

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: **042017-012**

Project Number: 2016-09-003
Installation Number: 179-0021

Parent Company: Edward L. Baker Enterprises, Inc.

Parent Company Address: 55480 Highway 21 North, Ellington, MO 63638

Installation Name: Edward L. Baker Enterprises, Inc.

Installation Address: 55480 Highway 21 North, Ellington, MO 63638


Location Information: Reynolds County (S29, T30N, R1E)


Application for Authority to Construct was made for:

The modification of two (2) spray paint booths. This review was conducted in accordance with Section (5), 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.


Prepared by
Ryan Schott
New Source Review Unit


Director or Designee
Department of Natural Resources
APR 26 2017

Effective Date

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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of startup of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 source(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 using the contact information below.

Contact Information:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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."

Edward L. Baker Enterprises, Inc.
Reynolds County (S29, T30N, R1E)

1. Capture & Control Device Requirement – Paint Booth Filters
 - A. Edward L. Baker Enterprises, Inc. shall capture and control emissions from the two paint booths (EP-12) using enclosure and paint booth filters, as specified in the permit application.
 - B. All openings in the booths shall remain closed during operation, and all fresh air vents shall be equipped with visual indicators, such as streamers, that show air flow into the booths.
 - C. The filters shall be operated and maintained in accordance with the manufacturer's specifications.
 - D. Replacement filters shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - E. Edward L. Baker Enterprises, Inc. shall maintain a copy of the filter manufacturer's performance warranty on site.
 - F. Edward L. Baker Enterprises, Inc. shall maintain an operating and maintenance log for the filters, 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.
2. Control Device Requirement – Cyclones
 - A. Edward L. Baker Enterprises, Inc. shall control emissions from trailer loading (EP-02), the scragg saw (EP-10), the band sawmill (EP-11), and their respective associated processes using cyclones (CD-1 & CD-2), as specified in the permit application.

SPECIAL CONDITIONS:

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

- B. Manufacturer's specifications do not exist for CD-1 & CD-2; therefore, Edward L. Baker Enterprises, Inc. shall generate and maintain a list of appropriate operating parameters and an inspection schedule for these control devices, in lieu of manufacturer's specifications.
 - C. Edward L. Baker Enterprises, Inc. shall submit the list of operating parameters to the Air Pollution Control Program's Compliance Section for approval no later than 30 days after the issuance of this permit.
 - D. The cyclones shall be operated and maintained within the appropriate operational parameters to ensure proper functionality and attainment of the control efficiencies specified in the permit application.
 - E. Edward L. Baker Enterprises, Inc. shall inspect the collection tube, discharge tube, and ductwork of CD-1 & CD-2, according to the inspection schedule outlined in the list of operating parameters.
 - F. Edward L. Baker Enterprises, Inc. 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. **Operational Requirement – Solvent/Cleaning Solution Storage**
Edward L. Baker Enterprises, Inc. shall keep all solvents and cleaning solutions in sealed containers whenever the materials are not in use. Edward L. Baker Enterprises, Inc. shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with the equipment in this permit.
4. **Record Keeping Requirements**
Edward L. Baker Enterprises, Inc. 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. These records shall include SDS for all materials used.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2016-09-003

Installation ID Number: 179-0021

Permit Number: 042017-012

Installation Address:

Edward L. Baker Enterprises, Inc.
55480 Highway 21 North
Ellington, MO 63638

Parent Company:

Edward L. Baker Enterprises, Inc.
55480 Highway 21 North
Ellington, MO 63638

Reynolds County (S29, T30N, R1E)

REVIEW SUMMARY

- Edward L. Baker Enterprises, Inc. has applied for authority to modify two (2) spray paint booths.
- The application was deemed complete on September 22, 2016.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process include methyl isobutyl ketone, xylene, and ethylbenzene.
- None of the NSPS or NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- 40 CFR 63 Subpart HHHHHH – *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources* does not apply to the paint booths because none of the spray coatings contain the target HAPs.
- Paint booth filters and cyclones are being used to control particulate matter emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Reynolds 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.

- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal, or applicable rules.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Edward L. Baker Enterprises, Inc. has a sawmill operation in Ellington, Missouri. Currently, operations at the facility are as follows:

All logs go through a de-barker before being sawn on either the scragg mill or the band sawmill. The scragg mill (EP-10) is capable of processing up to 3,600 board feet per hour (15.59 tons of wood per hour). Two cyclones (CD-1) collect the sawdust from the scragg mill, and this waste, along with the bark, is loaded into a trailer to be transported offsite to Kingsford Manufacturing Company (Kingsford) in Belle, Missouri. The logs sawn on the scragg mill go through a double end trim to get an exact length. They are then re-sawn on one of the two re-saws to get an exact thickness, before being run through a de-duster. Lumber sawn in this process is used for pallets, which are constructed on the two nailing machines.

The band sawmill (EP-11) is capable of processing up to 875 board feet per hour (3.79 tons of wood per hour). A single cyclone (CD-2) collects the sawdust from the band sawmill, and this waste is transferred to a dumpster, which is emptied into the trailers going to Kingsford. Lumber sawn in this process is taken to the cut-up line (chop saw) or the AmbiTrim, where it is cut to length and re-sawn to length on one of the re-saws.

The cut-up line re-saws cants (squared up material previously sawn on a sawmill) that were purchased from other mills and from what was generated on the band sawmill. The sawdust from this process is collected by the same cyclones used for the scragg mill (CD-1). Once the cants/squares have been cut to length on the chop saw, the material runs through a re-saw, de-duster, and possibly a notcher if the pallet requires a notched stringer. Shavings and sawdust from the notcher are blown out on the ground outside the pallet building where the waste is live loaded into the trailers going to Kingsford.

The AmbiTrim saw cuts the 1" boards that come off the sawmill to length, and any sawdust generated from this machine is also collected by CD-1.

A maximum of 700 tons of sawdust/waste bark can be shipped to Kingsford per month via a 2,500 ft haul road.

Edward L. Baker Enterprises, Inc. is a de minimis source for construction permits, and has previously not been required to obtain an operating permit.

The following New Source Review permits have been issued to Edward L. Baker Enterprises, Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0693-012	Scragg mill / re-saw operation for the production of pallets

PROJECT DESCRIPTION

Edward L. Baker Enterprises, Inc. operates two paint booths that were originally installed in the 1990s. This project serves to update these emission units due to changes in paint booth operation and changes in the coatings used. The main paint booth is used to paint frames and parts for woodworking machinery, and the touch-up booth is used to paint one-off small parts. Taking into account setup time, painting, and dry time, the maximum operating rate of both booths together is conservatively assumed to be 1 gallon of coating applied per hour. Emissions from the paint booths are controlled by fabric filters.

Since the facility was last permitted, there have been minor changes to the existing sawmill operations, including the addition of a new sawing process and the incorporation of cyclone collectors. To account for these changes, emissions from all current sawmill operations were reevaluated as part of this project.

EMISSIONS/CONTROLS EVALUATION

VOC and HAP emissions from spray painting operations were calculated using a mass balance approach. The VOC/HAP content of each sprayed component (taken from the SDS) was multiplied by the maximum design rate of the paint booths to get a maximum VOC/HAP usage rate. It was assumed that 100% of VOCs and HAPs are emitted.

Particulate emissions from spray painting operations were also calculated using a mass balance approach. The solids content of each sprayed component was assumed to be equivalent to the total density minus the volatile content. The solids content of each sprayed component was multiplied by the maximum design rate of the paint booths and a solids transfer efficiency of 50% for the air assisted spray guns. It was assumed that all emitted solids are PM_{2.5}. The paint booth filters were each given an overall control efficiency of 97% for PM, PM₁₀, and PM_{2.5}.

Emissions from sawmill operations were estimated using revoked emission factors for log debarking (SCC 3-07-008-01), log sawing (SCC 3-07-008-02), and sawdust pile handling (SCC 3-07-008-03), obtained from WebFIRE, the EPA's online emission factor database. Although these emission factors have been revoked, they still represent the best method for calculating emissions. The cyclones were each given an overall control efficiency of 50% for PM & PM₁₀, and 35% for PM_{2.5}.

Emissions from haul roads were calculated using the predictive equation from the EPA document AP-42, Section 13.2.2 *Unpaved Roads* (November 2006), using default parameters.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the installation's previous construction permit (0693-012). Existing actual emissions were taken from the installation's 2015 EIQ. Potential emissions of the project represent the potential of the two spray paint booths. The new installation conditioned potential emissions represent the updated emissions from all emission units at the facility, including all sawmill operations limited to operating 2 shifts per day, six days per week, as conditioned in construction permit 0693-012.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2015 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	23.51	N/D	0.21	24.13
PM ₁₀	15.0	11.63	0.65	0.21	12.79
PM _{2.5}	10.0	N/D	0.46	0.21	8.44
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	8.59	8.59
CO	100.0	N/A	N/A	N/A	N/A
MIBK	10.0 ¹	N/A	N/A	4.48	4.48
Xylene	10.0 ¹	N/A	N/A	0.45	0.45
Ethylbenzene	10.0 ¹	N/A	N/A	0.01	0.01
Total HAPs	25.0	N/A	N/A	4.94	4.94

N/A = Not Applicable; N/D = Not Determined

¹Screening Model Action Level (SMAL) = 10 tons per year

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Edward L. Baker Enterprises, Inc. 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.

GENERAL REQUIREMENTS

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *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

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

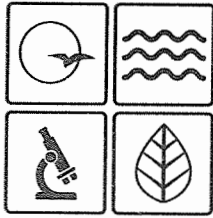
The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 10, 2016, received September 1, 2016, designating Edward L. Baker Enterprises, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best 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
CO_{2e}	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
EIQ	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/m³	micrograms per cubic meter		



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

APR 26 2017

Ms. Melinda Hathcoat
Human Resources / Office Manager
Edward L. Baker Enterprises, Inc.
P.O. Box 128
Ellington, MO 63638

RE: New Source Review Permit - Project Number: 2016-09-003

Dear Ms. Hathcoat:

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 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 and your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

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 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.ohc.mo.gov/ahc.



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Ms. Melinda Hathcoat
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If you have any questions regarding this permit, please do not hesitate to contact Ryan Schott, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Susan Heckenkamp
New Source Review Unit Chief

SH:rsj

Enclosures

c: Southeast Regional Office
PAMS File: 2016-09-003

Permit Number: **042017-012**