

PERMIT BOOK

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: 082008-005 Project Number: 2008-02-069

Parent Company: Missouri Walnut, LLC

Parent Company Address: 11417 Oak Road, Neosho, MO, 64850

Installation Name: Missouri Walnut, LLC

Installation Address: 11417 Oak Road, Neosho, MO, 64850

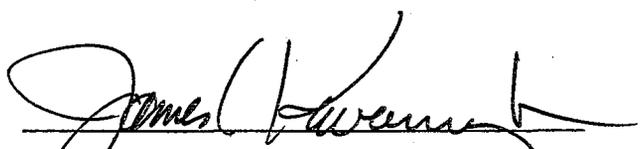
Location Information: Newton County, S1, T24, R33

Application for Authority to Construct was made for:  
The installation of a sawmill, containing several saws, a wood fired boiler, and associated equipment. 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.

AUG 12 2008

EFFECTIVE DATE

  
 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 departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 this (these) air contaminant source(s).

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 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 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.

STATE OF MISSOURI



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Permit No.	
Project No.	2008-02-069

## 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."*

Missouri Walnut, LLC  
Newton County, S1, T24, R33

1. Emission Limitation
  - A. Missouri Walnut, LLC shall emit less than 15 tons of particulate matter less than ten (10) microns in diameter (PM<sub>10</sub>) in any consecutive 12 month period from the entire installation.
  - B. Missouri Walnut, LLC shall maintain an accurate record of PM<sub>10</sub> emitted into the atmosphere from the entire installation. Attachment A or an equivalent form shall be used for this purpose. Missouri Walnut, LLC shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
  - C. Missouri Walnut, LLC shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.B. indicate that the source exceeds the limitation of Special Condition Number 1.A.
2. Mechanical Collector Conditions
  - A. The mechanical collector (multiple cyclone separator) must be in use at all times when the boiler associated with this permit is in operation. The mechanical collector shall be operated and maintained in accordance with the manufacturer's specifications. The collector shall be equipped with a gauge or meter, which indicates the pressure drop across the control device.
  - B. Missouri Walnut, LLC shall maintain an operating and maintenance log for the mechanical collector which shall include the following:
    - i) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
    - ii) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

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Project No.	2008-02-069

**SPECIAL CONDITIONS:**

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

3. Missouri Walnut, LLC shall water haul roads and log yard roads whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.
4. Sawdust and chip trailer (EP-3) must be covered at all times during loading.
5. Missouri Walnut, LLC shall only use the comfort wood stoves from November 1<sup>st</sup> through March 31<sup>st</sup>.

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

Project Number: 2008-02-069  
Installation ID Number: 145-0065  
Permit Number:

Missouri Walnut, LLC  
11417 Oak Road  
Neosho, MO 64850

Complete: April 21, 2008

Parent Company:  
Missouri Walnut, LLC  
11417 Oak Road  
Neosho, MO 64850

Newton County, S1, T24, R33

REVIEW SUMMARY

- Missouri Walnut, LLC has applied for authority to install a sawmill, containing several saws, a wood fired boiler, and associated equipment.
- Hazardous Air Pollutant (HAP) emissions are expected from the combustion of wood waste fuel.
- Subpart Dc of the New Source Performance Standards (NSPS), *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to the wood fired boiler.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart DDDDD—*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*, does not apply to the boiler because the facility is not a major source of HAPs.
- A multi-cyclone collector is being used to control the PM<sub>10</sub> emissions from the wood fired boiler. Undocumented haul road watering is being used to control the PM<sub>10</sub> emissions from the haul road and the log yard roads. A sawdust trailer is being used to control the PM<sub>10</sub> emissions from one of the saw buildings.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are limited to de minimis levels.
- This installation is located in Newton County, an attainment area for all criteria air pollutants.

- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are limited to below de minimis levels.
- Emissions testing is not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

#### INSTALLATION/PROJECT DESCRIPTION

Missouri Walnut is an existing saw mill in Newton County. The facility is located at 11417 Oak Road, Neosho, Missouri. The existing facility was built in 2005 without obtaining a construction permit. Obtaining this permit is part of a remedial action required by the Air Pollution Control Program. This project considers previously installed equipment as well as the installation of new equipment.

Large walnut logs are trucked to the facility from various locations from as far north as Iowa and as far south as Texas. Logs are unloaded and graded by size and quality. Larger, better quality logs are loaded directly into shipping containers for delivery to China. Smaller logs are staged in a large log yard for the saw mill. In 2007, 1.25 million board feet of green lumber was shipped directly to China, and 1.02 million board feet of lumber was processed through the saw mill.

The existing saw building contains 3 saws (EP-1) to cut logs into boards. Some of the logs go directly to a grading operation to assess the quality of the boards. Other logs go to a steamer prior to grading which extracts the sap from the boards and changes their color. Graded boards are loaded into containers for shipment to China. The steamer is supplied steam by a 0.75 MMbtu/hr propane fired boiler (EP-5). Two small wood stoves (EP-9 and EP-10) provide heat to the production buildings during cold weather.

Emissions from the saws are captured inside the building and transferred to large storage piles (EP-3) behind the building. An air conveyor carries fine sawdust to one pile, and a belt conveyor carries coarse sawdust to another pile. The sawdust storage piles are infrequently moved.

There is a network of gravel roads (EP-6 and EP-7) on site. They are used for trucks to haul in logs and to remove full containers for shipment. They are also used to transfer logs from the various operations, including log yard staging, sawing, grading, and containerizing. The facility practices undocumented haul road watering to control fugitive dust emissions.

Missouri Walnut is expanding their existing facility by adding a second saw building containing 5 new bandsaws (EP-2), a hog grinder, and an edger. The sawdust generated in this saw building will be conveyed to a sawdust chip trailer (EP-4) which will be enclosed on 4 sides with a cover. The sawdust and chips will be burned in a 28.26 MMbtu/hr Hurst model HYB-600-150 wood fired boiler (EP-8) equipped with a 65% efficient multi-cyclone PM<sub>10</sub> collector.

Their future plans include the addition of steam rooms, a kiln, and the expansion of their log yard and warehouse in the next two years.

Table 1 contains a summary of the emission points and equipment that were evaluated for this permit. The maximum hourly design rates (MHDR) for the saws and saw dust piles (EP-1 - EP-4) were determined using 2007 production data plus a 25% safety factor. Emissions from the steamers and kilns are assumed to be negligible since the wood is not chemically treated prior to or during this process.

Table 1: Project Emissions Points

Point ID	Description	Equipment	MHDR	Units
EP-1	Log Sawing	Head Saw Band Saw Band Saw	5.25	Tons logs processed /hr
EP-2	Log Sawing	Band Saw Band Saw Band Saw Band Saw Band Saw Hog Grinder Edger	8.65	Tons logs processed /hr
EP-3	Saw Dust/ Chip Pile	N/A	5.25	Tons logs processed /hr
EP-4	Saw Dust/Chip Trailer	Covered Trailer	8.65	Tons logs processed /hr
EP-5	Propane Boiler	Hurst (5250-150-70M)	0.0109	1000 gallons/hr
EP-6	Haul Road (3538 ft)	N/A	0.619	VMT/hr
EP-7	Log Yard (500 ft)	N/A	0.329	VMT/hr
EP-8	Wood Fired Boiler	Hurst (HYB-600-150)	28.26	MMbtu/hr
EP-9	Wood Stove	Woodmaster	0.0102	Tons waste wood/hr
EP-10	Wood Stove	Woodmaster	0.0102	Tons waste wood/hr

N/A = Not Applicable

## EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.5 *Liquefied Petroleum Gas Combustion* (10/96), Section 1.6 *Wood Residue Combustion In Boilers* (9/03), Section 1.10 *Residential Wood Stoves* (10/96), and Section 13.2.2 *Unpaved Roads* (11/06). PM<sub>10</sub> emissions are controlled through the use of multi-cyclones on the wood fired boiler (EP-8), a sawdust trailer (EP-4) enclosed on four sides with a cover for the new saw building (EP-2), and the use of

undocumented haul road watering to control fugitive dust emissions on the haul roads and log yard roads (EP-6 and EP-7).

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year) for all equipment except the wood stoves which are just used during cold weather. The potential emissions for the wood stoves were based on 3624 hours per year, operating continuously from November 1<sup>st</sup> through March 31<sup>st</sup>. The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	N/D	N/D	68.128	<15
SO <sub>x</sub>	40.0	N/D	N/D	3.109	N/A
NO <sub>x</sub>	40.0	N/D	N/D	27.594	N/A
VOC	40.0	N/D	N/D	4.069	N/A
CO	100.0	N/D	N/D	82.834	N/A
HAPs	10.0/25.0	N/D	N/D	1.373	N/A

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

### 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 PM<sub>10</sub> are limited to below de minimis levels.

### APPLICABLE REQUIREMENTS

Missouri Walnut, LLC 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

The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.

- *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 10-3.090

#### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc.
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

#### 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*, I recommend this permit be granted with special conditions.

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Kathi Jantz  
Environmental Engineer

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Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The revised Application for Authority to Construct form, dated April 17, 2008, received April 21, 2008, designating Missouri Walnut, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Regional Office Site Survey, dated March 28, 2008.

## Attachment A – PM<sub>10</sub> Compliance Worksheet

Missouri Walnut, LLC  
 Newton County, S1, T24, R33  
 Project Number: 2008-02-069  
 Installation ID Number: 145-0065  
 Permit Number: \_\_\_\_\_

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_.  
 (month, year) (month, year)

Month/Year	Haul Road Green Lumber EP-6	Wood Stoves EP9 & EP-10	Sawmill EP1			Sawmill EP2			Wood Fired Boiler EP8			12 month Total PM <sub>10</sub> Emissions	
			C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
	PM <sub>10</sub> Emissions (tons)	PM <sub>10</sub> Emissions (tons)	EP1 Board Feet	EP1 EF (tons PM <sub>10</sub> /BF)	EP1 PM <sub>10</sub> Emissions (tons) <sup>1</sup>	EP2 Board Feet	EP2 EF (tons PM <sub>10</sub> /BF)	EP2 PM <sub>10</sub> Emissions (tons) <sup>1</sup>	Tons Waste Wood	EF (tons PM <sub>10</sub> /tons waste fuel)	PM <sub>10</sub> Emissions (tons) <sup>1</sup>	Month PM <sub>10</sub> Emissions (tons) <sup>2</sup>	12 month Rolling Total PM <sub>10</sub> Emissions (tons) <sup>3</sup>
Example	0.106	0.094	35416	2.80E-06	.099	70971	1.51E-06	.107	212	0.00166	.353	.759	9.072
	0.106	0.094		2.80E-06			1.51E-06			0.00166			
	0.106	0.094		2.80E-06			1.51E-06			0.00166			
	0.106	0.094		2.80E-06			1.51E-06			0.00166			
	0.106	0.094		2.80E-06			1.51E-06			0.00166			
	0.106	0.094		2.80E-06			1.51E-06			0.00166			
	0.106	0.094		2.80E-06			1.51E-06			0.00166			
	0.106	0.094		2.80E-06			1.51E-06			0.00166			

<sup>1</sup>C6 = C4 \* C5, C9 = C7 \* C8, C12 = C10 \* C11

<sup>2</sup>C13 = C2 + C3 + C6 + C9 + C12

<sup>3</sup>C14 = C13 + previous 11 months total. A value less than 15 tons is necessary for continued compliance.

Mr. Yimin Ding  
Manager  
Missouri Walnut, LLC  
11417 Oak Road  
Neosho, MO 64850

RE: New Source Review Permit - Project Number: 2008-02-069

Dear Mr. Ding:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 basic operating permit 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.

If you have any questions regarding this permit, please do not hesitate to contact Kathi Jantz, at the departments' 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

Kendall B. Hale  
New Source Review Unit Chief

KBH:kjl

Enclosures

c: Southwest Regional Office  
PAMS File: 2008-02-069

Permit Number: