC2 Steam Tunnel 01	N/A	N/A
08-17	EBC2 Steam Tunnel 02	08-17 EBC2 Steam Tunnel 02	N/A	N/A
08-26	EBC2 Sawdust Loadout 1	08-26 EBC2 Sawdust Loadout 1	401 KAR 63:010	1.03 tpy PM 0.88 tpy PM10 0.52 tpy PM2.5
08-27	EBC2 Sawdust Loadout 2	08-27 EBC2 Sawdust Loadout 2	401 KAR 63:010	4.38 tpy PM 3.72 tpy PM10 2.19 tpy PM2.5
09-02	Outdoor Wood Particle Handling	09-02 Outdoor Wood Particle Handling	401 KAR 63:010	1.73 tpy PM 0.82 tpy PM10 0.12 tpy PM2.5
14-01	2,000-Gallon Off-Road Diesel Fuel Storage Tank	14-01 2,000-Gallon Off-Road Diesel Fuel Storage Tank	N/A	5.94E-4 tpy VOC
14-02	10,000-Gallon On-Road Diesel Fuel Storage Tank	14-02 10,000-Gallon On-Road Diesel Fuel Storage Tank	N/A	6.87E-3 tpy VOC
14-03	550-Gallon Diesel Exhaust Fluid Storage Tank	14-03 550-Gallon Diesel Exhaust Fluid Storage Tank	N/A	<0.001 tpy VOC
14-04	10,000-Gallon On-Road Diesel Fuel Storage Tank	14-04 10,000-Gallon On-Road Diesel Fuel Storage Tank	N/A	3.36E-3 tpy VOC

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
08-19	Vycar Coating Application	08-19 Vycar Coating Application	401 KAR 63:010 401 KAR 63:020	3.67 tpy PM 3.67 tpy PM10 3.67 tpy PM2.5 0.07 tpy VOC
18	Natural Gas-Fired Space Heaters	18 Natural Gas-Fired Space Heaters	401 KAR 59:010 401 KAR 63:020	0.05 tpy PM 0.05 tpy PM10 0.05 tpy PM2.5 0.69 tpy NOx 0.58 tpy CO 0.04 tpy VOC
11-02	Boiler Blowdown Water Evaporator (50 Gal)	11-02 Boiler Blowdown Water Evaporator (50 Gal)	401 KAR 59:010	0.03 tpy PM 0.002 tpy PM10 3.32E-5 tpy PM2.5
09-03	Portable Bucksaw	09-03 Portable Bucksaw	401 KAR 63:010	4.88 tpy PM 2.44 tpy PM10 1.22 tpy PM2.5

Section DD.2: Signature Block

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

By:		12/13/2024
	Authorized Signature	Date
	Troy Lovegrove	General Manager and President
	Type/Print Name of Signatory	Title of Signatory

Section DD.3: Notes, Comments, and Explanations

The DD.1 form includes emission units identified as Insignificant Activities in Permit No. V-19-029 R2, as well as the Boiler Blowdown Water Evaporator (EU 11-02) characterized by the Off-Permit Change Notification submitted on September 5, 2024 and the Portable Buck Saw (EU 09-03) characterized by this renewal application.

APPENDIX B. EMISSIONS CALCULATIONS

Portable Buck Saw Potential Emissions
Facility-Wide Potential Emissions

B-1. EU 09-03 Portable Buck Saw

- > This emission unit represents the portable buck saw, which is a mobile chainsaw that can be moved to different locations around the site using loader equipment. The saw is moved to the location of the logs to be cut, where the knuckle boom operator remotely operates the chainsaw while holding the log with the knuckle boom. The portable buck saw is then returned to storage after use.

B-1.1 Source Classification Code

- > Emissions for this unit are tied to the SCC code for the operations listed below.

SCC: 30700802
 SCC Description: Industrial Processes, Pulp and Paper and Wood Products (3-07), Sawmill Operations (3-07-008), Log Sawing (3-07-008-02)
 SCC Units: Tons Logs Processed

B-1.2 Process Rate

Maximum Operating Hours:	8,760 hr/yr	
Maximum Hourly Throughput of Bull Saw:	63.7 ton/hr	Per engineering analysis
Maximum Fraction of Bull Saw Throughput Processed by Buck Saw:	5%	Engineering estimate
Maximum Hourly Throughput of Buck Saw:	3.2 ton/hr	Calculation
Maximum Annual Throughput of Buck Saw:	27,890 tpy	Calculation

B-1.1 Emission Calculation Methodology and Emission Factors

- > Uncontrolled emission factors before the use of fabric filters are based on EPA Memorandum "Particulate Matter Potential to Emit Emission Factors for Activities at Sawmills, Excluding Boilers, Located in Pacific Northwest Indian Country" (5/8/2014). Uncontrolled emission factors are converted from lb/ton log as provided in the EPA Memo to the applicable SCC designation.

Pollutant	Emission Factor (lb/ton log)	Emission Factor Basis
PM	0.350	2014 EPA Memo - Sawing
PM10	0.175	2014 EPA Memo - Sawing
PM2.5	0.088	2014 EPA Memo - Sawing

B-1.2 Summary of Potential Emissions

Pollutant	Emission Factor (lb/SCC)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Emission Factor Basis
PM	0.350	1.11	4.88	2014 EPA Memo - Sawing
PM10	0.175	0.56	2.44	2014 EPA Memo - Sawing
PM2.5	0.088	0.28	1.22	2014 EPA Memo - Sawing

Appendix B-2. Facility-Wide Potential-to-Emit Summary

The following table summarizes site-wide potential emissions from the East Bernstadt facility as of the submittal date of the 2024 Title V permit renewal application.

Table B-2. Facility-Wide Potential to Emit Summary - 2024 Title V Permit Renewal Application

Title V Emission Unit ID	Title V Emission Group	Emission Unit Description	KyEIS Process ID	Maximum Design Capacity (SCC/hr)	Uncontrolled Emission Factor								Annual Controlled Emissions							
					PM (lb/SCC)	PM ₁₀ (lb/SCC)	PM _{2.5} (lb/SCC)	NO _x (lb/SCC)	CO (lb/SCC)	VOC (lb/SCC)	SOX (lb/SCC)	Acetaldehyde (lb/SCC)	PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	NO _x (tpy)	CO (tpy)	VOC (tpy)	SO _x (tpy)	Acetaldehyde (tpy)
11	Wood-fired Indirect Heat Exchanger	Superior Boiler Works, Inc. #4-X-1506	01	0.72 ton/hr	6.80	6.08	5.22	2.67	7.29	0.21	0.30	--	1.067	0.953	0.819	8.383	22.864	0.648	0.953	--
01-19	Non-fugitive Wood Operations	Stave Mill 1 Woodworking Operations	01	7.96 MBft/hr	2.80	1.40	0.70	--	--	--	--	--	10.249	9.761	9.761	--	--	--	--	--
08-01	Non-fugitive Wood Operations	EBC2 Woodworking Operations 01 Stave Prep	01	12.58 ton/hr	0.35	0.18	0.09	--	--	--	--	--	0.386	0.193	0.096	--	--	--	--	--
08-02	Non-fugitive Wood Operations	EBC2 Woodworking Operations 02 Stave Finishing	01	11.78 ton/hr	0.35	0.18	0.09	--	--	--	--	--	0.361	0.181	0.090	--	--	--	--	--
08-24 ²	Non-fugitive Wood Operations	EBC2 Woodworking Operations 03 Head Finishing	01	3.43 ton/hr	0.35	0.18	0.09	--	--	--	--	--	0.105	0.053	0.026	--	--	--	--	--
08-25 ³	Non-fugitive Wood Operations	EBC2 Wood Waste Hog	01	1.25 MBft/hr	2.80	1.40	0.70	--	--	--	--	--	0.767	0.383	0.192	--	--	--	--	--
08-08	Non-fugitive Wood Operations	EBC2 Woodworking Operations 04 Crozier Cutting and Bung Drilling	01	10.47 ton/hr	0.35	0.18	0.09	--	--	--	--	--	0.802	0.401	0.201	--	--	--	--	--
08-12	Non-fugitive Wood Operations	EBC2 Waste Wood Grinder	01	2.36 ton/hr	0.35	0.18	0.09	--	--	--	--	--	0.181	0.090	0.045	--	--	--	--	--
08-04	Natural Gas-fired Charring Operations	Barrel Charring 02	01	6.31 ton/hr	0.19	0.17	0.15	0.23	10.10	0.01	0.01	--	5.230	4.707	4.053	6.41	279.01	0.22	0.01	--
08-04	Natural Gas-fired Charring Operations	Barrel Charring 02	02	4.00E-04 MMscf/hr	7.60	7.60	7.60	100.00	84.00	5.50	0.60	--	0.013	0.013	0.013	0.18	0.15	0.01	1.05E-03	--
08-07	Natural Gas-fired Charring Operations	Head Charring 02	01	1.62 ton/hr	0.19	0.17	0.15	0.23	10.10	0.01	0.01	--	1.343	1.209	1.041	1.65	71.66	0.06	0.08	--
08-07	Natural Gas-fired Charring Operations	Head Charring 02	02	1.00E-04 MMscf/hr	7.60	7.60	7.60	100.00	84.00	5.50	0.60	--	0.003	0.003	0.003	0.04	0.04	2.41E-03	2.63E-04	--
08-13	Natural Gas-fired Indirect Heat Exchangers	EBC2 Boiler 01	01	1.31E-03 MMscf/hr	7.60	7.60	7.60	100.00	84.00	5.50	0.60	--	0.044	0.044	0.044	0.57	0.48	0.032	3.45E-03	--
08-23	Natural Gas-fired Indirect Heat Exchangers	EBC2 Boiler 02	01	1.31E-03 MMscf/hr	7.60	7.60	7.60	100.00	84.00	5.50	0.60	--	0.044	0.044	0.044	0.57	0.48	0.032	3.45E-03	--
08-18	Natural Gas-fired Indirect Heat Exchangers	EBC2 Boiler 03	01	5.15E-03 MMscf/hr	7.60	7.60	7.60	86.71	37.70	5.50	0.60	--	0.171	0.171	0.171	1.95	0.85	0.124	0.01	--
13	Fugitive Wood Operations	Dust Yard Grinder	01	7.06 ton/hr	0.35	0.18	0.09	--	--	--	--	--	10.823	5.411	2.706	--	--	--	--	--
13	Fugitive Wood Operations	Dust Yard Stockpiles	02	7.06 ton/hr	0.56	0.28	0.14	--	--	--	--	--	17.182	8.591	4.296	--	--	--	--	--
01-14	Fugitive Wood Operations	Stave Mill 1 Bull Saw	01	63.68 ton/hr	0.35	0.18	0.09	--	--	--	--	--	97.614	48.807	24.403	--	--	--	--	--
01-17	Fugitive Wood Operations	Stave Mill 1 Chipper	01	16.56 ton/hr	0.35	0.18	0.09	--	--	--	--	--	25.380	12.690	6.345	--	--	--	--	--
01-13	Fugitive Wood Operations	Stave Mill 1 Debarker	01	8.65 MBft/hr	0.19	0.10	0.05	--	--	--	--	--	7.276	3.638	1.819	--	--	--	--	--
01-18	Fugitive Wood Operations	Stave Mill 1 Chipper Stockpile	01	16.56 ton/hr	0.100	0.085	0.050	--	--	--	--	--	7.251	6.164	3.626	--	--	--	--	--

Table B-2. Facility-Wide Potential to Emit Summary - 2024 Title V Permit Renewal Application

Title V Emission Unit ID	Title V Emission Group	Emission Unit Description	KyEIS Process ID	Maximum Design Capacity (SCC/hr)		Uncontrolled Emission Factor								Annual Controlled Emissions							
						PM (lb/SCC)	PM ₁₀ (lb/SCC)	PM _{2.5} (lb/SCC)	NO _x (lb/SCC)	CO (lb/SCC)	VOC (lb/SCC)	SOX (lb/SCC)	Acetaldehyde (lb/SCC)	PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	NO _x (tpy)	CO (tpy)	VOC (tpy)	SO _x (tpy)	Acetaldehyde (tpy)
08-19	Insignificant Activities	Vycar Coating Application	01	1.88	gal/hr	0.98	0.98	0.98	--	--	0.02	--	--	3.67	3.67	3.67	--	--	0.07	--	--
07	Insignificant Activities	Gas Metal Arc Welding (Plantwide)	01	2.28E-04	1000 lb/hr	24.10	24.10	24.10	--	1.00E-03	--	--	--	0.024	0.024	0.024	--	1.00E-06	--	--	--
08	Insignificant Activities	Yard Area/Haul Road (Plantwide)	01	5.38	ton/hr	0.16	0.16	0.16	--	--	--	--	--	3.815	3.815	3.815	--	--	--	--	--
08-05	Insignificant Activities	EBC2 Heat Tunnel	01	3.92E-03	MMscf/hr	7.60	7.60	7.60	100.00	84.00	5.50	0.60	--	0.131	0.131	0.131	1.72	1.44	0.094	0.01	--
08-16	Insignificant Activities	EBC2 Steam Tunnel 01	01	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
08-17	Insignificant Activities	EBC2 Steam Tunnel 02	01	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
08-26 ⁴	Insignificant Activities	EBC2 Sawdust Loadout 1	01	2.36	ton/hr	0.10	0.09	0.05	--	--	--	--	--	1.034	0.879	0.517	--	--	--	--	--
08-27 ⁵	Insignificant Activities	EBC2 Sawdust Loadout 2	01	10.00	ton/hr	0.10	0.09	0.05	--	--	--	--	--	4.380	3.723	2.190	--	--	--	--	--
09-02	Insignificant Activities	Outdoor Wood Particle Handling	01	14.30	ton/hr	0.028	0.013	1.97E-03	--	--	--	--	--	1.726	0.817	0.124	--	--	--	--	--
01-15	Insignificant Activities	Stave Mill 1 Debarker Stockpile	01	5.54	ton/hr	0.10	0.09	0.05	--	--	--	--	--	2.425	2.061	1.213	--	--	--	--	--
01-16	Insignificant Activities	Stave Mill 1 Dust Stockpile	01	9.55	ton/hr	0.10	0.09	0.05	--	--	--	--	--	4.183	3.556	2.092	--	--	--	--	--
03-09	Insignificant Activities	8 Lumber Kilns (Boiler Building)	01	1.54	Mbt/hr	--	--	--	--	--	0.36	--	3.20E-04	--	--	--	--	--	2.41	--	2.16E-03
02-08	Insignificant Activities	0.813 MMBtu/hr Indirect-fired Space Heater 02	01	0.07	Tons/hr	4.13	3.63	3.13	2.75	7.50	0.21	0.31	--	1.176	1.033	0.891	0.78	2.14	0.06	0.09	--
14-01	Insignificant Activities	2,000-Gallon Off-Road Diesel Fuel Storage Tank	01	0.01	Mgal/hr	--	--	--	--	--	0.012	--	--	--	--	--	--	--	5.94E-04	--	--
14-02	Insignificant Activities	10,000-Gallon On-Road Diesel Fuel Storage Tank	01	0.06	Mgal/hr	--	--	--	--	--	0.027	--	--	--	--	--	--	--	6.87E-03	--	--
14-03	Insignificant Activities	550-Gallon Diesel Exhaust Fluid Storage Tank	01	na	na	--	--	--	--	--	na	--	--	--	--	--	--	--	na	--	--
14-04	Insignificant Activities	10,000-Gallon On-Road Diesel Fuel Storage Tank	01	0.06	Mgal/hr	--	--	--	--	--	0.013	--	--	--	--	--	--	--	3.36E-03	--	--
11-02	Insignificant Activities	Boiler Blowdown Water Evaporator	01	0.30	Gal/hr	0.03	1.74E-03	2.55E-05	--	--	--	--	--	0.03	2.27E-03	3.32E-05	--	--	--	--	--
09-03	Insignificant Activities	Portable Buck Saw	01	3.18	ton/hr	0.35	1.75E-01	8.75E-02	--	--	--	--	--	4.88	2.440	1.220	--	--	--	--	--
18	Insignificant Activities	Natural Gas-Fired Space Heaters	01	1.57E-03	MMscf/hr	7.60	7.60	7.60	100.00	84.00	5.50	0.60	--	0.052	0.052	0.052	0.69	0.58	0.038	0.00	--
Total Potential Emissions						--	--	--	--	--	--	--	--	213.8	125.7	75.7	22.9	379.7	3.8	1.17	2.16E-03
Total Non-Fugitive Emissions						--	--	--	--	--	--	--	--	22.2	19.4	17.7	22.9	379.7	3.7	1.17	2.16E-03

¹ SOx is representative of SO2 emissions, these terms are used synonymously throughout this application.

² Includes emission units identified in Permit No. V-19-029 R2, as well as the Boiler Blowdown Water Evaporator (EU 11-02, insignificant activity) characterized by the Off-Permit Change Notification submitted on September 5, 2024 and the Portable Buck Saw (EU 09-03, insignificant activity) characterized by this renewal application.

³ Conservatively estimates emissions using 10 ton per hour wood throughput.

⁴ Includes emissions from loadout material routed from Cyclone 05.

⁵ Includes emissions from loadout material routed from Cyclone 08.



September 5, 2024

Submitted Electronically via Kentucky Online Gateway/EEC eForms

Michael Kennedy
Kentucky Division for Air Quality
300 Sower Blvd., 2nd Floor
Frankfort, KY 40601-1403
michael.kennedy@ky.gov

**RE: Off-Permit Change Notification for Boiler Blowdown Water Evaporator
Cumberland Cooperage LLC dba Robinson Stave – East Bernstadt, Kentucky
Source ID#: 21-125-00073
AI #: 2591**

Dear Michael:

Cumberland Cooperage LLC dba Robinson Stave (RS), owned by Sazerac Distillers LLC operates a cooperage in East Bernstadt (East Bernstadt Facility) that produces wood barrels for the bourbon industry. The East Bernstadt Facility is currently regulated as a major source under the Title V operating permit program and specifically operates under Title V Permit No. V-19-029 R1, originally issued by the Kentucky Division for Air Quality (KDAQ) on June 24, 2020, and most recently revised on October 17, 2021.

The East Bernstadt Facility employs a variety of auxiliary systems to support stave and head manufacturing processes. Through this submittal, RS is seeking to:

- Provide notice to KDAQ of its planned addition of a new emission unit, Boiler Blowdown Water Evaporator (EU 11-02), which will handle periodic blowdown water from the existing Wood-fired Indirect Heat Exchanger (EU 11).

In accordance with 401 KAR 52:020, Section 17, RS is hereby submitting this off-permit change notification to characterize the regulatory implications and emission impacts associated with this project. This notification letter also assesses the qualifications for processing this submittal as an off-permit change and includes application forms in Attachment 1 to facilitate the processing of this notification and potential calculations for the new Boiler Blowdown Water Evaporator in Attachment 2.

Potential Emission Calculations

Boiler Blowdown Water Evaporator (EU 11-02)

RS plans to install a 50-gallon evaporator to handle periodic water blowdowns from the existing wood-fired boiler (EU 11). The existing boiler requires a blowdown approximately once per week to maintain water quality and prevent the buildup of solids at the bottom of the tank. Attachment 2 presents the methodology used to calculate PM, PM₁₀, and PM_{2.5} emissions from the evaporation of this weekly boiler blowdown water. Although the evaporator is operated for a different purpose than a cooling tower, particulate emissions from both source categories result from the evaporation of water containing dissolved solids. Accordingly, emissions from the evaporator are calculated based on an interpolation of particle size distribution data presented in *Calculating Realistic PM₁₀ Emissions from Cooling Towers* by Joel Reisman and Gordan Frisbie (2002). PM₁₀ is estimated to be approximately 7% of total PM, while PM_{2.5} is estimated to be approximately 0.1% of total PM. The following table summarizes the results of these calculations, which are detailed in Attachment 2:

Table 1. Potential Emissions from Boiler Blowdown Water Evaporator

Pollutant	Annual PTE (tpy)
PM	0.03
PM10	0.002
PM2.5	3.32 x 10 ⁻⁵

Because potential PM emissions produced from the blowdown process are less than 5 tons per year (tpy), the Boiler Blowdown Water Evaporator qualifies for treatment as an Insignificant Activity (IA) under 401 KAR 52:020, Section 6.

Regulatory Review

401 KAR 52:020 Section 6 – Insignificant Activities

The following bulleted list demonstrates that EU 11-02 meets requirements for IAs set forth in 401 KAR 52:020, Section 6:

- The PTE from each activity shall not exceed:
 - o One-half (1/2) tpy of combined HAPs; or
 - o Five (5) tpy of a nonhazardous regulated air pollutant.

Emissions from EU 11-02 do not exceed these thresholds; refer to Attachment 2 for detailed emissions calculations regarding this unit.

- The activity shall not involve the incineration of medical waste.

EU 11-02 does not involve the incineration of medical waste.

- This activity shall not be subject to a federally enforceable requirement, other than generally applicable requirements.

This unit is not subject to any federally enforceable requirement.

- The sum of the PTE from all insignificant activities, when added with the source's other potential emissions, shall not cause the source to exceed a major source threshold.

The addition of EU 11-02 will not impact the site's major source status.

Since EU 11-02 meets these criteria, it qualifies for designation as an IA pursuant to 401 KAR 52:020, Section 6.

401 KAR 59:010 – New Process Operations

Pursuant to 401 KAR 59:010 Section 1(1), *the provisions of this administrative regulation shall apply to each affected facility or source, associated with a process operation, which is not subject to another emission standard with respect to particulates in this chapter.*

Since PM emissions from the Boiler Blowdown Water Evaporator are not regulated elsewhere, the new EU is subject to 401 KAR 59:010 requirements. Thus, pursuant to 401 KAR 59:010 Section 3(1)(a), the Boiler Blowdown Water Evaporator shall not cause or permit any continuous emissions from the associated outfall which are equal to or greater than twenty (20) percent opacity. Under the Process Weight Rule per Section 3(1)(b), the PM emission rate cannot exceed 2.34 lbs/hour as the average hourly process weight throughput is less than 1,000 lbs/hour. The emissions calculations in Attachment 2 demonstrate compliance with this hourly limit. RS will ensure compliance by performing monthly visual observations, as required by the current permit for other IAs subject to 401 KAR 59:010 requirements.

Qualification for Processing as Off-Permit Change

In Kentucky, off-permit changes are any changes that are not modifications under Title I of the [Clean Air] Act, are not subject to the Acid Rain Program, do not violate any existing terms or conditions of the permit, and meet all applicable requirements.

- The additions of the new process operations do not constitute a modification under Title I of the Act. The projected emissions increases associated with the additions do not trigger PSD permitting requirements.
- The facility is not subject to the Acid Rain Program.
- The new process operations will not violate any existing terms or conditions of the permit. RS will continue to comply with existing the facility-wide CO limit following this off-permit change as no processes have an impact on the existing CO emission rate.

RS has included DEP7007AI and DD forms in Attachment 1 to provide KDAQ with the necessary administrative information to process this notification.

Required Information for Off-Permit Change Notification

The following bullet list demonstrates that the contents of this letter meet the off-permit change notification requirements in 401 KAR 52:020, Section 17(2):

- A brief description of the change.

Refer to the introductory paragraphs of this notification letter.

- The date on which the change will occur.

See application forms in Attachment 1 for construction information.

- Any change in emissions or pollutants that result from the change.

Refer to the detailed emission calculations for the new heaters provided in Attachment 2.

- Any new applicable requirements that will apply after the change.

As described in this notification, RS will comply with applicable regulations set forth in the "Regulatory Review" section.

Certification Statement

As the responsible official for the East Bernstadt facility, I hereby certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the following documents are true, accurate, and complete.

If you have any questions regarding the information that is contained in this letter or the attached report, please do not hesitate to call me at (606) 843-2740 ext. 8000.

Sincerely,

Robinson Stave – East Bernstadt, Kentucky



Troy Lovegrove
General Manager and President

Cc: Kelvin Napier, Robinson Stave
Andrew Leet, Sazerac
Heather Davis, Heather Davis Law, PLLC
Maren Seibold, Trinity Consultants
Erek Hansen, Trinity Consultants

Attachments: Attachment 1 – Application Forms
Attachment 2 – Emission Calculations

ATTACHMENT 1

Application Forms

Division for Air Quality

300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007AI

Administrative Information

- ☐ Section AI.1: Source Information
☐ Section AI.2: Applicant Information
☐ Section AI.3: Owner Information
☐ Section AI.4: Type of Application
☐ Section AI.5: Other Required Information
☐ Section AI.6: Signature Block
☐ Section AI.7: Notes, Comments, and Explanations

Additional Documentation

None

☐ Additional Documentation attachedSource Name: Cumberland Cooperage, LLC dba Robinson StaveKY EIS (AFS) #: 21- 125-00073Permit #: V-19-029 R1Agency Interest (AI) ID: 2591Date: 9/4/2024

Section AI.1: Source Information

Physical Location Address:	Street:	<u>1812 Highway 3434</u>				
	City:	<u>East Bernstadt</u>	County:	<u>Laurel</u>	Zip Code:	<u>40729</u>
Mailing Address:	Street or P.O. Box:	<u>1812 Highway 3434</u>				
	City:	<u>East Bernstadt</u>	State:	<u>Laurel</u>	Zip Code:	<u>40729</u>

Standard Coordinates for Source Physical Location

Longitude: -84.1093 (decimal degrees) Latitude: 37.1864 (decimal degrees)Primary (NAICS) Category: Wood Container and Pallet
Manufacturing Primary NAICS #: 321920

Classification (SIC) Category:Special Products Sawmill**Primary SIC #:**2429**Briefly discuss the type of business conducted at this site:**

Cumberland Cooperage, LLC dba Robinson Stave manufactures oak bourbon barrels. The manufacturing process proceeds from raw logs to finished barrels and includes debarking, sawing, kiln-drying, planning, assembly, and charring.

Description of Area Surrounding Source:☒ Rural Area☐ Industrial Park☐ Residential Area**Is any part of the source located on federal land?**☐ Yes**Number of Employees:**310☐ Urban Area☐ Industrial Area☒ Commercial Area☒ No**Approximate distance to nearest residence or commercial property:**100 ft**Property Area:**70 acres**Is this source portable?**

Yes

☐ No☒**What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?****NPDES/KPDES:**☒ Currently Hold☐ Need☐ N/A**Solid Waste:**☐ Currently Hold☐ Need☒ N/A**RCRA:**☐ Currently Hold☐ Need☒ N/A**UST:**☐ Currently Hold☐ Need☒ N/A**Type of Regulated Waste Activity:**☐ Mixed Waste Generator☒ Generator☐ Recycler☐ Other: _____☐ U.S. Importer of Hazardous Waste☐ Transporter☐ Treatment/Storage/Disposal Facility☒ N/A

Section AI.2: Applicant Information

Applicant Name: Troy Lovegrove

Title: (if individual) President and General Manager

Mailing Address: **Street or P.O. Box:** 1812 Highway 3434
City: East Bernstadt **State:** Kentucky **Zip Code:** 40729

Email: (if individual) troy@robinsonstave.com

Phone: 606-843-2740 x8000

Technical Contact

Name: Maren Seibold

Title: Managing Consultant, Trinity Consultants

Mailing Address: **Street or P.O. Box:** 909 Wright's Summit Pkwy
City: Covington **State:** Kentucky **Zip Code:** 41011

Email: mseibold@trinityconsultants.com

Phone: 859-341-8100 x1804

Air Permit Contact for Source

Name: Same as Technical Contact

Title: _____

Mailing Address: **Street or P.O. Box:** _____
City: _____ **State:** _____ **Zip Code:** _____

Email: _____

Phone: _____

Section AI.3: Owner Information☐ **Owner same as applicant****Name:** Sazerac Distillers, LLC**Title:** _____**Mailing Address:** **Street or P.O. Box:** 10101 Linn Station Road
City: Louisville **State:** Kentucky **Zip Code:** 40223**Email:** _____**Phone:** _____**List names of owners and officers of the company who have an interest in the company of 5% or more.****Name****Position**Cumberland Cooperage, LLC is a wholly owned subsidiary of Sazerac Distillers, LLC

Section AI.4: Type of Application

Current Status:
☒ Title V ☐ Conditional Major ☐ State-Origin ☐ General Permit ☐ Registration ☐ None

Requested Action:
(check all that apply)

☐ Name Change ☐ Initial Registration Significant Revision ☐ Administrative Permit Amendment
☐ Renewal Permit ☐ Revised Registration Minor Revision ☐ Initial Source-wide Operating Permit
☐ 502(b)(10) Change ☐ Extension Request Addition of New Facility ☐ Portable Plant Relocation Notice
☐ Revision ☒ Off Permit Change Landfill Alternate Compliance Submittal ☐ Modification of Existing Facilities
☐ Ownership Change ☐ Closure

Requested Status:
☒ Title V ☐ Conditional Major ☐ State-Origin ☐ PSD ☐ NSR ☐ Other: _____

Is the source requesting a limitation of potential emissions?
☐ Yes ☒ No

Pollutant:
Requested Limit:
☐ Particulate Matter

☐ Volatile Organic Compounds (VOC)

☐ Carbon Monoxide

☐ Nitrogen Oxides

☐ Sulfur Dioxide

☐ Lead

Pollutant:
Requested Limit:
☐ Single HAP

☐ Combined HAPs

☐ Air Toxics (40 CFR 68, Subpart F)

☐ Carbon Dioxide

☐ Greenhouse Gases (GHG)

☐ Other

For New Construction:

 Proposed Start Date of Construction:
 (MM/YYYY)

 ≥7 Days Following
 Notification

Proposed Operation Start-Up Date: (MM/YYYY)

 ≥7 Days Following
 Notification

For Modifications:

 Proposed Start Date of Modification:
 (MM/YYYY)

N/A

Proposed Operation Start-Up Date: (MM/YYYY)

N/A

Applicant is seeking coverage under a permit shield.

☒ Yes ☐ No

Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.

Section AI.5 Other Required Information

7007AI

Indicate the documents attached as part of this application:

- | | |
|--|---|
| ☐ DEP7007A Indirect Heat Exchangers and Turbines | ☐ DEP7007CC Compliance Certification |
| ☐ DEP7007B Manufacturing or Processing Operations | ☒ DEP7007DD Insignificant Activities |
| ☐ DEP7007C Incinerators and Waste Burners | ☐ DEP7007EE Internal Combustion Engines |
| ☐ DEP7007F Episode Standby Plan | ☐ DEP7007FF Secondary Aluminum Processing |
| ☐ DEP7007J Volatile Liquid Storage | ☐ DEP7007GG Control Equipment |
| ☐ DEP7007K Surface Coating or Printing Operations | ☐ DEP7007HH Haul Roads |
| ☐ DEP7007L Mineral Processes | ☐ Confidentiality Claim |
| ☐ DEP7007M Metal Cleaning Degreasers | ☐ Ownership Change Form |
| ☐ DEP7007N Source Emissions Profile | ☐ Secretary of State Certificate |
| ☐ DEP7007P Perchloroethylene Dry Cleaning Systems | ☐ Flowcharts or diagrams depicting process |
| ☐ DEP7007R Emission Offset Credit | ☐ Digital Line Graphs (DLG) files of buldings, roads, etc. |
| ☐ DEP7007S Service Stations | ☐ Site Map |
| ☐ DEP7007T Metal Plating and Surface Treatment Operations | ☐ Map or drawing depicting location of facility |
| ☐ DEP7007V Applicable Requirements and Compliance Activities | ☐ Safety Data Sheet (SDS) |
| ☐ DEP7007Y Good Engineering Practice and Stack Height Determination | ☐ Emergency Response Plan |
| ☐ DEP7007AA Compliance Schedule for Non-complying Emission Units | ☐ Other: _____ |
| ☐ DEP7007BB Certified Progress Report | |

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.



Authorized Signature9/5/2024

Date

Troy Lovegrove

Type or Printed Name of Signatory

General Manager and President

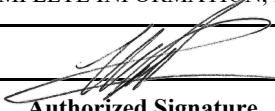
Title of Signatory

*Responsible official as defined by 401 KAR 52:001.

Section AI.7: Notes, Comments, and Explanations

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	DEP7007DD Insignificant Activities ___ Section DD.1: Table of Insignificant Activities ___ Section DD.2: Signature Block ___ Section DD.3: Notes, Comments, and Explanations
Source Name:	<u>Cumberland Cooperage, LLC dba Robinson Stave</u>
KY EIS (AFS) #:	<u>21- 125-00073</u>
Permit #:	<u>V-19-029 R1</u>
Agency Interest (AI) ID:	<u>2591</u>
Date:	<u>9/4/2024</u>

Section DD.1: Table of Insignificant Activities				
*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.				
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
11-02	Boiler Blowdown Water Evaporator (50 Gal)	N/A	401 KAR 59:010	See Attachment 2

Section DD.2: Signature Block	
I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.	
By:	 _____ Authorized Signature <u>Troy Lovegrove</u> _____ Type/Print Name of Signatory
	<u>9/5/2024</u> _____ Date <u>General Manager and President</u> _____ Title of Signatory

Section DD.3: Notes, Comments, and Explanations
Only Insignificant Activities pertinent to this off-permit change application are included in the DD.1 form.

ATTACHMENT 2

Emission Calculations

1. Boiler Blowdown Water Evaporator, 11-02

- > As boiler water is converted to steam during normal operations, the concentration of dissolved solids in the remaining boiler water increases. To maintain boiler water quality and prevent the buildup of solids at the bottom of the tank, this boiler water is periodically "blown down" and replenished with fresh water. Robinson Stave uses an evaporator to handle the boiler blowdown water. PM emissions result from the evaporation of this boiler blowdown water containing suspended solids. No water treatment chemicals containing VOC/HAP are used in the boiler water. Additionally, the water in the boiler will not come into contact with any process materials containing VOC/HAP. Therefore, the boiler blowdown water evaporator is not a quantifiable source of VOC/HAP emissions.

Emission Unit IDs: IA 11-02

Emission Unit Descriptions: Boiler Blowdown Water Evaporator

1.1 Methodology for Quantifying Potential PM Emissions

- > Potential PM emissions from the evaporation of boiler blowdown water are estimated based on the calculation methodology presented in "Calculating Realistic PM10 Emissions from Cooling Towers" by Joe Reisman and Gordon Frisbie, Environmental Progress, Volume 21, Issue 2 (April 20, 2004) (herein referred to as Reisman Frisbie).

1.1.1 Boiler Blowdown Water Evaporator Design Values

Parameter	Value	Basis
Boiler Blowdown Water Evaporator Throughput Rate	4.96E-03 gal/min 2.98E-07 MMgal/hr	Engineering estimate = 4.96E-03 gal/min x 60 min/hr / 1E6 gal/MMgal
Total Dissolved Solids (TDS) of Recirculating	3,000 ppm	Conservative engineering estimate
Density of Water	8.34	
Hourly Water Throughput	2.48 lb/hr	
Drift Percentage for Evaporator	100 %	Design specification

1.1.2 Boiler Blowdown Water Evaporator PM Emission Factor

- > The PM emission factor derivation is shown below using the boiler blowdown water evaporator throughput rate.

Parameter	Value	Basis
Boiler Blowdown Water Evaporator PM Emission Rate	25,020 lb solid/MMgal	= 4.96E-03 gal/min x 60 min/hr x 8.34 lb water/gal x 0.0030 lb solid/lb water x 100.0% / 2.98E-07 MMgal/hr

Attachment 2 - Emission Calculations

1.1.3 Boiler Blowdown Water Evaporator Particle Size Distribution

- > The aerodynamic diameter of a particle resulting from drift was calculated over a target droplet size distribution presented in the table below. By interpolating on the calculated aerodynamic particle diameter, the corresponding mass percentage smaller than PM_{2.5} and PM₁₀ can be derived.

Droplet Diameter Size ¹ (µm)	EPRI % Mass Smaller ¹ (%)	Droplet Volume (µm ³)	Droplet Mass (µg)	Particle Mass (Solids) (µg)	Solid Particle Volume (µm ³)	Solid Particle Diameter (µm)	Aerodyn. Particle Diameter (µm)
10	0	524	5.24E-04	1.57E-06	0.71	1.11	1.6
15.2	0.10	1,839	1.8E-03	5.52E-06	2.51	1.69	2.5
20	0.20	4,189	4.19E-03	1.26E-05	5.71	2.22	3.3
30	0.23	14,137	0.01	4.24E-05	19.3	3.33	4.9
40	0.51	33,510	0.03	1.01E-04	45.7	4.44	6.6
50	1.82	65,450	0.07	1.96E-04	89.2	5.54	8.2
60	5.70	113,097	0.11	3.39E-04	154.2	6.65	9.9
60.8	6.95	117,682	0.12	3.53E-04	160.5	6.74	10.0
70	21.35	179,594	0.18	5.39E-04	244.9	7.76	11.5
90	49.81	381,704	0.38	1.15E-03	520.5	9.98	14.8
110	70.51	696,910	0.70	2.09E-03	950	12.20	18.1
130	82.02	1,150,347	1.15	3.45E-03	1,569	14.42	21.4
150	88.01	1,767,146	1.77	5.30E-03	2,410	16.63	24.7
180	91.03	3,053,628	3.05	9.16E-03	4,164	19.96	29.6
210	92.47	4,849,048	4.85	1.45E-02	6,612	23.29	34.5
240	94.09	7,238,229	7.24	2.17E-02	9,870	26.61	39.5
270	94.69	10,305,995	10.3	3.09E-02	14,054	29.94	44.4
300	96.29	14,137,167	14.1	4.24E-02	19,278	33.27	49.3
350	97.01	22,449,298	22.4	6.73E-02	30,613	38.81	57.6
400	98.34	33,510,322	33.5	1.01E-01	45,696	44.36	65.8
450	99.07	47,712,938	47.7	1.43E-01	65,063	49.90	74.0
500	99.07	65,449,847	65.4	1.96E-01	89,250	55.45	82.2
600	100	113,097,336	113.1	3.39E-01	154,224	66.54	98.7

Bold highlights indicate interpolated values to determine PM₁₀/PM_{2.5} speciation.

¹ Based on drift droplet size distribution testing from EPRI test facility published in the Reisman and Frisbie paper.

- > By interpolating the data in Reisman and Frisbie for an evaporator with 3,000 ppm TDS in the water being evaporated, PM₁₀ was estimated to be 6.95% of the total particulate matter and PM_{2.5} was estimated to be 0.10% of the total particulate matter.

Attachment 2 - Emission Calculations

Parameter	Value	Basis
Estimated PM10/PM Ratio	6.95%	EPRI ratio of mass smaller than PM10
Boiler Blowdown PM10 Emission Factor	1738.9 lb/MMgal	= 25,020 lb PM/MMgal x 0.0695 PM10/PM
Estimated PM2.5/PM Ratio	0.10%	EPRI ratio of mass smaller than PM2.5
Boiler Blowdown PM2.5 Emission Factor	25.5 lb/MMgal	= 25,020 lb PM/MMgal x 0.0010 PM2.5/PM

1.2 Potential Emission Calculations for Boiler Blowdown Water Evaporator

1.2.1 Potential Emissions from Boiler Blowdown Water Evaporator

Pollutant	Emission Factor		Maximum Hourly Process Rate (MMgal/hr)	Potential Emission Rate	
	(lb/MMgal)	Emission Factor Basis		(lb/hr)	(tpy)
PM	25020.0	Engineering Estimate	2.98E-07	0.01	0.03
PM10	1738.9	Engineering Estimate	2.98E-07	0.0005	0.0023
PM2.5	25.5	Engineering Estimate	2.98E-07	7.59E-06	3.32E-05