



Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

DEC 11 2019

Mr. William Cardwell  
President  
Cardwell Lumber Inc.  
P.O. Box 117  
Novelty, MO 63460

RE: New Source Review Permit - Project Number: 2018-12-031

Dear Mr. Cardwell:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions and your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

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

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: [www.oha.mo.gov/ahc](http://www.oha.mo.gov/ahc).



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Mr. William Cardwell  
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If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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



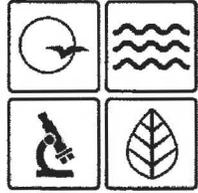
Susan Heckenkamp  
New Source Review Unit Chief

SH:sca

Enclosures

c: Northeast Regional Office  
PAMS File: 2018-12-031

Permit Number: 122019-005



**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: **122019-005**

Project Number: 2018-12-031  
Installation Number: 103-0026

Parent Company: Cardwell Lumber Inc.

Parent Company Address: 62499 State Hwy 15, Novelty, MO 63460

Installation Name: Cardwell Lumber Inc.

Installation Address: 62499 State Hwy 15, Novelty, MO 63460

Location Information: Knox County, S36, T61N, R12W

Application for Authority to Construct was made for:

A new sawmill. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

  
\_\_\_\_\_  
Director or Designee  
Department of Natural Resources  
**DEC 11 2019**

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Effective Date

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of 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's 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 the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

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

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

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

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

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

**SPECIAL CONDITIONS:**

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

*The special conditions listed in this permit were included based on the authority granted to 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 (3)(E). "Conditions required by permitting authority."*

Cardwell Lumber Inc.  
 Knox County, S36, T61N, R12W

1. **PM<sub>10</sub> Emission Limitation**
  - A. Cardwell Lumber Inc. shall emit less than 15.2 tons of PM<sub>10</sub> in any consecutive 12-month period from the equipment/activities installed or modified in 2017 and 2018. This equipment/activities are shown in the following Table 1.

Table 1: Project Emission Points

<b>Emission Unit</b>	<b>Description</b>
NSM-1	Debarker
NSM-2a	Slab Saw
NSM-2b	Edger
NSM-2c	Trim Saw
NSM-3	Chipper
NSM-4	Waste Handling
NSM-5	Wind Erosion from Storage Piles
NSM-6	Kiln
NSM-7	Ash Handling from Boiler
HR1/HR2	Log Receiving
HR3	Lumber Finished Product Shipping
HR4	Lumber Fork Lift Traffic
HR5	Lumber Log Traffic
HR6	Sawdust to Boiler
HR7	Sawdust, Chips, and Bark Loader Traffic
HR8	Sawdust, Chips, and Bark Shipping

- B. Cardwell Lumber Inc. shall maintain accurate records of PM<sub>10</sub> emitted into the atmosphere. Attachment A or equivalent forms using the same emissions factor as in Attachment A shall be used for this purpose. Cardwell Lumber Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

**SPECIAL CONDITIONS:**

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

- C. Cardwell Lumber Inc. shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirCompliance Reporting@dnr.m.gov, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.B. indicate that the source exceeds the limitation of Special Condition Number 1.A.
2. Haul Road Watering
    - A. Cardwell Lumber Inc. shall water all unpaved haul roads (HR 1-3 and HR 5-8) used for transferring log from the various operations whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.
    - B. Watering may be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
3. Record Keeping and Reporting Requirements
    - A. Cardwell Lumber 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. Cardwell Lumber Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

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

Project Number: 2018-12-031  
Installation ID Number: 103-0026  
Permit Number: **122019-005**

Installation Address:  
Cardwell Lumber Inc.  
62499 State Hwy 15  
Novelty, MO 63460

Parent Company:  
Cardwell Lumber Inc.  
62499 State Hwy 15  
Novelty, MO 63460

Knox County, S36, T61N, R12W

REVIEW SUMMARY

- Cardwell Lumber Inc. has applied for authority to construct a sawmill that was installed in 2017 and 2018.
- The application was deemed complete on August 7, 2019.
- HAP emissions are expected from the proposed equipment but below the SMAL. HAPs of concern from this process are from the kiln.
- 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.
- Undocumented watering is being used to control the PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from the haul roads 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 PM<sub>10</sub> and PM<sub>2.5</sub> are conditioned below de minimis levels. PM is above de minimis but below major source levels of 250 tons per year.
- This installation is located in Knox County, an attainment/unclassifiable 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. PM is greater than de minimis but does not have modeling requirements

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

### INSTALLATION DESCRIPTION

Cardwell Lumber Inc. operated a grandfathered sawmill in Novelty, Missouri. The saw mill was constructed before May 13, 1982 and was not required to obtain a construction permit. The saw mill consists of a saw, an edger and a chipper, which processes waste material. In 1992 the mill's saw was upgraded to a band saw. This change was not considered a modification because the new saw did not increase the mills capacity and decreased the amount of sawdust generated per board foot, which caused a decrease in potential emissions. The old grandfathered sawmill is no longer in use as of 2018. In 1996 or 1997, Cardwell Lumber Inc. constructed a stave mill consisting of a three saws that cut logs to length, then halve and quarter the logs; a band saw that finishes the staves; and a hogger that processes waste materials. The uncontrolled PM<sub>10</sub> emissions from that process were greater than the de minimis level and the installation did not meet the criteria found in 10 CSR 10-6.061 *Construction Permit Exemptions* paragraph (3)(A)2.AA, so a permit should have been obtained before the stave mill was constructed. In 2008, Cardwell Lumber Inc. constructed a six MMBtu/hr waste wood fired boiler. The boiler was not covered by an exemptions or exclusions in 10 CSR 10-6.061, so a permit should have been obtained before construction. Both of these construction projects were later permitted in permit 112010-006.

The following New Source Review permits have been issued to Cardwell Lumber Inc. from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
112010-006	Stave mill and waste wood fired boiler

### PROJECT DESCRIPTION

On August 23, 2018 a routine air pollution compliance inspection of Cardwell Lumber Inc. was conducted. During the inspection, it was found that Cardwell Lumber Inc. had constructed and begun operation of an expansion to the facility without first applying for a construction permit. The expansion occurred during 2017 and 2018 and involved a new sawmill for lumber to replace the old grandfathered sawmill. A letter of warning was sent to Cardwell Lumber Inc. This permit is part of a remedial action required by the Air Pollution Control Program.

The new saw mill is a Cleereman ST62 Lumber Pro Sawmill package and consists of a debarker (NSM-1), slab saw (NSM-2a), an edger (NSM-2b), trim saw (NSM-2c) and a chipper (NSM-3), which processes waste material. The sawdust and waste generated in this building is conveyed (NSM-4) to sawdust/chip storage piles (NSM-05). The sawdust and waste generated was estimated to be 15% of incoming product with 75% of that being chips/bark and 25% being sawdust. Chips and bark are transported by loader to be shipped off site. The sawdust is either transported by loader to be shipped off site or burned in the existing 6 MMBTU/hr Hurst wood fired boiler. It was estimated that approximately 50% of sawdust generated is used in the boiler and the remaining portion is shipped off site.

Cardwell lumber estimates that the lumber side of the facility processes approximately 30,000 board feet of wood per day. Operating a shift of 8 hours per day this calculates to 3,750 board feet per hour. Applying a 25% factor of safety, a maximum hourly design rate of 4,687 board feet per hour was used. Logs are brought to the sawmill and cut, then stacked for storage to air dry before entering kilns. After exiting the kiln, lumber is stacked to be shipped. The kilns are existing units that have seen an increased throughput as a result of the new sawmill.

## EMISSIONS/CONTROLS EVALUATION

The pollutants of concern from this project are PM<sub>2.5</sub>, PM<sub>10</sub> and PM. Potential emissions of the application represent the potential emissions increase from the debottlenecked equipment (kiln) and the new sawmill, assuming continuous operation (8760 hours per year). The emissions increase from debottlenecked equipment was determined by calculating the difference between the post project potential emissions and the pre-project potential emissions of the kiln. The pre project potential emissions of the kiln were calculated using a maximum hourly design rate for the lumber side of 1,560 board feet per hour obtained from permit 112010-006.

Sawdust, chip and bark handling and loading emissions (NSM-04) were calculated assuming three drop points using PM/PM<sub>10</sub>/PM<sub>2.5</sub> emission factors for drop of dry material found in EPA Memorandum with the subject, "Particulate Matter Potential to Emit Emission Factors for Activities at Sawmills, Excluding Boilers, Located in Pacific Northwest Indian Country" (May, 08, 2014). The emission factors within the document were listed as 0.0015, 0.0007, and 0.0001 lbs of PM, PM<sub>10</sub>, PM<sub>2.5</sub> per bone dry tone of material, respectively. This document also provided the emission factors for the sawing, debarker, and storage pile wind erosion. The sawing (NSM-2) emissions were calculated using the sawing emission factor of 0.350, 0.175, and 0.0875 lbs of PM, PM<sub>10</sub>, PM<sub>2.5</sub> per ton of log. The debarker (NSM-1) and chipper (NSM-3) emissions were calculated using the log debarking emission factors of 0.024, 0.012, and 0.006 lbs of PM, PM<sub>10</sub>, PM<sub>2.5</sub> per ton of log. The storage pile wind erosion emission were calculated using the wind erosion of pile emission factors of 0.38, 0.19, and 0.095 ton/acre-yr for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, respectively.

The emission factors for the hardwood drying kilns (NSM-6) were obtained from North Carolina Division of Air Quality industry guidance spreadsheet for estimating emissions from lumber kilns. The pollutants included in the North Carolina Division of Air Quality industry guidance are products of wood drying and include particulate matter, VOC, acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. The emission factors found in the spreadsheet are intended for estimating emissions from steam heated softwood drying kilns. However, due to a lack of emission factors, these emission factors were used to estimate the emissions associated with the hardwood drying kilns (NSM-6) associated with this project.

The emission factors used to determine the potential emission from haul roads and vehicular activity were obtained from EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 13.2.2, *Unpaved Roads* (November 2006) and Section 13.2.1, *Paved Roads* (January 2011). A 50% control efficiency for PM and PM<sub>10</sub> and a 41% control efficiency for PM<sub>2.5</sub> are applied to the emission calculations for the use of undocumented watering.

The emissions from the wood fired boiler were not recalculated for this project since they were calculated as part of permit 112010-006. The potential emissions of the ash handling (NSM-7) from the wood fired boiler were not included in previous construction permits. The emissions from ash handling were included as part of this project because of the increase in throughput. The emission factor for ash handling (NSM-7) was obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 11.12 *Concrete Batching*, June 2006 (SCC 3-05-011-17). These emissions could be calculated by the difference between the potential emissions post project potential emissions and the pre-project potential emissions of the ash handling. Since pre-project ash handling emissions were not previously calculated in prior permits and the potential emissions of ash handling are expected to be less than one tenth of a ton per year of particulate, the pre-project potential emissions of ash handling were not calculated.

Potential emissions of the project represent the potential of the debottlenecked kiln and the saw mill with the associated haul roads and vehicular activity, assuming continuous operation (8760 hours per year). The pre-project emissions from the saw mill and associated haul roads and vehicular activity were considered zero since it is new equipment and new routes. They are allowed 15.0 tons per year increased. The following tables provides an emissions summary for this project.

Table 3: Project Emissions Calculations (tpy)

Pollutants	Post Project PTE <sup>1</sup>	Pre-project PTE of Modified Equipment <sup>2</sup>	Emission Increase
PM	74.96	0.15	74.81
PM <sub>10</sub>	33.48	0.15	33.33
PM <sub>2.5</sub>	6.22	0.15	6.06
VOC	8.40	2.80	5.60
HAPs	5.92	1.97	3.95

<sup>1</sup>Potential to emit of new mill and debottlenecked kiln

<sup>2</sup>Kiln pre-project emissions

Table 4: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions <sup>1</sup>	Existing Actual Emissions (2018 EIQ)	Potential Controlled Emissions of the Project	Project Conditioned Potential
PM	25.0	N/D	N/D	74.81	33.66
PM <sub>10</sub>	15.0	17.74	0.20	33.33	<15.2
PM <sub>2.5</sub>	10.0	15.62	0.17	6.06	2.73
SO <sub>x</sub>	40.0	0.66	0.01	N/A	N/A
NO <sub>x</sub>	40.0	12.88	0.05	N/A	N/A
VOC	40.0	0.45	0.03	5.60	2.52
CO	100.0	15.77	0.94	N/A	N/A
HAPs	10.0/25.0	0.63	0.00	3.95	1.78

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

<sup>1</sup>Existing potential emissions are the summation of stove mill and boiler emissions in permit 112010-006. Existing potential emissions do not include haul road emissions associated with the stove mill. These emissions were not calculated as part of permit 112010-006; however, an analysis of the haul roads with this permit for the lumber side shows that haul roads emissions from stove mill would not be expected to change the permit type of 112010-006.

#### PERMIT RULE APPLICABILITY

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

## APPLICABLE REQUIREMENTS

Cardwell Lumber Inc. shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

### GENERAL REQUIREMENTS

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

### STAFF RECOMMENDATION

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

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated December 18, 2019, received December 26, 2018, designating Cardwell Lumber Inc. as the owner and operator of the installation.



## APPENDIX A

### Abbreviations and Acronyms

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