

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: **042010-008** Project Number: 2009-08-043

Parent Company: EPOCH Composite Products, Inc.

Parent Company Address: P. O. Box 567 , Lamar, MO 64759

Installation Name: EPOCH Composite Products, Inc.

Installation Number: 011-0030

Installation Address: 601 West 17th Street, Lamar, MO 64759

Location Information: Barton County, S6, T31N, R30W

Application for Authority to Construct was made for:

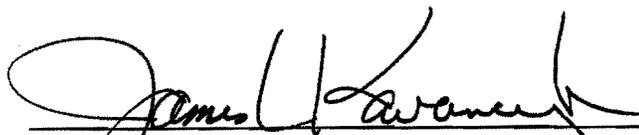
The installation of a natural fiber storage silo, a natural fiber storage pile, a mechanical handling/transfer system, a pneumatic handling/transfer system, a hammer mill with screen, and two rotary dryers, and natural fiber handling system. This review was conducted in accordance with Section (5), Missouri 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.

APR 15 2010

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 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 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.

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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."

EPOCH Composite Products, Inc.
Barton County, S6, T31N, R30W

1. **Superseding Condition**
The conditions of this permit supersede Special Condition 2. found in the permit 062009-009 from the Air Pollution Control Program.
2. **Emission Limitation**
 - A. EPOCH Composite Products, Inc. shall emit less than 64.56 pounds of formaldehyde from Stack FMN at the South Plant in any consecutive 24-hour period.
 - B. EPOCH Composite Products, Inc. shall emit less than 10.0 tons of the Hazardous Air Pollutant (HAP) formaldehyde from the entire installation (North and South Plants) in any consecutive 12-month period.
 - C. EPOCH Composite Products, Inc. shall emit less than 15.0 tons particulate matter less than ten microns in diameter (PM₁₀) from the entire South Plant in any consecutive 12-month period.
 - D. EPOCH Composite Products, Inc. shall emit less than 15.0 tons particulate matter less than ten microns in diameter (PM₁₀) from the entire North Plant in any consecutive 12-month period.
 - E. Attachment A, Attachment B, Attachment C, and Attachment D, or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2(A), 2(B), 2(C) and 2(D).
 - F. EPOCH Composite Products, Inc. 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 2(E) indicate that the source exceeds the limitation of Special Conditions 2(A), 2(B), 2(C) or 2(D).

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SPECIAL CONDITIONS:

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

3. Control Equipment – Regenerative Thermal Oxidizer.
 - A. The Regenerative Thermal Oxidizer (RTO) must be in use at all times when the Rotary Dryers are in operation or any time that regulated PM₁₀, VOC, or HAP emissions are possible from the dryers.
 - B. The RTO shall be operated and maintained in accordance with the manufacturer’s specifications.
 - C. The operating temperature of the RTO system shall be continuously monitored and recorded during operations. The temperature must be maintained within 50 degrees of the tested temperature.

4. Control Equipment – Baghouses

- A. The baghouses must be in use at all times when the following equipment are in operation:

Table 5: Equipment to be Controlled by Baghouses

Emission Unit Number	Equipment	Control Type
EU-N40A	Natural fiber Storage Silo	Baghouse
EU-N40C	Mechanical Handling/Transfer System	Baghouse
EU-N40D	Pneumatic Handling /Transfer System	Baghouse
EU-N40E	Hammer mill	Baghouse
EU-N29	Rotary Dryers	Baghouse

- B. The baghouses and any related instrumentation or equipment shall be operated and maintained in accordance with the installation’s control device operating procedures. The baghouses shall be equipped with gauges or meters, which indicate the pressure drop across the baghouses. These gauges or meters shall be located such that Department of Natural Resources’ employees may easily observe them.
- C. Replacement bags 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. EPOCH Composite Products, Inc. shall monitor and record, in an operating and maintenance log, the operating pressure drop across the baghouses at least once during every 24 hour period of operation. Either paper copy or electronic formats of the log are acceptable. The operating

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SPECIAL CONDITIONS:

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

pressure drop shall be maintained within the design conditions specified by the installation's control device operating procedures. If the pressure drop reading shall fall outside of this normal operating range, then the associated equipment shall be shut down as quickly as is feasible and corrective action taken to address the cause of the pressure drop problem.

The problem shall be corrected and the baghouse shall be operational before restarting the equipment.

- E. EPOCH Composite Products Inc. 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
 - 2.) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
 - 3.) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Either paper copy or electronic formats are acceptable.

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

Project Number: 2009-08-043
Installation ID Number: 2009-08-043
Permit Number:

EPOCH Composite Products, Inc.
617 West 17th Street
Lamar, MO 64759

Complete: February 19, 2010

Parent Company:
EPOCH Composite Products, Inc.
P. O. Box 567
Lamar, MO 64759

Barton County, S6, T31N, R30W

REVIEW SUMMARY

- EPOCH Composite Products Inc. has applied for authority to install the following equipment with a maximum hourly design rate of 9 tons an hour: a natural fiber storage silo, a natural fiber storage pile and a pneumatic handling/transfer system. A hammer mill with screen is rated at 4.5 tons per hour. The two dryers are each rated at 16.65 tons an hour when drying saw dust.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are formaldehyde (CAS #50-00-0), acrolein (CAS#107-02-8), propionaldehyde (CAS# 123-38-6) and acetaldehyde (CAS# 75-07-0)
- None of the New Source Performance Standards (NSPS) apply to the proposed Equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- Baghouses are used to control PM₁₀ emissions. A Regenerative Thermal Oxidizer (RTO) is being used to control the PM₁₀, HAP and VOC 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 PM₁₀ VOC and HAP are below de minimis levels.
- This installation is located in Barton 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 since potential emissions of the application are below de minimis levels.
- Emissions testing are 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 DESCRIPTION

EPOCH Composites Products, Inc. manufactures composite building materials at their two plants in Lamar, Missouri. Formerly, one plant operated under installation 011-0030 and the other as installation 011-0033. Permit 012007-001 combined the two plants as one installation 011-0030. The combined installation is a minor source under construction permits, and has a basic operating permit. However, this site submits Environmental Informational Questionnaire (EIQ) information as separate sites under the previous county plant codes. Natural plant fibers, aggregate, and plastics are mixed to produce deck boards, shingles and fencing.

The following permits have been issued to EPOCH Composite Products from the Air Pollution Control Program.

Table 1: Construction Permits Issued

Permit Number	Installation ID	Description
022004-009	011-0030	Limit formaldehyde
052004-008	011-0030	Extruder line
062004-010	011-0030	New emission factors
062004-010	011-0030	Amendment for grinding and pellet transfer
082006-001	011-0030	Burn-off oven
012007-001	011-0030	Combine permits
012007-001	011-0030	Amendment for burn-off oven
092004-009	011-0033	Composite lumber
092004-009	011-0033	Amendment for production and control efficiency
062009-009	011-0033	Relocation of rail production, new extrusion line, 2 new extruders

PROJECT DESCRIPTION

The main project is an expansion of material handling capabilities for natural fiber. Natural fiber is a generic term used for maintaining raw material confidentiality. The use of the term natural fiber does not authorize the installation to use a wide range of material in its feed system because only specific materials have been approved. Changing of materials that alter emissions or alter the maximum hourly design rates may require a permit. Specific materials have been approved by the Department of Natural Resources and are included in the installation's confidential file included with this project.

The new natural fiber Storage Silo EU-N40A is rated at 9.0 tons an hour and will utilize the existing material receiving system. The rate is an annual average for PTE calculations. If modeling is required in the future, this number will have to be adjusted to an hourly average. This system receives natural fiber from truck unloading with walking trailers which are enclosed trailers that have pneumatic slats that raise and lower moving the material in a forward or reverse direction. No visible emissions have been observed from trucks unloading saw dust at this facility by the department's inspectors. Since the 90 percent control was used on the smaller material in previous permits it again is reasonable to use it on the larger sized material.

EU-N40B the natural fiber storage pile is rated at 9.0 tons per hour. The natural fiber used is for receipt of wood chips sized greater than 3/8 of an inch. The silo EU-N40A is for natural fiber 3/8 of an inch or less and the pile EU-N40B is for natural fiber greater than approximately 3/8 of an inch. This site submitted data based upon developed emission factors for their site that have been used in previous permits. Also, the same control for dumping wood chips in their receiving building was used for the walking floor trailers unloading into their controlled material handling system. This assumption is based on the particle size, the moisture content and the building enclosure. With what is believed to be a low amount of PM₁₀ in the feed material this a reasonable assumption of control. Therefore, it is considered that no significant difference exists in the ability to calculate emissions from the storage of pile or the silo.

EU-N40C is a mechanical handling system for moving the natural fiber that will be unloaded into piles from delivery trailers and loaders will transfer material from the piles to the double screw transfer system. The transfer system will be equipped with a dust control unit. The throughput rate is estimated on the throughput rate of the hammer mill 9.0 tons per hour. This is an annual rate and it is not an hourly rate. At this time, no modeling is required, if modeling would be required in the future this number would need to be based on an hourly rate. The emission factor used was developed in a previous permit

EU-N40D is a pneumatic handling system and transfer system. It is rated at 9.0 tons per hour rate. This system is blowing material under pressure to a new screen and a new hammer mill, EU-NU40E which is rated at 4.5 tons per hour. The screen is separated by air locks from the conveyor and feeds material to a screen. The screen is in a feed loop to the bag house. The feed loop conveys the oversize material from the hammer mill and returns the oversize material back to the screen feeding the hammer

mill. The screen is operated in front of the hammer mill. The hammer mill is vented to a baghouse. It is operated with air locks and is a sealed closed system. No additional emissions are anticipated from the screens and none was considered in the potential to emit calculations. Only one hammer mill is being installed, but an additional hammer mill footing and utilities are being installed with this project for future expansion.

In addition, EU-N06 is at the north plant and is an existing natural fiber storage silos. Piping allowing material to be transferred to the existing silos from either the screen or the hammer mill is part of this project. No emission was associated with this change in operation.

In this project, the emissions EU-N29 from the relocation of two Scott dryers from Chilhowe to Lamar are included in this project. This site has a similar dryer EU-N29 connected to a baghouse and then connected to an RTO. Although the original permit review project number 2004-05-032 for the dryer was conducted, assuming a maximum hourly rate of 16.65 tons per hour, the stack testing (conducted April 26-28, 2005) of the RTO was conducted at a production rate of 12.18 tons per hour, running saw dust. Since this rate was more than 10 percent less than the MHDR, it became the new production rate for the north plant (see permit 012007-001, Emission/Controls Evaluation). In project 2006-10-017 with permit 012007-001, the PTE of the dryer was again based on 16.65 tons per hour maximum hourly design rate. However, the plant was largely operating natural fiber in the dryer. In the application for that project, the installation reported the dryer had a drying capacity of 9 tons per hour of natural fiber. The PTE calculation was not altered to show the lower capacity for the different material, a worst case rate was used in the calculations. In this application, and according to the capacity guarantee submitted by the applicant for a specific material, capacity is 3 tons per hour of dry wood flour at 1 % moisture given a maximum moisture feed of 15 percent. Wood flour is not processed in the plant and the capacity of the dryer appears to be product specific. The installation's potential to emit for EU-N29 B and C is based on 16.65 tons per hour maximum hourly design rate through the dryers or 33.3 tons combined.

The project emission total will reflect the HAP, VOC and combustion emissions from the two dryers additions. Establishment of the 15 ton per year emission limitation, allowed EPOCH Composite Products, Inc. to operate the North plant at an hourly production rate of up to 27.75 tons per hour of material processed, while remaining a de minimis source for PM₁₀. Permit 012007-001, did not break down how the plant could achieve the production rate of 27.75 tons per hour, but some products produced may be processed without the drying option. The dryer was never authorized above 16.65 tons per hour in permit 012007-001. The material that is being processed now falls below this rate.

Under this project, EPOCH Composite Products Inc. can dry all permitted natural fibers and saw dust with the three dryers EU-N29 A, B, and C. However, the 15 tons per year PM₁₀ limits will restrict the plant's output.

The dryer will be operating below this rate when processing natural fiber which the installation has suggested in the application is very similar to sawdust except larger

particles. Although additional air flow may be diluting the system, all of the emissions that are HAP are also considered VOCs and a 95 percent destruction efficiency should be maintained in the RTO.

If Department approved emission data from testing identifies emission rates from different feed materials, this information should be used in the calculation of the 15 tons per year PM₁₀ limits and HAP totals. Data from approved emission testing should be used to update the Appendix tables whenever it is available. The use of the terms natural fiber does not authorize any material of any natural composition to be processed in the dryers as all "changes in operations" would need to be subjected to a review for the need for permitting.

To avoid further RTO testing, the previous permit review (012007-001) was conducted assuming that the RTO provide no control of PM₁₀ emissions and EPOCH Composite Products, Inc. voluntarily took a de minimis limitation on PM₁₀ emissions to operate the plant at an hourly production rate up to its maximum hourly design rate of 27.75 tons per hour of material processed, while remaining a de minimis source of PM₁₀.

EMISSIONS/CONTROLS EVALUATION

The Special Conditions of this permit were carried forward because of the North and South Plant in previous permits had separate limits established for each plant, but being a combined site they are treated as one installation. This permit is for equipment that will be placed in the North plant.

This permit corrects an error in permit 062009-009 in the calculation of the PTE from the consideration of the two extruders in the North Plant. The two replacement extruders have a combined Maximum Hourly Design Rate of 2,800 pounds per hour. Permit 062009-009 only considered the 1,600 pounds increase in design capacity by subtracting the existing extruders capacity. This resulted in an understating of the PTE by 2.42 tons per year of PM₁₀, 0.11 tons per year of VOC, and 0.001 tons per year of HAP. This does raise the PM₁₀ PTE above the modeling threshold, but the installation took a less than 15 tons per year limit on PM₁₀ that incorporated the permit 062009-009 changes under the existing plant limit thereby removing the modeling requirement. The PTE of the installation as stated in this permit was adjusted to show the correction.

The emission factors used for the natural fiber are those that were used for the saw dust handling operations used in previous permits and were obtained from the Factor Information Retrieval (FIRE) Data System Version 5.0, Source Classification Codes and Emission Factor Listing for Criteria Pollutants, 3-07-008 Sawmill Operations. The emission factors for the dryer were obtained from stack tests performed by NPN Environmental Engineers, Inc. and subsequently approved by the Enforcement Section of the Air Pollution Control Program. The application claimed that each bag house had a PM₁₀ control Efficiency of 90%. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year.) The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2008 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential	
					<15N	<15S
PM ₁₀	15.0	36.97*	3.42	9.17	<15N	<15S
SO _x	40.0	0.71	0.01	N/A	0.71	
NO _x	40.0	9.36	2.05	0.83	10.19	
VOC	40.0	21.52*	1.87	37.97	59.49	
CO	100.0	37.52	2.55	0.70	38.22	
HAPs	10.0/25.0	2.32*	0.51	2.09	<10.0/25.0	
Formaldehyde	2**/10.0	<10.0	N/A	1.97	<10.0	
Acrolein	0.04**/10.0	N/A	N/A	0.007	N/A	
Propionaldehyde	5**/10.0	N/A	N/A	0.008	N/A	
Acetaldehyde	9**/10.0	N/A	N/A	0.087	N/A	

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

*The adjustments to correct error in permit 062009-009 PM₁₀ 20.93+16.04=36.97

VOC 20.7+0.82=21.52 and HAP 2.31+0.008=2.32

** Screen Modeling Action Levels

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 the application are below de minimis levels.

APPLICABLE REQUIREMENTS

EPOCH Composite Products, 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. 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

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/without special conditions.

 Tim Hines
 Environmental Engineer

 Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 18, 2009, received August 24, 2009, designating EPOCH Composite Products as the owner and operator of the installation.
- Supplemental Information received on February 05, 2010 and February 19, 2010.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Site Survey, dated September 28, 2009.

Attachment C – Formaldehyde Emission Factors to be Used with Attachments A and B

EPOCH Composite Products, Inc.
Barton County, S6, T31N, R30W
Project Number: 2009-08-043
Installation ID Number: 011-0030
Permit Number:

EP ID	Emission Point Description	Emission Factor (lbs/ton)
EU-N06 & EU-S06	Sawdust Transfer to Silo	0.00015
EU-N10a	Compounding & Extruding (Plastic)	6.0 E-6
EU-S10a	Compounding & Extruding (Plastic)	0.00012
EU-N10b	Compounding & Extruding (Sawdust)	0.0135
EUS10b	Compounding & Extruding (Sawdust)	0.27
EU-S22	Handling/Mixing/Extrusion - Shingle	0.00012
EU-S23	Pelletization/Injection Molding - Shingle	0.00012
EU-N29	Rotary Dryer	.0135

