

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: 012013-008

Project Number: 2012-11-036  
Installation Number: 203-0033

Parent Company: Upland Timber, Inc.

Parent Company Address: P.O. Box 702, Mountain View, MO 65548

Installation Name: Upland Timber, Inc.

Installation Address: 2121 Old Highway 60, Mountain View, MO 65548

Location Information: Shannon County, S19, T27N, R6W

Application for Authority to Construct was made for:  
The installation of a new lumber mill that will handle small timber to produce pallet components. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

JAN 28 2013

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 these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

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

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

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

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

|             |             |
|-------------|-------------|
| Page No.    | 3           |
| Permit No.  |             |
| Project No. | 2012-11-036 |

**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."*

Upland Timber, Inc.  
Shannon County, S19, T27N, R6W

1. PM<sub>10</sub> Emission Limitation
  - A. Upland Timber, Inc. shall emit less than 15.0 tons of PM<sub>10</sub> in any consecutive 12-month period from the entire installation.

Table 1: Entire Installation

| <b>Emission Unit</b> | <b>Description</b>                |
|----------------------|-----------------------------------|
| EU-1                 | Log Mechanderiser                 |
| EU-3                 | Big Jake Scragg Mill              |
| EU-4                 | Slab Edger                        |
| EU-6                 | Trim Saw                          |
| EU-8                 | 5 Head Saw                        |
| EU-9                 | 2 Head Saw                        |
| EU-14                | Wood Hog/Grinder                  |
| EU-16                | Gang Edger                        |
| EU-17                | Notcher                           |
| EU-18                | Deduster                          |
| HR1-12               | Haul Roads and Vehicular Activity |

- B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.
2. Control Device Requirement - Cyclone
  - A. Upland Timber, Inc. shall control emissions from the equipment listed in Table 2 below using a cyclone as specified in the permit application.

|             |             |
|-------------|-------------|
| Page No.    | 4           |
| Permit No.  |             |
| Project No. | 2012-11-036 |

**SPECIAL CONDITIONS:**

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

**Table 2: Cyclone Controlled Emission Units**

| <b>Emission Unit</b> | <b>Description</b>   |
|----------------------|----------------------|
| EU-3                 | Big Jake Scragg Mill |
| EU-4                 | Slab Edger           |
| EU-8                 | 5 Head Saw           |
| EU-9                 | 2 Head Saw           |
| EU-16                | Gang Edger           |
| EU-17                | Notcher              |
| EU-18                | Deduster             |

- B. The cyclone shall be operated and maintained in accordance with the manufacturer's specifications.
  - C. Upland Timber, Inc. shall maintain an operating and maintenance log for the cyclone 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. Record Keeping and Reporting Requirements
- A. Upland Timber, 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.
  - B. Upland Timber, Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2012-11-036  
Installation ID Number: 203-0033  
Permit Number:

Upland Timber, Inc.  
2121 Old Highway 60  
Mountain View, MO 65548

Complete: December 10, 2012

Parent Company:  
Upland Timber, Inc.  
P.O. Box 702  
Mountain View, MO 65548

Shannon County, S19, T27N, R6W

REVIEW SUMMARY

- Upland Timber, Inc. has applied for authority to install a new lumber mill that will handle small timber to produce pallet components.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A cyclone is being used to control the PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from the equipment in this permit.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are conditioned below de minimis levels. Potential emissions of PM are above de minimis levels, but below major source levels.
- This installation is located in Shannon 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. The potential emissions of PM are above de minimis levels however no modeling is required as no NAAQS is present for PM.

- Emissions testing are not required for the equipment.
- No Operating Permit is required for this installation as PM does not trigger the need for an operating permit.
- Approval of this permit is recommended with special conditions.

## PROJECT/INSTALLATION DESCRIPTION

Upland Timber, Inc. (Upland) is installing a new lumber mill that will handle small timber, consisting of both hardwoods and pine, to produce pallet components. The new facility will be located at 2121 Old Highway 60 near Mountain View, Missouri.

The process begins by Upland receiving logs via log truck and storing them on the log yard until they are to be processed by the saw mill. Logs are taken from the storage pile via a front end loader and placed on the log merchandiser (EU-1). The log merchandiser cuts the logs to length before entering the Big Jake Scragg Mill (EU-3) on the log infeed (EU-2). Logs enter the scragg mill and exit in four separate pieces. The pieces exiting the scragg mill are moved using transfer chains (EU-5) and are processed through a slab edger (EU-4) and/or trim saw (EU-6). From the trim saw the wood is then moved using transfer chains (EU-7) to either the five head band saw (EU-8) or the two head band saw (EU-9) where the wood is cut to its finished product size. Some finished product will also be sent through deduster (EU-18) where high speed brushes clean all four sides of the board. The finished product is then banded together and put on trucks to be shipped to consumers. All waste from the facility, with the exception of the sawdust generated by the saws and deduster, is conveyed to a wood hog/grinder to be processed into sawdust and small wood chips. Of the sawing activity the Big Jake Scragg Mill (EU-3), Slab Edger (EU-5), Five Head Band Saw (EU-8), Two Head Band Saw (EU-9), the future Gang Edger (EU-16), the future Notcher (EU-17), and the Deduster (EU-18) are controlled by a cyclone. All sawdust and wood chips that are collected by the cyclone and generated by the wood hog/grinder is stored in a storage pile and eventually hauled off in a truck.

Upland also has proposed to expand their current operation sometime in the future by adding a gang edger (EU-16) and a notcher (EU-17). This permit will include potential emissions from these pieces of equipment and allows Upland to construct these pieces of equipment within two years of the issuance date of this permit. If Upland fails to install this equipment within the two year time period they will need to apply for a new construction permit to account for these pieces of equipment.

The maximum hourly design rate (MHDR) of the lumber mill facility is 25 tons of logs processed per hour. Upland estimated that 15 percent of the logs processed becomes waste. Therefore, the MHDR of the wood hog/grinder was calculated to be 3.75 tons of wood waste processed per hour.

No permits have been issued to Upland Timber, Inc. from the Air Pollution Control Program.

## EMISSIONS/CONTROLS EVALUATION

The emission factors used to determine the potential emission from all the Sawing Activity (EP-01), the Wood Hog/Grinder (EP-02) and all the Sawdust Handling (EP-03) were obtained from the EPA Web Based Factor Information Retrieval (WebFIRE) Data System. The SCC codes for these processes are 30700802, 30700801, and 30700803 respectively.

Of the Sawing Activity the Big Jake Scragg Mill (EU-3), Slab Edger (EU-5), Five Head Band Saw (EU-8), Two Head Band Saw (EU-9), the future Gang Edger (EU-16), the future Notcher (EU-17), and the Deduster (EU-18) are controlled by a cyclone. A 90% capture efficiency was given to the cyclone and with a PM, PM<sub>10</sub>, and PM<sub>2.5</sub> control efficiency of 75%, 50%, and 35% respectively. The PM<sub>10</sub> and PM<sub>2.5</sub> control efficiencies were taken from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Appendix B.2, *Generalized Particle Size Distributions* (September 1996) using the lowest efficiency cyclone control efficiency values. The PM control efficiency of 75% was selected to be conservative as a PM control efficiency is not given in AP-42.

The emission factors used to determine the potential emission from haul roads and vehicular activity were obtained from AP-42, Section 13.2.2, *Unpaved Roads* (November 2006).

Since this facility has not received any construction permits from the Air Pollution Control Program no existing potential emissions are present at this site. No existing actual emissions have been recorded for this installation as this is a new facility. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 3: Emissions Summary (tons per year)

| Pollutant               | Regulatory <i>De Minimis</i> Levels | Existing Potential Emissions | Existing Actual Emissions | Controlled Potential Emissions of the Application | New Installation Conditioned Potential |
|-------------------------|-------------------------------------|------------------------------|---------------------------|---|--|
| PM                      | 25.0                                | N/A                          | N/A                       | 100.89  | 38.32                                  |
| PM <sub>10</sub>        | 15.0                                | N/A                          | N/A                       | 39.49   | <15.00                                 |
| PM <sub>2.5</sub>       | 10.0                                | N/A                          | N/A                       | 19.70   | 7.48                                   |
| SO <sub>x</sub>         | 40.0                                | N/A                          | N/A                       | N/A   | N/A                                    |
| NO <sub>x</sub>         | 40.0                                | N/A                          | N/A                       | N/A   | N/A                                    |
| VOC                     | 40.0                                | N/A                          | N/A                       | N/A   | N/A                                    |
| CO                      | 100.0                               | N/A                          | N/A                       | N/A   | N/A                                    |
| GHG (CO <sub>2</sub> e) | 100,000                             | N/A                          | N/A                       | N/A   | N/A                                    |
| GHG (mass)              | 250.0                               | N/A                          | N/A                       | N/A   | N/A                                    |
| HAPs                    | 10.0/25.0                           | N/A                          | N/A                       | N/A   | N/A                                    |

N/A = Not Applicable

## PERMIT RULE APPLICABILITY

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

## APPLICABLE REQUIREMENTS

Upland Timber, 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

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 applies to this facility. Based on the emission factors used for this project Upland's emission rate showed compliance with the emission rate determined in this rule.

## STAFF RECOMMENDATION

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

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Gerad Fox  
New Source Review Unit

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 7, 2012, received November 13, 2012, designating Upland Timber, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.



## APPENDIX A

### Abbreviations and Acronyms

|                               |  |                               |  |
|-------------------------------|--|-------------------------------|--|
| <b>%</b> .....                | percent                                | <b>m/s</b> .....              | meters per second  |
| <b>°F</b> .....               | degrees Fahrenheit                     | <b>Mgal</b> .....             | 1,000 gallons  |
| <b>acfm</b> .....             | actual cubic feet per minute           | <b>MW</b> .....               | megawatt   |
| <b>BACT</b> .....             | Best Available Control Technology      | <b>MHDR</b> .....             | maximum hourly design rate                                       |
| <b>BMPs</b> .....             | Best Management Practices              | <b>MMBtu</b> ....             | Million British thermal units                                    |
| <b>Btu</b> .....              | British thermal unit                   | <b>MMCF</b> .....             | million cubic feet   |
| <b>CAM</b> .....              | Compliance Assurance Monitoring        | <b>MSDS</b> .....             | Material Safety Data Sheet                                       |
| <b>CAS</b> .....              | Chemical Abstracts Service             | <b>NAAQS</b> ...              | National Ambient Air Quality Standards                           |
| <b>CEMS</b> .....             | Continuous Emission Monitor System     | <b>NESHAPs</b>                |  |
| <b>CFR</b> .....              | Code of Federal Regulations            | .....                         | National Emissions Standards for Hazardous Air Pollutants        |
| <b>CO</b> .....               | carbon monoxide                        | <b>NO<sub>x</sub></b> .....   | nitrogen oxides  |
| <b>CO<sub>2</sub></b> .....   | carbon dioxide                         | <b>NSPS</b> .....             | New Source Performance Standards                                 |
| <b>CO<sub>2e</sub></b> .....  | carbon dioxide equivalent              | <b>NSR</b> .....              | New Source Review  |
| <b>COMS</b> .....             | Continuous Opacity Monitoring System   | <b>PM</b> .....               | particulate matter   |
| <b>CSR</b> .....              | Code of State Regulations              | <b>PM<sub>2.5</sub></b> ..... | particulate matter less than 2.5 microns in aerodynamic diameter |
| <b>dscf</b> .....             | dry standard cubic feet                | <b>PM<sub>10</sub></b> .....  | particulate matter less than 10 microns in aerodynamic diameter  |
| <b>EQ</b> .....               | Emission Inventory Questionnaire       | <b>ppm</b> .....              | parts per million  |
| <b>EP</b> .....               | Emission Point                         | <b>PSD</b> .....              | Prevention of Significant Deterioration                          |
| <b>EPA</b> .....              | Environmental Protection Agency        | <b>PTE</b> .....              | potential to emit  |
| <b>EU</b> .....               | Emission Unit                          | <b>RACT</b> .....             | Reasonable Available Control Technology                          |
| <b>fps</b> .....              | feet per second                        | <b>RAL</b> .....              | Risk Assessment Level  |
| <b>ft</b> .....               | feet                                   | <b>SCC</b> .....              | Source Classification Code                                       |
| <b>GACT</b> .....             | Generally Available Control Technology | <b>scfm</b> .....             | standard cubic feet per minute                                   |
| <b>GHG</b> .....              | Greenhouse Gas                         | <b>SIC</b> .....              | Standard Industrial Classification                               |
| <b>gpm</b> .....              | gallons per minute                     | <b>SIP</b> .....              | State Implementation Plan  |
| <b>gr</b> .....               | grains                                 | <b>SMAL</b> .....             | Screening Model Action Levels                                    |
| <b>GWP</b> .....              | Global Warming Potential               | <b>SO<sub>x</sub></b> .....   | sulfur oxides  |
| <b>HAP</b> .....              | Hazardous Air Pollutant                | <b>SO<sub>2</sub></b> .....   | sulfur dioxide   |
| <b>hr</b> .....               | hour                                   | <b>tph</b> .....              | tons per hour  |
| <b>hp</b> .....               | horsepower                             | <b>tpy</b> .....              | tons per year  |
| <b>lb</b> .....               | pound                                  | <b>VMT</b> .....              | vehicle miles traveled   |
| <b>lbs/hr</b> .....           | pounds per hour                        | <b>VOC</b> .....              | Volatile Organic Compound  |
| <b>MACT</b> .....             | Maximum Achievable Control Technology  |                               |  |
| <b>µg/m<sup>3</sup></b> ..... | micrograms per cubic meter             |                               |  |

Mr. Scott Tucker  
Owner - President  
Upland Timber, Inc.  
P.O. Box 702  
Mountain View, MO 65548

RE: New Source Review Permit - Project Number: 2012-11-036

Dear Mr. Tucker:

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.

If you have any questions regarding this permit, please do not hesitate to contact Gerad Fox, 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:gfl

Enclosures

c: Southeast Regional Office  
PAMS File: 2012-11-036

Permit Number: