

STATE OF MISSOURI

PERMIT BOOK



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: 012007-001 Project Number: 2006-10-017

Parent Company: Epoch Composite Products, Inc.

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

Installation Name: Epoch Composite Products, Inc.

Installation Address: 223 S. Hwy KK & 601 W. 17th St., Lamar, MO 64759

Location Information: Barton County, S6, T31N, R30W

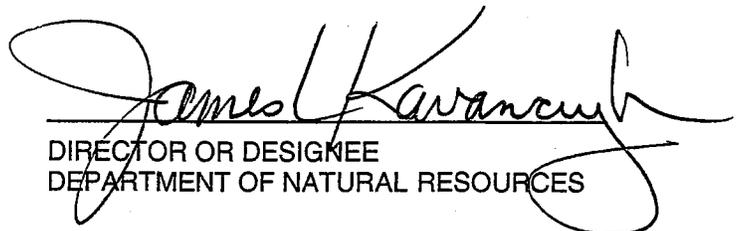
Application for Authority to Construct was made for: combining the facility's North and South plants under one permit and installation ID number (011-0030). This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

JAN - 3 2007

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 department's 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 with 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



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: Project Number: 2006-10-017

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

Installation Name: Epoch Composite Products, Inc.

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Location Information: Barton County, S6, T31N, R30W

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

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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.

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Permit No.	012007-001
Project No.	2006-10-017

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 all special conditions found in the previously issued construction permits (Permit Numbers 082006-001 and 092004-009) from the Air Pollution Control Program.
2. **Emission Limitations**
 - 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, Missouri 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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Permit No.	012007-001
Project No.	2006-10-017

SPECIAL CONDITIONS:

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

3. **Stack Height Requirements**
Epoch Composite Products, Inc. shall have a minimum stack height of 75 feet for Stack B and 95 feet for Stack FMN.

4. **Shut Down of Existing Emission Units and Operations at Installation**
Epoch Composite Products, Inc. shall render inoperable by removing the starters, motors or drive devices of the equipment listed below. The emission units and operations listed below may not be operated without first undergoing New Source Review from the Air Pollution Control Program.

<u>No.</u>	<u>Unit ID</u>	<u>Emission Unit Description</u>
1.	EU-S07	Scott AST Dryer
2.	EU-S08	Dried Sawdust Storage Silo
3.	EU-S12	Brush Machines

5. **Operational Requirements – Burn-Off Oven (EU-S29)**
 - A. Epoch Composite Products, Inc. shall use this burn-off oven exclusively to remove non-chlorinated/non-hazardous coatings from metal parts.
 - B. Natural Gas shall be the only fuel combusted in this burn-off oven.
 - C. Epoch Composite Products, Inc. shall use a direct flame afterburner to control emissions from the burn-off oven. The afterburner shall operate between 1,500 to 1,800 degrees Fahrenheit.
 - D. The burn-off oven shall be equipped with an electronic controller, with digital readout, which is able to monitor and display the temperature in the second combustion chamber to an accuracy of plus or minus two percent (2%). Calibration will be scheduled according to manufacturer's recommendations.
 - E. The burn-off oven shall have opacity of less than ten percent (10%) at all times. Compliance will be verified through Method 9 observations.

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Permit No.	012007-001
Project No.	2006-10-017

SPECIAL CONDITIONS:

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

6. Control Device – Baghouses
 - A. Epoch Composite Products, Inc. shall control emissions from the following equipment using baghouses as specified in the permit application:

North Plant	
Emission Point	Emission Unit Controlled
EU-N01	Bag Dump & Drop Legs
EU-N02	Grinding Conveyor Material Transfer
EU-N03	Grinding
EU-N04	Ground Material Transfer to Silo
EU-N05	Plastic Transfer to Silo
EU-N06	Sawdust Transfer to Silo
EU-N09a & EU-N09b	Blending & Material Handling – Plastic/Sawdust
EU-N10a & EU-N10b	Compounding & Extruding – Plastic/Sawdust
EU-N11	Finishing & Grinding
EU-N29	Rotary Dryer
South Plant	
Emission Point	Emission Unit Controlled
EU-S01	Bag Dump & Drop Legs
EU-S02	Grinding Conveyor Material Transfer
EU-S03	Grinding
EU-S04	Ground Material Transfer to Silo
EU-S05	Plastic Transfer to Silo
EU-S06	Sawdust Transfer to Silo
EU-S09a & EU-S09b	Blending & Material Handling – Plastic/Sawdust
EU-S10a, EU-S10b & EU-S10c	Compounding & Extruding – Plastic/Sawdust
EU-S11	Finishing & Grinding
EU-S18	Plastic Transfer to Silo - Shingle
EU-S19	Limestone Transfer to Silo - Shingle
EU-S20	Pellet Transfer to Silo - Shingle
EU-S21	Grinding - Shingle
EU-S22	Handling/Mixing/Extrusion - Shingle
EU-S23	Pelletization/Injection Molding – Shingle

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Permit No.	012007-001
Project No.	2006-10-017

SPECIAL CONDITIONS:

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

- B. The baghouses shall be operated and maintained in accordance with the installation's control device operating procedures. The baghouses 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 Missouri Department of Natural Resources employees may easily observe them. Replacement filters for the baghouses shall be kept on hand or order 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).
 - C. Epoch Composite Products, Inc. shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours while equipment is in operation. The operating pressure drop shall be maintained within the design conditions specified by the installation's control device operating procedures.
 - D. 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; and
 - 2) Maintenance activities that have impact air emissions, with inspection schedule, repair actions, and replacements, etc.
7. Control Device - Regenerative Thermal Oxidizer
- A. Except during periods of startup, shutdown, and malfunction, Epoch Composite Products, Inc. shall control volatile organic compound (VOC) and HAP emissions from the following equipment using a regenerative thermal oxidizer (RTO) as specified in the permit application. The RTO shall be operated and maintained in accordance with the installation's Preventative Maintenance Procedure manual.

Emission Point	Emission Unit Controlled
EU-N09a & EU-N09b	Blending & Material Handling – Plastic/Natural Fiber
EU-N10a & EU-N10b	Compounding & Extruding – Plastic/Natural Fiber
EU-N29	Rotary Dryer

- B. Epoch Composite Products, Inc. shall operate the RTO at a minimum operating temperature of 1,400 degrees Fahrenheit. The RTO shall be equipped with a continuous temperature monitoring system.

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Permit No.	012007-001
Project No.	2006-10-017

SPECIAL CONDITIONS:

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

- C. Epoch Composite Products, Inc. shall maintain an operating and maintenance log for the RTO 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 that have impact air emissions, with inspection schedule, repair actions, and replacements, etc.

- 8. Maintenance of Paved of Haul Road(s)
 - A. Maintenance and/or repair of haul road surfaces shall be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.

 - B. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road(s) as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

- 9. Recordkeeping Requirements
Epoch Composite Products, Inc. shall maintain all records required by this permit, on-site, for the most recent 60 months of operation and shall make such records available immediately to any Missouri Department of Natural Resources' personnel upon request. These records, if applicable, shall include Material Safety Data Sheets (MSDS) for all materials used in this equipment and shall be considered confidential per Missouri Rule 10 CSR 10-6.210.

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

Project Number: 2006-10-017
Installation ID Number: 011-0030
Permit Number: 012007-001

Epoch Composite Products, Inc.
223 S. Hwy KK & 601 W. 17th St.
Lamar, MO 64759

Complete: October 3, 2006
Reviewed: December 4, 2006

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

Barton County, S6, T31N, R30W

REVIEW SUMMARY

- Epoch Composite Products, Inc. (Epoch) has applied for authority to permit their two locations as one installation under installation ID number 011-0030.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are acetaldehyde, acrolein, acrylic acid, formaldehyde and propionaldehyde.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- 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.
- Baghouses are being used to control the particulate matter less than ten (10) microns in diameter (PM_{10}) emissions from the equipment at the two plants. A Regenerative Thermal Oxidizer (RTO) is being used to control the HAP and volatile organic compound (VOC) emissions from some of the equipment at the North Plant. A direct flame afterburner is being used to control emissions from the pyrolysis cleaning furnace (burn-off oven) at the South Plant (EU-S29).
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of formaldehyde and PM_{10} are conditioned to de minimis levels.
- This installation is located in Barton 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 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 issuance of this construction permit.
- Approval of this permit is recommended with special conditions.

INSTALLATION/PROJECT DESCRIPTION

Epoch manufactures composite building materials at their two plants in Lamar, Missouri. Natural fibers, limestone, and plastic are mixed together to make the aforementioned products for the housing market. The facility located at 601 W. 17th St. – the North Plant (Installation ID No. 011-0033) has primarily been engaged in producing composite lumber products; the initial location at 223 S. Hwy KK – the South Plant (Installation ID No. 011-0030) has manufactured shingles and decking/fencing products. The North Plant also houses a Research & Development Facility, consisting of fume hoods, solvent storage cabinets, solvent recovery and waste solvent storage area, electric oven, electric weathering unit, small wood shop for composite lumber sample preparation and analytical laboratory instruments.

The two facilities have previously been considered separate installations based on information submitted by Epoch and according to criteria laid out by the Environmental Protection Agency (EPA).

Installation is defined by 10 CSR 10-6.020 (2)(I)(7) as the following:

“All source operations including activities that result in fugitive emissions, that belong to the same industrial grouping and any marine vessels while docked at the installation, located on one (1) or more contiguous or adjacent properties and under the control of the same person...”

However, the definition of “support facility” as clarified in the August 7, 1980 preamble to the PSD regulations (45 FR 52695) states:

“Each source is to be classified according to its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Thus, one source classification encompasses both primary and support facilities, even when the latter includes units with a different two-digit SIC code. Support facilities are typically those which convey, store, or otherwise assist in the production of the principal product. Where a single unit is used to support two otherwise distinct sets of activities, the unit is to be included within the source which relies most heavily on its support.

Therefore, in defining the source where a potential support relationship exists between two facilities, the difference in SIC codes becomes irrelevant and the only factors remaining to be considered are whether the facilities are contiguous or adjacent and under the control of the same person.

At the time that the North Plant was permitted, that facility was not slated to provide assistance in manufacturing of any product to the South Plant and was to be run by separate management. Therefore, in accordance with Air Pollution Control Program guidelines at the time, the North Plant (Installation ID No. 011-0033) and the South Plant (Installation ID No. 011-0030) were considered separate installations.

The following permits have been issued to the Epoch plants from the Air Pollution Control Program.

Table 1: Issued Construction Permits from the Air Pollution Control Program

Permit Number	Installation ID No.	Description
022004-009	011-0030	Installation of seven (7) process lines and two (2) injection molding machines
052004-008	011-0030	Temporary permit for a pilot study on an existing extrusion line
062004-010	011-0030	Modification to Permit Number 022004-009 and installation of a sawdust dryer
092004-009	011-0033	Installation of a composite lumber manufacturing operation
082006-001	011-0030	Installation of a controlled pyrolysis cleaning furnace (burn-off oven)

PROJECT DESCRIPTION

Epoch now intends to voluntarily combine the operation and management of both facilities into one. Epoch believes that this will allow them to better utilize employees, raw materials, equipment, etc. in producing composite building products.

The following table delineates all emission points considered to be part of the combined installation.

Table 2: Emission Points at Epoch North Plant

New Emission Point Designation	Previous Emission Point Designation	Emission Point Description
EU-N01	EU-01	Bag Dump &/or Drop Legs
EU-N02	EU-02	Scrap Material Transfer Conveyor to Grinder
EU-N03	EU-03	Grinding
EU-N04	EU-04	Ground Material Transfer
EU-N05	EU-05	Plastic Transfer to Silo
EU-N06	EU-06	Sawdust Transfer to Silo
EU-N09a	EU-09a	Blending & Material Handling – Plastic
EU-N09b	EU-9b	Blending & Material Handling – Sawdust
EU-N10a	EU-10a	Compounding & Extruding – Plastic
EU-N10b	EU-10b	Compounding & Extruding – Sawdust
EU-N11	EU-11	Finishing & Grinding
EU-N13	N/A	Building Vents
EU-N14	EU-14	Natural Gas Heaters
EU-N15	EU-15	Natural Gas Space Heaters
EU-N16	EU-16	Kerosene Space Heaters
EU-N17	EU-17	Haul Road
EU-N25	EU-25	Cooling Tower System – North
EU-N26	EU-26	300-gallon Gasoline Storage Tank
EU-N27	EU-27	300-gallon Diesel Storage Tank
EU-N28	EU-28	300-gallon Kerosene Storage Tank
EU-N29	EU-29	Rotary Dryer
EU-N30	EU-30	Regenerative Thermal Oxidizer

Table 3: Emission Points at Epoch South Plant

New Emission Point Designation	Previous Emission Point Designation	Emission Point Description
EU-S01	EU-01	Bag Dump &/or Drop Legs
EU-S02	EU-02	Scrap Material Transfer Conveyor to Grinder
EU-S03	EU-03	Grinding
EU-S04	EU-04	Ground Material Transfer
EU-S05	EU-05	Plastic Transfer to Silo
EU-S06	EU-06	Sawdust Transfer to Silo
EU-S07	EU-07	REMOVED FROM SERVICE – Scott Dryer
EU-S08	EU-08	REMOVED FROM SERVICE – Dried Sawdust Storage
EU-S09a	EU-09pl	Blending & Material Handling – Plastic
EU-S09b	EU-09sd	Blending & Material Handling - Sawdust
EU-S10a	EU-10pl	Compounding & Extruding – Plastic
EU-S10b	EU-10sd1	Compounding & Extruding – Sawdust Binder Laden
EU-S10c	EU-10sd2	Compounding & Extruding – Sawdust Non-binder
EU-S11	EU-11	Finishing & Grinding
EU-S12	EU-12	REMOVED FROM SERVICE – Brush Machines
EU-S13	N/A	Building Vents
EU-S14	EU-14	Natural Gas Heaters
EU-S15	EU-15	Natural Gas Space Heaters
EU-S16	EU-16	Kerosene Space Heaters
EU-S17	EU-17	Haul Road
EU-S18	EU-18	Plastic Transfer to Silo – Shingle
EU-S19	EU-19	Limestone Transfer to Silo – Shingle
EU-S20	EU-20	Pellet Transfer to Silo – Shingle
EU-S21	EU-21	Grinding – Shingle
EU-S22	EU-22	Handling/Mixing/Extrusion – Shingle
EU-S23	EU-23	Pelletization/Injection Molding – Shingle
EU-S24	EU-24	Natural Gas Heaters – Shingle
EU-S25	EU-25	Cooling Tower System – Shingle
EU-S26	EU-26	300-gallon Gasoline Storage Tank
EU-S27	EU-27	300-gallon Diesel Storage Tank
EU-S28	EU-28	300-gallon Kerosene Storage Tank
EU-S29	EU-29	Burn Off Oven – Shingle Plant

The specific maximum hourly design rates (MHDRs) for all of the new equipment added under this permit have been determined to be confidential business information and will not be made available for review by the general public. The confidential file for this project contains a memorandum that provides the specific details on the sizes of the new equipment.

EMISSIONS/CONTROLS EVALUATION

Existing emissions for each plant were recalculated for this review. Addition of the North Plant's emissions to the South Plant's operations was considered to be the project emissions for this review.

The emission factors for the sawdust handling operations (EU-01, 03, 09, 10, and 11 for each plant) 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 plastic grinding and handling operations (EU-02, 04, 05, 09, and 10 for each plant) were obtained from the FIRE Data System, 3-05-025-03 Construction Sand and Gravel.

The PM₁₀ emission factor for the cooling towers (EU-N25 and EU-S25) was obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 13.4, *Wet Cooling Towers (1/95)*. The PM₁₀ emission factor for the limestone handling operations (EU-19 and EU-22) were obtained from AP-42 Section 11.12, *Concrete Batching (10/01)*.

The emission factors for sawdust transfer to silo (EU-N06 and EU-S06), the rotary dryer (EU-N29), and the sawdust compounding and extruding operations (EU-10b at each plant) were obtained from stack tests performed by NPN Environmental Engineers, Inc. and subsequently approved by the Enforcement Section of the Air Pollution Control Program. It should be noted that the stack test performed prior was for a direct heated rotary drier. At the time of the initial application for the North Plant, it was unknown whether the rotary dryer would be directly or indirectly heated. Since emissions from typical direct heated rotary dryers produce more emissions than indirect heated dryers, the emissions for the project were calculated using the conservative numbers.

The emission factors for the plastic compounding and extruding operations (EU-10a at each plant), the handling/mixing/extrusion – shingle (EU-S22) and the pelletization/injection molding – shingle (EU-S23) were obtained from a study entitled, *Development of Emission Factors for Polyethylene Processing in the June 1996 issue of the Journal of the Air & Waste Management Association*.

Baghouses will be used in conjunction with several pieces of equipment at the North and South Plants, and claimed by the applicant to each have a PM₁₀ control efficiency of 90 percent. A list of the equipment controlled by baghouses is located in the special conditions section of this permit.

A RTO is used in conjunction with the blending & material handling (EU-N09a & EU-N09b), compounding & extruding operations (EU-N10a & EU-N10b) and the rotary dryer (EU-N29) at the North Plant. The RTO has a VOC and HAP control efficiency of 95 percent. The original construction permit (Permit No. 092004-009) contained stack testing provisions to ensure that the RTO had a destruction efficiency for PM₁₀ adequate to keep the installation's emissions under de minimis levels.

Epoch performed that stack testing on April 26-28, 2005. Results of those tests showed compliance with the original PM₁₀ permit limit of 1.95 lb/hr exiting the RTO. The PM₁₀ destruction efficiency of the RTO was determined to be 51.7%. Although the original permit review was conducted assuming a maximum hourly production rate of 16.65 tph, the stack testing was conducted at a production rate of only 12.18 tph. Since this rate was more than 10% less than the MHDR, it became the new production rate limit for the North Plant. Epoch was prohibited from operating at a higher production rate without

retesting the RTO.

To avoid further RTO testing, this review was conducted assuming that the RTO provided no control of PM₁₀ emissions. Instead, Epoch has voluntarily accepted a de minimis limitation on PM₁₀ emissions from the entire North Plant. Establishment of the 15 tpy limitation allows Epoch to operate the plant at an hourly production rate up to its maximum hourly design rate of 27.75 tph of material processed, while remaining a de minimis source of PM₁₀.

The South Plant has taken various permit limits over time. PM₁₀ emissions were limited to less than 15 tons per year (tpy), VOC emissions were limited to less than 40 tpy and formaldehyde emissions were limited to less than 10 tpy. The removal of the Scott AST dryer (EU-S07) has made the existing VOC potential emissions less than the established de minimis limitation on that pollutant. Therefore, a de minimis limitation on VOC emissions is no longer needed; this permit contains no VOC emissions limitation.

As stated previously, existing emissions for each plant were recalculated for this review. Existing potential emissions for PM₁₀ and formaldehyde are limited to de minimis levels at the South Plant. The South Plant will retain its de minimis PM₁₀ limit. The formaldehyde limit will now encompass both the North and South plants. Since formaldehyde makes up nearly 100% of the HAP emissions from the plant, compliance with a de minimis limitation on that pollutant will prevent the installation from exceeding a 25 tpy total HAP emissions limit. Therefore, no special condition is needed to maintain actual total HAP emissions below 25 tpy.

Existing actual emissions were taken from the applicant's 2004 (South Plant) and 2005 (North Plant) Emissions Inventory Questionnaire (EIQ) submittals. Potential emissions of the North Plant represent the potential of the equipment, assuming continuous operation (8760 hours per year) and are equivalent to the North Plant's existing potential emissions. The new installation is considered to be the combination of Epoch's North and South plants. The following table provides an emissions summary for this project.

Table 4: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions (South Plant)	Existing Actual Emissions (2004/2005 EIQ)		Potential Emissions of the Application	Installation Conditioned Potential
			North	South		
PM ₁₀	15.0	<15.00	2.15	3.25	20.93	<15.0 (North Plant)
SO _x	40.0	0.68	0.01	0.00	0.71	N/A
NO _x	40.0	2.35	1.96	0.48	9.36	N/A
VOC	40.0	38.23	0.69	7.83	20.70	N/A
CO	100.0	1.85	2.36	0.65	37.52	N/A
HAPs	10.0/25.0	28.41	0.21	3.61	2.31	<10.0/25.0
Formaldehyde	2.0 ^a /10.0	<10.00	N/D	N/D	1.97	<10.0

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

^a Screen Modeling Threshold Level

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 formaldehyde and PM₁₀ are conditioned to 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 April 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
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

AMBIENT AIR QUALITY IMPACT ANALYSIS

The North Plant originally did not undergo any modeling analysis when the plant was originally permitted since no modeling thresholds were exceeded. Potential formaldehyde emissions, 1.97 tpy, remained below the screen modeling threshold level of 2.0 tpy.

However, several manufacturing processes (EU-S05, S07 (now removed), S10, S22, and S23) at the South Plant release formaldehyde, a HAP, into the air. The Air Pollution Control Program originally performed a screening model analysis to determine if the Risk Assessment Level (RAL) for formaldehyde would be exceeded. The screening model was run using the Screen3 program and indicated that the annual and 24-hour RAL for formaldehyde would be exceeded. The modeling results were based on existing stack parameters and a total formaldehyde emission rate of 2.65 lb/hr. The following table lists the modeled rates and the RALs for formaldehyde.

Table 5: Risk Assessment Levels and Modeled Impacts for Formaldehyde

Pollutant	Modeled Impact ($\mu\text{g}/\text{m}^3$)	RAL ($\mu\text{g}/\text{m}^3$)	Time Period
Formaldehyde	47.59	8.00	24-Hour
	3.81	0.80	Annual

In order for Epoch to become in compliance with the RALs, the Air Pollution Control Program requested that Epoch perform refined modeling.

Epoch modeled the emissions from EU-S10 for formaldehyde using the Industrial Source Complex Short Term (ISCST3) dispersion model. The following table lists the 24-hour and annual modeled impacts as indicated by the refined modeling:

Table 6: Revised Stack Heights and Emission Rates for Epoch

Stack ID	Minimum Stack Height (ft)	Emission Rate (lb/hr) Note 1	Maximum Combined 24-Hr Modeled Impact ($\mu\text{g}/\text{m}^3$)	Maximum Combined Annual Modeled Impact ($\mu\text{g}/\text{m}^3$)
B	60	0.60	7.44	0.77
FMN	75	1.52		

Note 1: Emission rate limitation from each stack. To be tracked on a 24-hour period.

In order to maintain these modeled impacts, the Air Pollution Control Program's Technical Support Section recommended that the stacks for the baghouses be increased to the above heights and that the installation have 24-hour throughput emission limitations of 14.4 lbs. for Stack B and 36.5 lbs. for Stack FMN (based on the emission rates listed in Table 6). These limits were instituted in Permit No. 022004-009. Due to the 24-hour limitation, the annual potential emissions (9.20 tpy) of formaldehyde would be less than the de minimis level for an individual HAP (10.0 tpy).

Epoch came back to the Air Pollution Control Program for a permit revision after stack testing conducted in January 2004 showed that the emission factors for acetaldehyde and formaldehyde used in Permit No. 022004-009 were underestimated. A revised modeling analysis was performed in order to show compliance with the RAL. The following table lists the 24-hour and annual modeled impacts as indicated by the refined modeling.

Table 7: Revised Stack Heights and Emission Rates for Epoch

Stack ID	Minimum Stack Height (ft)	Emission Rate (lb/hr)	Maximum Combined 24-Hr Modeled Impact ($\mu\text{g}/\text{m}^3$)	Maximum Combined Annual Modeled Impact ($\mu\text{g}/\text{m}^3$)
B	75	36.75*	7.94	0.72
FMN	95	64.56**		

* The actual emission rate of formaldehyde from Stack B is 36.12 lb/hr. Since the modeled rate is greater than the actual rate, no limit was given for this stack.

** Emission rate limitation from the stack and tracked on a 24-hour period.

In order to not exceed the modeled impacts, the Air Pollution Control Program's Air Quality Analysis Section recommended that the stacks for the baghouses be increased to the above heights and that the installation have 24-hour throughput emission limitation of 64.56 lbs. for Stack FMN (based on the emission rates listed in Table 7). Special conditions were included in Permit No. 062004-010 establishing the stack heights and 24-hour throughput limitation.

For purposes of the current review, the existing potential of the North Plant is considered to be the project potential emissions. The increase in emissions of formaldehyde is below the insignificant emission exemption level found at 10 CSR 10-6.061 (3)(A)3.B, so does not trigger permitting. In actuality, formaldehyde emissions on an hourly basis are expected to decrease for the entire installation since Epoch has removed the Scott AST dryer (EU-S07) that was a significant source of formaldehyde emissions. Since there will be a net decrease in formaldehyde emissions, no further modeling was conducted as part of this review.

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.

Lina Klein, P.E.
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 29, 2006, received October 3, 2006, designating Epoch Composite Products, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Factor Information Retrieval (FIRE) Data System, Version 5.0, *Source Classification Codes and Emission Factor Listing for Criteria Pollutants*
- Southwest Regional Office Site Survey, dated October 31, 2006.

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

Epoch Composite Products, Inc.
Barton County, S6, T31N, R30W
Project Number: 2006-10-017
Installation ID Number: 011-0030
Permit Number: 012007-001

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 Modling - Shingle	0.00012
EU-N29	Rotary Dryer	0.0135

Mr. Richard O'Hare
Vice President of Manufacturing
Epoch Composite Products, Inc.
P.O. Box 567
Lamar, MO 64759

RE: New Source Review Permit - Project Number: 2006-10-017

Dear Mr. O'Hare:

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 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 me at (573) 751-4817, or you may write to me at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:klk

Enclosures

c: Southwest Regional Office
PAMS File 2006-10-017

Permit Number: