

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **022015-005**

Project Number: 2014-05-080

Installation Number: 105-0001

Parent Company: Independent Stave Company

Parent Company Address: 1078 South Jefferson Street, Lebanon, MO 65536

Installation Name: Independent Stave Company

Installation Address: 1078 South Jefferson Street, Lebanon, MO 65536

Location Information: Laclede County, S34, T12N, R16W

Application for Authority to Construct was made for:

Installation of two natural-gas fired wood chip roasters, two wood-fired stave toasters, a stave oven, bulk bagging system, and associated conveyors. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

FEB 05 2015

EFFECTIVE DATE

A handwritten signature in black ink, reading "Kyrá L. Moore".

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources' regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Independent Stave Company
Laclede County, S34, T12N, R16W

1. **Superseding Condition**
The conditions of this permit supersede Special Condition 2 of permit number 052009-005 and Special Condition 2 of permit number 092010-007 that were previously issued by the Air Pollution Control Program.
2. **CO Emission Limitation**
 - A. Independent Stave Company shall emit less than 250.0 tons of CO in any consecutive 12-month period from the entire installation as shown in Table 1.
 - B. Independent Stave Company shall develop and use forms to demonstrate compliance with Special Condition 2.A. The forms shall contain at a minimum the following information,
 - 1) Installation name
 - 2) Installation ID
 - 3) Permit number
 - 4) Current month
 - 5) Emission units
 - 6) Emission unit respective current monthly throughput with units of measure matching Table 1
 - 7) Emission factor for each unit matching those listed in Table 1
 - 8) Monthly emissions for each emission unit
 - 9) Monthly emissions for Carbon Monoxide (CO)
 - 10) 12-month rolling total for CO
 - 11) Indication of compliance with Special Condition 2.A.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Table 1: Emission Units That Emit CO

Emission Unit	Description	CO Emission Factor*
EU-03	Wood-fired Heine boiler	9.84 lb/ton of wood
EU-04	Wood-fired Clever Brooks boiler	9.84 lb/ton of wood
EU-05	Wine Head Toaster	9.84 lb/ton of wood
EU-06	Bourbon Head Char	9.84 lb/ton of wood
EU-07	Wine Barrel Toaster/Bending	9.84 lb/ton of wood
EU-08	Bourbon BBL Char-Wood	9.84 lb/ton of wood
	Bourbon BBL Char – Natural Gas	84 lb/MMCF
EU-11	Barrel Pre-Heater No. 1	9.84 lb/ton of wood
EU-24	Drum Heater No. 1 - Wood Waste	9.84 lb/ton of wood
	Drum Heater No. 1 - Natural Gas (NG)	84 lb/MMCF
EU-36	Wine Barrel Laser	13.6 lb/ton
EU-40	Stave Toaster	9.84 lb/ton of wood
EU-45	Alternatives Tank Stave Oven - NG	84 lb/MMCF
EU-47	Electric Tank Stave Toaster	9.84 lb/ton of wood
EU-51a,b,c,d	Propane Fired Chip Roasters - NG	84 lb/MMCF
EU-60A	Chip Roaster Burner – NG	84 lb/MMCF
EU-60B	Chip Roaster Burner – NG	84 lb/MMCF
EU-68	Tank Stave Oven Wood Breakdown	9.84 lb/ton of wood
EU-69A	Tank Stave Toasting	9.84 lb/ton of wood
EU-69B	Tank Stave Toasting	9.84 lb/ton of wood
EU-70A	Wood Fire Pot Combustion	9.84 lb/ton of wood
EU-70B	Wood Fire Pot Combustion	9.84 lb/ton of wood

*CO emission factor is based on higher heating value equal to 8,200 Btu per pound of wood and an emission factor equal to 0.6 lb/MMBtu

3. HAP Emission Limitation
 - A. Independent Stave Company shall emit less than 10.0 tons of any individual HAP and less than 25.0 tons of total HAPs in any consecutive 12-month period from the entire installation as shown in Table 2.
 - B. Emissions from EU-55 through EU-57 shall be calculated using a mass balance approach assuming particulate transfer efficiency equal to 50% and particulate control efficiency equal to 95%
 - C. When considering using an alternative coating in the painting booth that is different than a material listed previously permitted, Independent Stave Company shall calculate the potential emissions of VOCs and all

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

individual HAP in the alternative material.

- D. If the alternative coating contains a HAP that is also a product of combustion of wood or natural gas, Independent Stave shall track that individual HAPs emissions from all combustion equipment on site using the appropriate emission factor
- E. Independent Stave Company shall seek approval from the Air Pollution Control Program before use of the alternative material in the following cases:
 - 1) If the potential VOC emissions for the alternative material is equal to or greater than 132.7 tons per year, or
 - 2) If the potential individual HAP emissions for the alternative material are equal to or greater than the screening model action level (SMAL) for any chemical listed in Appendix B, or the most recent HAP SMAL table located at <http://dnr.mo.gov/env/apcp/docs/cp-hapsmaltbl6.pdf>
- F. Independent Stave Company shall develop and use forms to demonstrate compliance with Special Condition 3.A. The forms shall contain at a minimum the following information,
 - 1) Installation name
 - 2) Installation ID
 - 3) Permit number
 - 4) Current month
 - 5) Current 12-month date range
 - 6) Emission units
 - 7) Emission unit respective current monthly throughput with units of measure matching Table 2
 - 8) Emission factor for each unit matching those listed in Table 2
 - 9) Monthly emissions for each emission unit
 - 10) Monthly emissions for total HAPs and individual HAPs
 - 11) 12-month rolling total for total HAPs and individual HAPs
 - 12) Indication of compliance with Special Condition 3.A

Table 2: Emission Units That Emit HAPs

Emission Unit	Description	HAP Emission Factor	
		Individual	Total
EU-03	Wood-fired Heine boiler (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Wood-fired Heine boiler (Hexane)	0.005 lb/ton of wood	

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The permittee is authorized to construct and operate subject to the following special conditions:

	Wood-fired Heine boiler (Ethylbenzene)	0.0001 lb/ton of wood	
	Wood-fired Heine boiler (Toluene)	0.0005 lb/tons of wood	
	Wood-fired Heine boiler (Xylene)	0.0005 lb/tons of wood	
	Wood-fired Heine boiler (Cobalt)	0.000003 lb/tons of wood	
EU-04	Wood-fired Clever Brooks boiler (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Wood-fired Clever Brooks boiler (Hexane)	0.005 lb/ton of wood	
	Wood-fired Clever Brooks boiler (Ethylbenzene)	0.0001 lb/ton of wood	
	Wood-fired Clever Brooks boiler (Toluene)	0.0005 lb/tons of wood	
	Wood-fired Clever Brooks boiler (Xylene)	0.0005 lb/tons of wood	
	Wood-fired Clever Brooks boiler (Cobalt)	0.000003 lb/tons of wood	
EU-05	Wine Head Toaster (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Wine Head Toaster (Hexane)	0.005 lb/ton of wood	
	Wine Head Toaster (Ethylbenzene)	0.0001 lb/ton of wood	
	Wine Head Toaster (Toluene)	0.0005 lb/tons of wood	
	Wine Head Toaster (Xylene)	0.0005 lb/tons of wood	
	Wine Head Toaster (Cobalt)	0.000003 lb/tons of wood	
EU-06	Bourbon Head Char (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Bourbon Head Char (Hexane)	0.005 lb/ton of wood	
	Bourbon Head Char (Ethylbenzene)	0.0001 lb/ton of wood	
	Bourbon Head Char (Toluene)	0.0005 lb/tons of wood	
	Bourbon Head Char (Xylene)	0.0005 lb/tons of wood	
	Bourbon Head Char (Cobalt)	0.000003 lb/tons of wood	
EU-07	Wine Barrel Toaster/Bending (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Wine Barrel Toaster/Bending (Hexane)	0.005 lb/ton of wood	
	Wine Barrel Toaster/Bending (Ethylbenzene)	0.0001 lb/ton of wood	
	Wine Barrel Toaster/Bending (Toluene)	0.0005 lb/tons of wood	
	Wine Barrel Toaster/Bending (Xylene)	0.0005 lb/tons of wood	
	Wine Barrel Toaster/Bending (Cobalt)	0.000003 lb/tons of wood	
EU-08	Bourbon BBL Char-Wood (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Bourbon BBL Char-Wood (Hexane)	0.005 lb/ton of wood	

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The permittee is authorized to construct and operate subject to the following special conditions:

	Bourbon BBL Char-Wood (Ethylbenzene)	0.0001 lb/ton of wood	1.88 lb/MMCF
	Bourbon BBL Char-Wood (Toluene)	0.0005 lb/tons of wood	
	Bourbon BBL Char-Wood (Xylene)	0.0005 lb/tons of wood	
	Bourbon BBL Char-Wood (Cobalt)	0.000003 lb/tons of wood	
	Bourbon BBL Char – Natural Gas (NG) (Hexane)	1.8 lb/MMCF	
	Bourbon BBL Char-Wood (Toluene)	0.0034 lb/MMCF	
	Bourbon BBL Char-Wood (Cobalt)	0.000084 lb/MMCF	
EU-11	Barrel Pre-Heater No. 1 (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Barrel Pre-Heater No. 1 (Hexane)	0.005 lb/ton of wood	
	Barrel Pre-Heater No. 1 (Ethylbenzene)	0.0001 lb/ton of wood	
	Barrel Pre-Heater No. 1 (Toluene)	0.0005 lb/tons of wood	
	Barrel Pre-Heater No. 1 (Xylene)	0.0005 lb/tons of wood	
	Barrel Pre-Heater No. 1 (Cobalt)	0.000003 lb/tons of wood	
EU-24	Drum Heater No. 1 - Wood (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Drum Heater No. 1 – Wood (Hexane)	0.005 lb/ton of wood	
	Drum Heater No. 1 – Wood	0.0001 lb/ton of wood	
	Drum Heater No. 1 – Wood	0.0005 lb/tons of wood	
	Drum Heater No. 1 – Wood	0.0005 lb/tons of wood	
	Drum Heater No. 1 – Wood	0.000003 lb/tons of wood	
	Drum Heater No. 1 - (NG) (Hexane)	1.8 lb/MMCF	1.88 lb/MMCF
	Drum Heater No. 1 - (NG) (Toluene)	0.0034 lb/MMCF	
Drum Heater No. 1 - (NG) (Cobalt)	0.000084 lb/MMCF		
EU-36	Wine Barrel Laser (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Wine Barrel Laser (Hexane)	0.005 lb/ton of wood	
	Wine Barrel Laser (Ethylbenzene)	0.0001 lb/ton of wood	
	Wine Barrel Laser (Toluene)	0.0005 lb/tons of wood	
	Wine Barrel Laser (Xylene)	0.0005 lb/tons of wood	
	Wine Barrel Laser (Cobalt)	0.000003 lb/tons of wood	
EU-40	Stave Toaster (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Stave Toaster (Hexane)	0.005 lb/ton of wood	
	Stave Toaster (Ethylbenzene)	0.0001 lb/ton of wood	
	Stave Toaster (Toluene)	0.0005 lb/tons of wood	
	Stave Toaster (Xylene)	0.0005 lb/tons of wood	
	Stave Toaster (Cobalt)	0.000003 lb/tons of wood	
EU-45	Alternatives Tank Stave Oven – NG (Hexane)	1.8 lb/MMCF	1.88 lb/MMCF

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The permittee is authorized to construct and operate subject to the following special conditions:

	Alternatives Tank Stave Oven – NG (Toluene)	0.0034 lb/MMCF	
	Alternatives Tank Stave Oven – NG (Cobalt)	0.000084 lb/MMCF	
EU-47	Electric Tank Stave Toaster (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Electric Tank Stave Toaster (Hexane)	0.005 lb/ton of wood	
	Electric Tank Stave Toaster (Ethylbenzene)	0.0001 lb/ton of wood	
	Electric Tank Stave Toaster (Toluene)	0.0005 lb/tons of wood	
	Electric Tank Stave Toaster (Xylene)	0.0005 lb/tons of wood	
	Electric Tank Stave Toaster (Cobalt)	0.000003 lb/tons of wood	
EU-51 (a,b,c,d)	Propane Fired Chip Roasters – NG (Hexane)	1.8 lb/MMCF	1.88 lb/MMCF
	Propane Fired Chip Roasters – NG (Toluene)	0.0034 lb/MMCF	
	Propane Fired Chip Roasters – NG (Cobalt)	0.000084 lb/MMCF	
EU-55	Building #4 paint booth	Mass balance approach assuming all HAPs are emitted	
EU-56	Truck shop parts cleaner		
EU-57	Building #2 parts cleaner		
EU-60A	Chip Roaster Burner – NG (Hexane)	1.8 lb/MMCF	1.88 lb/MMCF
	Chip Roaster Burner – NG (Toluene)	0.0034 lb/MMCF	
	Chip Roaster Burner – NG (Cobalt)	0.000084 lb/MMCF	
EU-60B	Chip Roaster Burner – NG (Hexane)	1.8 lb/MMCF	1.88 lb/MMCF
	Chip Roaster Burner – NG (Toluene)	0.0034 lb/MMCF	
	Chip Roaster Burner – NG (Cobalt)	0.000084 lb/MMCF	
EU-68	Tank Stave Oven Wood Breakdown (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Tank Stave Oven Wood Breakdown (Hexane)	0.005 lb/ton of wood	
	Tank Stave Oven Wood Breakdown (Ethylbenzene)	0.0001 lb/ton of wood	
	Tank Stave Oven Wood Breakdown (Toluene)	0.0005 lb/tons of wood	
	Tank Stave Oven Wood Breakdown (Xylene)	0.0005 lb/tons of wood	
	Tank Stave Oven Wood Breakdown (Cobalt)	0.000003 lb/tons of wood	
EU-69A	Tank Stave Toasting (HCl)	0.164 lb/ton of wood	0.3 lb/ton

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

	Tank Stave Toasting (Hexane)	0.005 lb/ton of wood	of wood
	Tank Stave Toasting (Ethylbenzene)	0.0001 lb/ton of wood	
	Tank Stave Toasting (Toluene)	0.0005 lb/tons of wood	
	Tank Stave Toasting (Xylene)	0.0005 lb/tons of wood	
	Tank Stave Toasting (Cobalt)	0.000003 lb/tons of wood	
EU-69B	Tank Stave Toasting (HCl)	0.164 lb/ton of wood	0.3 lb/ton of wood
	Tank Stave Toasting (Hexane)	0.005 lb/ton of wood	
	Tank Stave Toasting (Ethylbenzene)	0.0001 lb/ton of wood	
	Tank Stave Toasting (Toluene)	0.0005 lb/tons of wood	
	Tank Stave Toasting (Xylene)	0.0005 lb/tons of wood	
EU-70A	Tank Stave Toasting (Cobalt)	0.000003 lb/tons of wood	0.3 lb/ton of wood
	Wood Fire Pot Combustion (HCl)	0.164 lb/ton of wood	
	Wood Fire Pot Combustion (Hexane)	0.005 lb/ton of wood	
	Wood Fire Pot Combustion (Ethylbenzene)	0.0001 lb/ton of wood	
	Wood Fire Pot Combustion (Toluene)	0.0005 lb/tons of wood	
	Wood Fire Pot Combustion (Xylene)	0.0005 lb/tons of wood	
EU-70B	Wood Fire Pot Combustion (Cobalt)	0.000003 lb/tons of wood	0.3 lb/ton of wood
	Wood Fire Pot Combustion (HCl)	0.164 lb/ton of wood	
	Wood Fire Pot Combustion (Hexane)	0.005 lb/ton of wood	
	Wood Fire Pot Combustion (Ethylbenzene)	0.0001 lb/ton of wood	
	Wood Fire Pot Combustion (Toluene)	0.0005 lb/tons of wood	
	Wood Fire Pot Combustion (Xylene)	0.0005 lb/tons of wood	
	Wood Fire Pot Combustion (Cobalt)	0.000003 lb/tons of wood	

**Emission factors are based on AP-42 emission factors and a higher heating value equal to 8,200 Btu per pound

4. Capture Device Requirement – Hoods

- A. Independent Stave Company shall use hoods to capture emissions from the emission units indicated in Table 3. A hood is a shaped inlet to a pollution control system that does not totally surround emissions from an emission unit.
- B. The maximum distance between the hood inlet and the emissions source shall not exceed 1.5 times the diameter of the exhaust duct.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Table 3: Emission Units Emissions Captured by Hoods

Emission Unit	Description
EU-41A	Alternatives rip saw
EU-41B	Alternatives chop saw
EU-41C	Alternatives band saw
EU-41D	Alternatives planer
EU-42	Alternatives chipper with cyclone
EU-71	Chop saw

5. Control Device Requirement – Medium Efficiency Cyclone
 - A. Independent Stave Company shall control particulate emissions using medium efficiency cyclones at all times when the emission units that indicate a cyclone as a control device in Table 4 are in operation.
 - B. The medium efficiency cyclones shall be operated and maintained in accordance with the manufacturer’s specifications. The cyclones shall be equipped with a gauge or meter, which indicates the pressure drop across the control device.
 - C. Independent Stave Company shall maintain an operating and maintenance log for the cyclones which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
 - 3) Independent Stave Company shall monitor and record the operating pressure drop across the cyclones at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Table 4: Project Emission Units

Emission Point	Description	Control Device
EU-41A	Alternatives rip saw	Baghouse (CD-16)
EU-41B	Alternatives chop saw	Baghouse (CD-16)
EU-41C	Alternatives band saw	Baghouse (CD-16)
EU-41D	Alternatives planer	Baghouse (CD-16)
EU-42	Alternatives chipper	Cyclone (CD-17)
EU-43	Alternatives bay	none
EU-44	Alternatives bucket loader transfer	none
EU-52	Bulk bag bagger	none
EU-53	Bulk bag fill	none
EU-60A	Natural gas-fired chip roaster burner	Cyclone (CD-18)
EU-60B	Natural gas-fired chip roaster burner	Cyclone (CD-18)
EU-61	Bulk bag unloader/feeder conveyor	none
EU-62	France roaster #5 mechanical handling	Cyclone (CD-18)
EU-63	France roaster #6 mechanical handling	Cyclone (CD-18)
EU-64	Chip roaster cooling table	none
EU-65	Cooling table takeaway belt conveyor	none
EU-66	Chip roaster bulk bag load	none
EU-67	Chip roaster cyclone hopper	none
EU-68	Tank stave oven	none
EU-69A	Tank stave toasting	none
EU-69B	Tank stave toasting	none
EU-70A	Wood combustion in fire pot	none
EU-70B	Wood combustion in fire pot	none
EU-71	Chop saw	Baghouse (CD-16)
EU-72	Ash chute to auger	none
EU-73	Ash auger to dumpster	none

6. Control Device Requirement-Baghouse
 - A. Independent Stave Company shall control particulate emissions using a baghouse when the emission units that indicate a baghouse as a control device in Table 4 are in operation.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- B. The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Independent Stave Company shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours while the plant is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty. The manufacturer's performance warranty shall be kept onsite.
 - E. Independent Stave Company shall maintain an operating and maintenance log for the baghouses which shall include the following:
 - 1.) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2.) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
7. Fuel Requirement
Independent Stave Company shall burn exclusively untreated wood or natural gas in the emission units listed in Table 1.
8. Equipment Dismantle
A. Independent Stave Company shall render the waste oil fired boiler (EU-50) inoperable before the date the new equipment being added under this permit begins operations. The equipment (EU-50) may not be operated after the start up of the new equipment without first obtaining a New Source Review permit or receiving approval for the like-kind replacement of other existing equipment at the installation from the Air Pollution Control Program.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- B. Independent Stave Company shall notify the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than 15 days after the following events occur:
 - 1) The date of initial start-up of the new equipment added under this permit, and
 - 2) The date the existing equipment (as indicated in Special Condition Number 8.A.) was rendered inoperable

- 9. Record Keeping and Reporting Requirements
 - A. Independent Stave Company shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

 - B. Independent Stave Company shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2014-05-080
Installation ID Number: 105-0001
Permit Number:

Independent Stave Company
1078 South Jefferson Street
Lebanon, MO 65536

Complete: September 5, 2014

Parent Company:
Independent Stave Company
1078 South Jefferson Street
Lebanon, MO 65536

Laclede County, S34, T12N, R16W

REVIEW SUMMARY

- Independent Stave Company has applied for authority to install two natural-gas fired wood chip roasters, two wood-fired stave toasters, a stave oven, bulk bagging system, and associated conveyors.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are products of natural gas combustion and white oak combustion.
- None of the New Source Performance Standards (NSPS) apply to the project.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Medium efficiency cyclones and an existing baghouse are being used to control the particulate emissions from equipment in this permit.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are above the de minimis level.
- This installation is located in Laclede County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed for this review. No ambient air quality standard currently exists for PM.

- Emissions testing is not required for the equipment.
- An Intermediate Operating Permit application is required for this installation within 90 days of equipment startup. Otherwise, a Part 70 Operating Permit application is due within 1 year of equipment start-up.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Independent Stave Company manufactures oak barrels and oak flavoring products for the alcoholic beverage industry. Independent Stave is located in Lebanon, Missouri, and is a minor source under construction permits, and an intermediate source under operating permits.

The following New Source Review permits have been issued to Independent Stave Company from the Air Pollution Control Program.

Table 5: Permit History

Permit Number	Description
0995-014	Installation of a wood/bark waste fired boiler for wine barrel toasting
072001-008	Installation of a bucket loader, a metering bin and a hammermill
0995-014A	Electric barrel toasting elements instead of burning wood scraps
092002-024	Sawdust loading
082006-007	New barrel types
052009-005	New screen and conveyors
022010-004	Surface coating booth
092010-007	Sawdust bagging

PROJECT DESCRIPTION

Independent Stave Company has proposed the installation of two coffee roasters that will be used to roast wood chips, a tank stave oven, two wood-fired stave toasters, a bulk bagging system and a conveyor associated with the bulk bagging system.

Each wood chip roaster has a natural gas burner that has a maximum hourly heat input equal to 0.75 MMBtu. Particulate emissions from the natural gas combustion and the chip roasters will be controlled by a medium efficiency cyclone (CD-18). The roasters (EU-62 and EU-63) will be fed by bulk bags (EU-61) of wood chips. Once the chips are roasted, they will be dumped onto a cooling table (EU-64) to decrease the temperature to room temperature. The chips will then be conveyed (EU-65) to a bulk bag loader (EU-66) before storage. The roasting time and amount is variable depending on the desired end product. This wood chip line, which includes both roasters, is capable of producing up to 0.335 tons of wood per hour.

Existing equipment will be used to create tank staves to be roasted in the tank stave oven (EU-41A, EU-41B, EU-41C, EU-41D, EU-42, EU-43, EU-44, EU-52, and EU-53).

The tank stove oven (EU-68) roasts staves stacked on racks that hold approximately 1,600 staves each. A natural gas oven with a maximum hourly heat input equal to 1 MMBtu will be used to heat the new tank stove oven. Up to 351 pounds of wood per hour can be processed in the stove oven due to the length of the time the staves require in the oven.

Waste wood from the tank stove production and barrel plant waste will be cut to size using a chop saw (EU-71) that will be controlled by an existing baghouse (CD-16). Once sized for the fire pots, the wood will be burned in two fire toasters (EU-70A & EU-70B) to supply heat for toasting tank staves (EU-69A & EU-69B). Ash will fall through the bottom of the fire pots into an auger (EU-72) that will transport the ash to a dumpster (EU-73).

The worst case individual HAP from wood combustion is hydrogen chloride. The worst case HAP from natural gas combustion is hexane. Therefore, Special Condition 3 requires Independent Stave Company to track the 12-month rolling emission total for each pollutant. Emission units 55 through 57 have the potential to emit ethylbenzene, toluene, xylene, and cobalt. Therefore, Special Condition 3 requires Independent Stave Company to track the 12-month rolling emission total for each pollutant from combustion equipment as well as coating operations.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the following sections of EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition:

- Section 1.4 *Natural Gas Combustion*, July 1998
- Section 1.6 *Wood Residue Combustion in Boilers*, September 2003
- Section 13.2.1 *Paved Roads*, January 2011
- Section 13.2.2 *Unpaved Roads*, November 2006
- Appendix B.2 *Generalized Particle Size Distribution*, September 1996

Emissions from handling the wood chips were estimated using a revoked emission factor for sawdust pile handling from Factor Information Retrieval (FIRE) Data System SCC 3-07-008-03. Emissions from sawing the staves were estimated using a revoked emission factor for log sawing from Factor Information Retrieval (FIRE) Data System SCC 3-07-008-02.

Emissions from toasting staves assume that all wood weight that is lost is combusted.

Particulate emissions from the alternatives rip saw (EP-41A), chop saw (EP-41B), band saw (EP-41C), planer (EP-41D), and the chop saw (EP-71) are controlled by an existing baghouse (CD-16). Particulate emissions from the natural gas fired chip roaster burners (EP-60A and EP-60B) and the France roasters (EP-62 and EP-63) will be controlled by a medium efficiency cyclone (CD-18).

The following table provides an emissions summary for this project. Existing potential emissions were taken from permit number 092010-007. Existing actual emissions were taken from the installation's 2013 EIQ. Potential emissions of the application represent

the potential of the new equipment and the existing equipment that will be utilized for this project, assuming continuous operation (8760 hours per year).

Table 6: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2013 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	<major**	N/D	32.49	N/D
PM ₁₀	15.0	153.92	15.57	12.61	166.53
PM _{2.5}	10.0	N/D	9.996	9.13	N/D
SO _x	40.0	1.99	2.39	0.05	2.04
NO _x	40.0	77.32	47.37	2.04	79.36
VOC	40.0	114.71	1.99	1.36	116.06
CO	100.0	<250.0	57.82	2.61	<250.0
GHG (CO ₂ e)	100,000	N/D	N/D	1073.92	N/D
GHG (mass)	100.0 / 250.0	N/D	N/D	1038.38	N/D
HAPs	10.0/25.0	<10.0/25.0	0.18	0.066	<10.0/25.0

N/D = Not Determined

*Existing potential emissions of the installation stated in Table 6 do not account for the current voluntary 100 tons per year limit token in the current Operating Permit

** The estimated existing PM emissions are below 250 tons per year.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are above the de minimis level but remain below the major source level.

APPLICABLE REQUIREMENTS

Independent Stave Company shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170

- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 applies to this installation but it is inherently compliant
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

J Luebbert
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 23, 2014, received May 29, 2014, designating Independent Stave Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

APPENDIX A

Abbreviations and Acronyms

%percent	m/s meters per second
°Fdegrees Fahrenheit	Mgal 1,000 gallons
acfmactual cubic feet per minute	MW megawatt
BACTBest Available Control Technology	MHDR maximum hourly design rate
BMPs Best Management Practices	MMBtu Million British thermal units
Btu British thermal unit	MMCF million cubic feet
CAM Compliance Assurance Monitoring	MSDS Material Safety Data Sheet
CAS Chemical Abstracts Service	NAAQS ... National Ambient Air Quality Standards
CEMS Continuous Emission Monitor System	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CFR Code of Federal Regulations	NO_x nitrogen oxides
CO carbon monoxide	NSPS New Source Performance Standards
CO₂ carbon dioxide	NSR New Source Review
CO₂e carbon dioxide equivalent	PM particulate matter
COMS Continuous Opacity Monitoring System	PM_{2.5} particulate matter less than 2.5 microns in aerodynamic diameter
CSR Code of State Regulations	PM₁₀ particulate matter less than 10 microns in aerodynamic diameter
dscf dry standard cubic feet	ppm parts per million
EQ Emission Inventory Questionnaire	PSD Prevention of Significant Deterioration
EP Emission Point	PTE potential to emit
EPA Environmental Protection Agency	RACT Reasonable Available Control Technology
EU Emission Unit	RAL Risk Assessment Level
fps feet per second	SCC Source Classification Code
ft feet	scfm standard cubic feet per minute
GACT Generally Available Control Technology	SDS Safety Data Sheet
GHG Greenhouse Gas	SIC Standard Industrial Classification
gpm gallons per minute	SIP State Implementation Plan
gr grains	SMAL Screening Model Action Levels
GWP Global Warming Potential	SO_x sulfur oxides
HAP Hazardous Air Pollutant	SO₂ sulfur dioxide
hr hour	tph tons per hour
hp horsepower	tpy tons per year
lb pound	VMT vehicle miles traveled
lbs/hr pounds per hour	VOC Volatile Organic Compound
MACT Maximum Achievable Control Technology	
µg/m³micrograms per cubic meter	

APPENDIX B: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CARBARYL	63-25-2	10	V	Y	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CARBON DISULFIDE	75-15-0	1		Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CARBON TETRACHLORIDE	56-23-5	1		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
ACETOPHENONE	98-86-2	1		Y	N	CARBONYL SULFIDE	463-58-1	5		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CATECHOL	120-80-9	5		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
ACROLEIN	107-02-8	0.04		Y	N	CHLORAMBEN	133-90-4	1		Y	Y	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
ACRYLAMIDE	79-06-1	0.02		Y	N	CHLORDANE	57-74-9	0.01		Y	Y	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
ACRYLIC ACID	79-10-7	0.6		Y	N	CHLORINE	7782-50-5	0.1	N	N	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
ACRYLONITRILE	107-13-1	0.3		Y	N	CHLOROACETIC ACID	79-11-8	0.1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
AMINOBIHENYL, [4-]	92-67-1	1	V	Y	N	CHLOROBENZENE	108-90-7	10		Y	N	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
ANILINE	62-53-3	1		Y	N	CHLOROBENZILATE	510-15-6	0.4	V	Y	Y	DIMETHYL PHTHALATE	131-11-3	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CHLOROFORM	67-66-3	0.9		Y	N	DIMETHYL SULFATE	77-78-1	0.1		Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
ANTIMONY COMPOUNDS		5	H	N	Y	CHLOROPRENE	126-99-8	1		Y	N	DIMETHYLANILINE, [N-N-]	121-69-7	1		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	CHROMIUM COMPOUNDS		5	L	N	Y	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y	CHRYSENE	218-01-9	0.01	V	Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	COBALT COMPOUNDS		0.1	M	N	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
ASBESTOS	1332-21-4	0	A	N	Y	CRESOL, [META-]	108-39-4	1	B	Y	N	DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
BENZENE	71-43-2	2		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
BENZIDINE	92-87-5	0.0003	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	CUMENE	98-82-8	10		Y	N	ETHYL ACRYLATE	140-88-5	1		Y	N
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N	ETHYL BENZENE	100-41-4	10		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y	ETHYL CHLORIDE	75-00-3	10		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N	ETHYLENE GLYCOL	107-21-1	10		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N	ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2				
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DIAZOMETHANE	334-88-3	1		Y	N	ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N
BERYLLIUM SALTS		2E-05	J	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N	ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DIOXINS/FURANS		6E-07	D,V	Y	N	ETHYLENE OXIDE	75-21-8	0.1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06	Y	N	Y	DIBENZOFURAN	132-64-9	5	V	Y	N	ETHYLENE THIOUREA	96-45-7	0.6		Y	Y
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N	FORMALDEHYDE	50-00-0	2		Y	N
BROMOFORM	75-25-2	10		Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N	GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y	GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N	HEPTACHLOR	76-44-8	0.02		Y	N
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y	HEXACHLOROBENZENE	118-74-1	0.01		Y	N
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N	HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N	HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N	HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N
CAPROLACTAM (Delisted)	105-60-2					DICHLOROMETHANE	75-09-2	10	N	N	N	HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N
CAPTAN	133-06-2	10		Y	Y	DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y	HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N

APPENDIX B: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
HEXAMETHYLENE,-1,6-DIISOCYANATE	822-06-0	0.02		Y	N	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N	VINYL ACETATE	108-05-4	1		Y	N
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PARATHION	56-38-2	0.1		Y	Y	VINYL CHLORIDE	75-01-4	0.2		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N	XYLENE, [ORTHO-]	95-47-6	10	G	Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N	XYLENE, [PARA-]	106-42-3	10	G	Y	N
HYDROQUINONE	123-31-9	1		Y	N	PHENOL	108-95-2	0.1		Y	N	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N						
ISOPHORONE	78-59-1	10		Y	N	PHOSGENE	75-44-5	0.1		Y	N						
LEAD COMPOUNDS		0.01	Q	N	Y	PHOSPHINE	7803-51-2	5		N	N						
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N	Legend					
MALEIC ANHYDRIDE	108-31-6	1		Y	N	PTHALIC ANHYDRIDE	85-44-9	5		Y	N	Group ID	Aggregate Group Name				
MANGANESE COMPOUNDS		0.8	R	N	Y	POLYCYLIC ORGANIC MATTER		0.01	V	Y	N	A	Asbestos				
MERCURY COMPOUNDS		0.01	S	N	N	PROPANE SULFONE, [1,3-]	1120-71-4	0.03		Y	Y	B	Cresols/Cresylic Acid (isomers and mixtures)				
METHANOL	67-56-1	10		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N	C	2,4 - D, Salts and Esters				
METHOXYCHLOR	72-43-5	10	V	Y	Y	PROPIONALDEHYDE	123-38-6	5		Y	N	D	Dibenzofurans, Dibenzodioxins				
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y	E	4, 6 Dinitro-o-cresol, and Salts				
METHYL CHLORIDE	74-87-3	10		Y	N	PROPYLENE OXIDE	75-56-9	5		Y	N	F	Lindane (all isomers)				
METHYL ETHYL KETONE (Delisted)	78-93-3					PROPYLENIMINE, [1,2-]	75-55-8	0.003		Y	N	G	Xylenes (all isomers and mixtures)				
METHYL HYDRAZINE	60-34-4	0.06		Y	N	QUINOLINE	91-22-5	0.006		Y	N	H	Antimony Compounds				
METHYL IODIDE	74-88-4	1		Y	N	QUINONE	106-51-4	5		Y	N	I	Arsenic Compounds				
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y	J	Beryllium Compounds				
METHYL ISOCYANATE	624-83-9	0.1		Y	N	SELENIUM COMPOUNDS		0.1	W	N	Y	K	Cadmium Compounds				
METHYL METHACRYLATE	80-62-6	10		Y	N	STYRENE	100-42-5	1		Y	N	L	Chromium Compounds				
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	STYRENE OXIDE	96-09-3	1		Y	N	M	Cobalt Compounds				
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN,[2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y	N	Coke Oven Emissions				
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N	O	Cyanide Compounds				
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N	P	Glycol Ethers				
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N	Q	Lead Compounds (except elemental Lead)				
MINERAL FIBERS		0	T	N	Y	TOLUENE	108-88-3	10		Y	N	R	Manganese Compounds				
NAPHTHALENE	91-20-3	10	V	Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N	S	Mercury Compounds				
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N	T	Fine Mineral Fibers				
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	TOXAPHENE	8001-35-2	0.01		Y	N	U	Nickel Compounds				
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	TRICHLOROBENZENE, [1,2,4-]	120-82-1	10		Y	N	V	Polycyclic Organic Matter				
NICKEL COMPOUNDS		1	U	N	Y	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N	W	Selenium Compounds				
NICKEL REFINERY DUST		0.08	U	N	Y	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N	X	Polychlorinated Biphenyls (Aroclors)				
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y	TRICHLOROETHYLENE	79-01-6	10		Y	N	Y	Radionuclides				
NITROBENZENE	98-95-3	1		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N						
NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N						
NITROPHENOL, [4-]	100-02-7	5		Y	N	TRIETHYLAMINE	121-44-8	10		Y	N						
NITROPROPANE, [2-]	79-46-9	1		Y	N	TRIFLURALIN	1582-09-8	9		Y	Y	Note 1	The SMAL for radionuclides is defined as the effective dose equivalent to 0.3 millirems per year for 7 years exposure associated with a cancer risk of 1 in 1 million				

Mr. Dale Eichmeyer
Engineer
Independent Stave Company
1078 South Jefferson Street
Lebanon, MO 65536

RE: New Source Review Permit - Project Number: 2014-05-080

Dear Mr. Eichmeyer:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If petition is sent by registered or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission. Administrative Hearing Commission, Truman State Office Building, P.O. Box 1557, Jefferson City, Missouri 65102, www.oa.mo.gov/ahc.

If you have any questions regarding this permit contact J Luebbert, at Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH;jll

Enclosures

c: Southwest Regional Office
PAMS File: 2014-05-080
Permit Number: