Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

Permit No.: C-0026-1000-16-V (R2) Plant ID: 0026

Effective Date: xx/xx/2016 Expiration Date: x/xx/2017

Owner/Source: Brown-Forman Cooperage
402 Maclean Avenue
Louisville, KY 40209

Brown-Forman Cooperage is authorized to install the described process equipment by the Louisville Metro Air Pollution Control District. Authorization is based on information provided with the application submitted by the company and in accordance with applicable regulations and the conditions specified herein.

Process equipment description:

Correcting the capacity of the process cyclones listed in Permit No.: C-0026-1000 (R1) which modified the dust handling system by redistributing the load to the five existing baghouses in EU U2, Barrel and Head Production and Finishing Operations.

Applicable Regulation(s): 2.03, 2.05, 2.16, and 7.08

Control reference(s): N/A

Application No. 77688 Application Received: 6/8/2016

Permit Writer: Kimberly Loechle

Date of Public Comment xx/xx/2016

{Manager1}
Air Pollution Control Officer
{date1}

Construction Permit Revisions/Changes

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	C-0026-1000	09/24/2014	8/24/2014	Initial	Entire Permit	Modified the dust handling system and incorporated construction permits 180-04-C, 181-04-C, 363-07-C(R1), 364-07-C (R1), and 32864-11-C.
R1	C-0026-1000 (R1)	09/24/2014	8/24/2014	Revision	Entire Permit	Corrected the general reporting requirements.
R2	C-0026-1000-16-V (R2)	Xx/xx/2016	Xx/xx/2016	Significant Revision	Entire Permit	Correcting the capacities and allowable limits of the process cyclones

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

General Conditions

G1. The owner or operator of the affected facility covered by this permit shall notify the District of any process change, equipment change, material change, or change in method or hours of operation. This requirement is applicable to those changes (except equipment changes) that may have the potential for increasing the emission of air contaminants to a level in excess of the applicable limits or standards specified in this permit or District regulations.

G2. The owner or operator shall obtain new or revised permits from the District in accordance with District Regulation 2.16 for Title V sources, District Regulation 2.17 for FEDOOP sources or District Regulation 2.03 for other sources including:

a. The company relocates to a different physical address.
b. The ownership of the company is changed.
c. The name of the company as shown on the permit is changed.
d. Permits are nearing expiration or have expired.

G3. The owner or operator shall submit a timely application for changes according to G2. Timely renewal is not always achievable; therefore, the company is hereby authorized to continue operation in compliance with the latest District permit(s) until the District issues the renewed permit(s).

G4. The owner or operator shall not be authorized to transfer ownership or responsibility of the permit. The District may transfer permits after appropriate notification (Form AP-100A) has been received and review has been made.

G5. The owner or operator shall pay the required permit fees within 45 days after issuance of the SOF by the District, unless other arrangements have been proposed and accepted by the District.

G6. This permit allows operation 8,760 hours per year unless specifically limited elsewhere in this permit.

G7. The owner or operator shall submit emission inventory reports as required by Regulation 1.06.

G8. The owner or operator shall timely report abnormal conditions or operational changes, which may cause excess emissions as required by Regulation 1.07.

G9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.

G10. If a change in the Responsible Official (RO) occurs during the term of this permit, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of the date the RO change occurs.

U2 Equipment[1]			
Emission Point	**Description**	**Applicable Regulation**	**Control ID**
E1	Conveyance from Woodworking 1 equipment consisting of #2 Head Line Planer, Narrow Head Line Planer, Narrow Head Line Edger, Rounder & Scrap Grinder, Finish Head Planer, Stave Jointers (for 3-1 through 3-2 Stave Lines), Heading Jointer (for 2-1 through 2-3 Stave Lines), Head Rounder #1 and Head Rip Saw to process cyclone #1 with capacity 6726 tons/yr and a removal efficiency of 86%	7.08	B1
E2	Conveyance from Woodworking 2 equipment consisting of #1 & #2 Stave Line Equalizer, Stave Rip Saw, #1 & #2 Stave Line Planer and Jointer (for 1-1 through 1-5 & 2-3 through 2-5 Stave Lines) to process cyclone #2 with capacity 11,476 tons/yr and a removal efficiency of 94.0%	7.08	B2
E3	Conveyance from Woodworking 3 equipment consisting of #3 Stave Line Planer, #3 Stave Line Equalizer, Head Rounder #2, Head Jointer (for 1-1 through 1-3 Stave Lines), Jointer (for 2-1 through 2-2 and 3-3 through 3-5 Stave Lines) and Head Line Planer #1 to process cyclone #3 with capacity 8976 tons/yr and a removal efficiency of 88.6%	7.08	B3
E4	Conveyance from Woodworking 4 equipment consisting of Wood Hog for Equalizer, Head Line Wood Hog for Rounders, and Truck Load-out to process cyclone #4 with capacity 4409 ton/yr and a removal efficiency of 99.3%	7.08	B4
E5	Conveyance from Woodworking 5 equipment consisting of South Wood Hog and West Wood Hog to process cyclone #5 with capacity 2459 tons/yr and a removal efficiency of 97.4%	7.08	B5

U2 Control Devices			
Control ID	**Description**	**Control Efficiencies [2]**	**Stack ID**
B1	One (1) Donaldson Torit pulse-jet baghouse, model number 276RFW10 to control E1	99.9%	S1
B2	One (1) baghouse to control E2	98.3%	S2
B3	One (1) Donaldson Torit pulse-jet baghouse, model number 276RFW10 to control E3	99.5%	S3

[1] Emission Unit 2 incorporates construction permits 180-04-C, 181-04-C, 363-07- C(R1), 364-07-C(R1) and 32864-11-C.

[2] See Appendix B for Default Emission Factors, Calculation Methodologies, Stack Test & Control Efficiencies

U2 Control Devices			
Control ID	**Description**	**Control Efficiencies [2]**	**Stack ID**
B4	One (1) baghouse to control E4	99.9%	S4
B5	One (1) baghouse to control E5	99.2%	S5

Specific Conditions

S1. **Standards** (Regulation 2.03, section 6.1)

a. **PM/PM_{10}**

i. The owner or operator shall not allow PM emissions to exceed 3.05 lb/hr for the process cyclone E1. (Regulation 7.08, Section 3.1.2) [3]

ii. The owner or operator shall not allow PM emissions to exceed 4.24 lb/hr for the process cyclone E2. (Regulation 7.08, Section 3.1.2)[3]

iii. The owner or operator shall not allow PM emissions to exceed 3.64 lb/hr for the process cyclone E3. (Regulation 7.08, Section 3.1.2)[3]

iv. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for the process cyclone E4. (Regulation 7.08, Section 3.1.2)[3]

v. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for the process cyclone E5. (Regulation 7.08, Section 3.1.2)[3]

vi. The owner or operator shall not allow PM emissions to equal or exceed 25 tons per 12-consecutive month period for process cyclones E1, E2, E3, E4, and E5. (Regulation 2.05)

vii. The owner or operator shall not allow the PM_{10} emissions to equal or exceed 15 tons per 12-consecutive month period for process cyclones E1, E2, E3, E4, and E5. (Regulation 2.05)

viii. The owner or operator shall operate and maintain the control devices at all times that the process equipment E1, E2, E3, E4, and E5 are in operation.

b. **Opacity**

[3] The potential controlled PM emission rates are 0.21 lb/hr for process cyclone E1, 2.65 lb/hr for process cyclone E2, 1.16 lb/hr for process cyclone E3, 0.01 lb/hr for process cyclone E4, and 0.12 lb/hr for process cyclone E5. These values are all below the standards, therefore, there are no monitoring, record keeping, or reporting requirements except for the control devices.

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, Section 3.1.1)

S2. **Monitoring and Record Keeping** (Regulation 2.03, section 6.1)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM/PM_{10}**

i. For EP E1, E2, and E3, the owner or operator shall comply with the most recent Compliance Assurance Monitoring (CAM) Plan.[4] (40 CFR 64.6(c))

ii. The owner or operator shall maintain monthly records, including calculations, which show the total PM emissions during each consecutive 12-month period for cyclones E1, E2, E3, E4, and E5.

iii. The owner or operator shall maintain monthly records, including calculations, which show the total PM_{10} emissions during each consecutive 12-month period for cyclones E1, E2, E3, E4, and E5.

iv. The owner or operator shall monitor and record the pressure drop across the baghouses B1, B2, B3, B4, and B5 once each operating day to ensure the pressure drop is between 1 and 6 inches water column.

v. The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of the cyclones and baghouses for signs of damage, air leakage, corrosion, etc. and repair as needed.

vi. The owner or operator shall maintain daily records of any periods of time where the process was operating and the baghouses were not operating or a declaration that the control devices operated at all times that day when the process was operating.

vii. The owner or operator shall monitor and record the amount of spec and off-spec staves and heads produced monthly.

viii. The owner or operator shall clearly record and identify all periods of excursions of the pressure drops, including the emission point designation, monitored value, duration of excursion, reason for excursion, and any corrective action taken.

ix. The owner or operator shall clearly record and identify all periods of exceedance of the pound per hour PM emission standards, during

[4] See Appendix A for CAM Plan submitted on August 1, 2016.

bypasses, including the emission point designation, quantity of the exceedance, duration of exceedance, reason for exceedance, and any corrective action taken.

b. **Opacity**

i. The owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation and daylight hours, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.

iii. The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what, if any, corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

S3. **Reporting** (Regulation 2.03, section 6.1)

The owner or operator shall submit semi-annual compliance reports that include the information in this section. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement. The compliance reports shall be postmarked within 60 days following the end of each reporting period. All compliance reports shall include the following certification statement per Regulation 2.16, section 3.5.11.

- "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete".
- Signature and title of the responsible official of the company.

The compliance reports are due on or before the following dates of each calendar year:

Reporting Period	Report Due Date
January 1st through June 30th	August 29th
July 1st through December 31st	March 1st

The owner or operator shall report:

a. **PM/PM_{10}**

i. The total 12-consecutive month PM and PM_{10} emissions for each month in the reporting period for cyclones E1, E2, E3, E4, and E5.

ii. Identification of all periods of exceedance of the pound per hour PM emission standard, including the emission point designation, quantity of the exceedance, duration of the exceedance, reason for exceedance, and any corrective action taken or a negative declaration.

iii. Identification of all periods of control devices bypassing or downtime; or a negative declaration;

iv. Identification of the operating parameter being monitored and the number, duration, and cause of all excursions (Excursions are defined as any departure from the performance indicator range);

v. Description of any corrective action taken for each excursion.

b. **Opacity**

i. The date, time, and results of each visible emissions survey conducted that resulted in visible emissions being observed. If no visible emissions were observed during the reporting period, the owner or operator may submit a negative declaration;

ii. The date, time, and results of each Method 9 conducted. If there were no Method 9 tests performed during the reporting period, the owner or operator may submit a negative declaration; and

iii. Description of any corrective action taken.

Appendix A: Compliance Assurance Monitoring (CAM) Plan

Emission Unit: U2

Emission Point: E1, E2, and E3

Applicable Regulation: 7.08

PM Emission Limit: 3.05 lb/hr, 4.24 lb/hr, and 3.64 lb/hr

Control Device: B1, B2, and B3

Monitoring Approach: The key elements of the monitoring approach are presented in the below Table.

	Indicator 1	Indicator 2	Inspection Maintenance
Indicator [(64.6c(1)(i)]	Pressure Drop (ΔP) across baghouse	Visible Emissions	Daily pressure drop monitor across the baghouses.
Measurement Approach [(64.6c(1)(ii)]	A pressure drop indicator shall be used to measure ΔP across the baghouse.	Visible emission surveys will be conducted on a monthly basis	Monthly visual inspection of the structural and mechanical integrity of the dust collector. Weekly and Quarterly maintenance inspection as Recommended by the manufacturer.
Indicator Range [(64.6(c)(2)]	An excursion for the baghouse is defined as any operating condition where the Δ P is less than 1 inches H_2O or greater than 6 inches H_2O.	An excursion for visible emissions is defined as the presence of any visible emissions greater than 20% opacity.	
Bypass [(64.6(a)(2)]	If the ΔP falls below the 1 inches H_2O, a possibility of a bypass is investigated.		
QIP Threshold [64.8]	Daily ΔP readings outside the performance indicator range for more than 3 times within a 1 month period	Visible emissions greater than 20% opacity for more than 3 times within a 1 month period	
Performance Criteria/data representativeness [64.6 (c)(1)(iii)	ΔP: Minimum acceptable accuracy of pressure drop indicator per manufacturers specifications	Measurements are made at the exhaust stack	
QA/QC Practices and Criteria [64.6 (b)(3)]	ΔP: Visual inspection per permit conditions and routine maintenance per manufacturer's recommendations. Inspect and maintain per Manufacturer's recommendations.	The observer will be certified in Method 9 procedures.	
Monitoring Frequency	ΔP monitored on a daily basis	Visible Emissions Survey	Monthly Inspection

	Indicator 1	Indicator 2	Inspection Maintenance
[64.6 (b)(4)] Data Collection Procedures [64.6 (b)(4)(iii)]	Recorded on a daily basis	conducted on a monthly basis Recorded by observer on a monthly basis	Records are maintained to document monthly visual inspection and any maintenance performed.
Record Keeping and Reporting [64.9]	Excursion reporting and corrective actions taken Semi-annual Reports include: Investigation and corrective action report. Date, time, and duration of excursion. Cause of and corrective actions taken to eliminate excursion, and Measures taken to prevent re-occurrence A description of the actions taken to implement a QIP (as applicable)	Semi-annual Reports include: Investigation and corrective action report. Date, time, and duration of excursion. Cause of and corrective actions taken to eliminate excursion, and Measures taken to prevent re-occurrence A description of the actions taken to implement a QIP (as applicable)	

Justification

Background: The pollutant specific emission source control devices at the facility consist of a baghouse to control PM emissions from the conveyance of wood from the process cyclones.

Rationale for Selection of Performance Indicators: Pressure drop and visible emissions were selected as performance indicators because, in combination, they are indicative of good operation and maintenance. When the system is operating properly, there will be little or no visible emissions. This is a good indicator because any increase in visible emissions indicates reduced control device performance.

Rationale for Selection of Indicator Ranges: The selected range for the baghouse is 1" to 6" H_2O. These values are based on manufacturer's recommended specifications for proper operation of the control devices. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence. All excursions will be documented.

Quality Improvement Plan (QIP) Threshold: The selected QIP threshold is three excursions within a 1 month period. If the QIP threshold is exceeded in a semi-annual period, a QIP will be developed and implemented.

Appendix B: Default Emission Factors, Calculation Methodologies, Stack Tests & Control Efficiencies

Generally, emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc) or hours of operation of the equipment by the appropriate emission factor and accounting for any control devices unless otherwise approved in writing by the District.

U2 Emission Points			
Emission Pint ID	Description	Control Device	Acceptable Emission Factor Sources
E1	Conveyance from Woodworking 1 equipment consisting of #2 Head Line Planer, Narrow Head Line Planer, Narrow Head Line Edger, Rounder & Scrap Grinder, Finish Head Planer, Stave Jointers (for 3-1 through 3-2 Stave Lines), Heading Jointer (for 2-1 through 2-3 Stave Lines), Head Rounder #1 and Head Rip saw to process cyclone #1 with capacity 6,726 tons/yr and a removal efficiency of 86%	B1—One (1) Donaldson Torit pulse-jet baghouse, model number 276RFW10 , control efficiency of 99.9%	Stack testing August & September 2006--Submitted May 30, 2007 All emission factors, process device and control device efficiencies are based on the study conducted by Kentuckiana Engineering in March of 2004 and taken from "BGC Louisville calculations 7-7-04.xls" Equipment Emission Factors are based on calculations conducted by the facility in March 2003 and submitted as part of the facility's 2003 SAMS report to APCD
E2	Conveyance from Woodworking 2 equipment consisting of #1 & #2 Stave Line Equalizer, Stave Rip Saw, #1 & #2 Stave Line Planer and Jointer (for 1-1 through 1-5 & 2-3 through 2-5 Stave Lines) to process cyclone #2 with capacity 11, 476 tons/yr and removal efficiency of 94.0%	B2—One (1) baghouse, control efficiency of 98.3%	Stack testing August & September 2006--Submitted May 30, 2007 All emission factors, process device and control device efficiencies are based on the study conducted by Kentuckiana Engineering in March of 2004 and taken

			from "BGC Louisville calculations 7-7-04.xls" Equipment Emission Factors are based on calculations conducted by the facility in March 2003 and submitted as part of the facility's 2003 SAMS report to APCD
E3	Conveyance from Woodworking 3 equipment consisting of #3 Stave Line Planer, #3 Stave Line Equalizer, Head Rounder #2, Head Jointer (for 1-1 through 1-3 Stave Lines), Jointer (for 2-1 through 2-2 and 3-3 through 3-5 Stave Lines) and Head Line Planer #1 to process cyclone #3 with capacity 8,976 tons/yr and a removal efficiency of 88.6%	B3—One (1) Donaldson Torit pulse-jet baghouse, model number 276RFW10, control efficiency of 99.5%	Stack testing August & September 2006--Submitted May 30, 2007 All emission factors, process device and control device efficiencies are based on the study conducted by Kentuckiana Engineering in March of 2004 and taken from "BGC Louisville calculations 7-7-04.xls" Equipment Emission Factors are based on calculations conducted by the facility in March 2003 and submitted as part of the facility's 2003 SAMS report to APCD
E4	Conveyance for Woodworking 4 equipment consisting of Wood Hog for Equalizer, Head Line Wood Hog for Rounders, and Truck Load-out to process cyclone #4 with capacity of 4,409 ton/yr and a removal efficiency of 99.3%	One (1) Baghouse, control efficiency of 99.9%	Stack testing November 26th-30th, 2007 All emission factors, process device and control device efficiencies are based on the study conducted by

			Kentuckiana Engineering in March of 2004 and taken from "BGC Louisville calculations 7-7-04.xls" Equipment Emission Factors are based on calculations conducted by the facility in March 2003 and submitted as part of the facility's 2003 SAMS report to APCD
E5	Conveyance from Woodworking 5 equipment consisting of South Wood Hog and West Wood Hog to process cyclone #5 with capacity 2,459 tons/yr and a removal efficiency of 97.4%	B5—One (1) baghouse, control efficiency of 99.2%	Stack testing November 26^{th}-30^{th}, 2007 All emission factors, process device and control device efficiencies are based on the study conducted by Kentuckiana Engineering in March of 2004 and taken from "BGC Louisville calculations 7-7-04.xls" Equipment Emission Factors are based on calculations conducted by the facility in March 2003 and submitted as part of the facility's 2003 SAMS report to APCD