MISSOURI
DEPARTMENT OF
NATURAL RESOURCES
Air Pollution Control Program

Draft

PART 70
PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Operating Permit Number: MMYYYY-###
Expiration Date:
Installation ID: 091-0038
Project Number: 2019-03-039

Installation Name and Address
Garnett Wood Products
11400 Jess & Betty Garnett Avenue
Brandsville, MO 65688
Howell County

Parent Company's Name and Address
None.

Installation Description:
The installation produces wood char from raw materials consisting primarily of sawdust, but also includes hog fuel and wood chips. Trucks deliver the raw material and store it onsite in storage piles until needed. Conveyors transport the raw material to a pyrolysis furnace. The furnace produces charcoal that is stored onsite in storage piles prior to shipping. The installation is a major source of Carbon Monoxide (CO), Nitrogen Oxides (NO_X), Particulate Matter 10 Microns and smaller (PM_{10}), Particulate Matter 2.5 Microns and smaller ($PM_{2.5}$), and Volatile Organic Compounds (VOC).

Effective Date

Director or Designee
Department of Natural Resources

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I. Installation Equipment Listing

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having unit-specific emission limitations.

Emission Unit	Description of Emission Unit
EP01	Charcoal Furnace, 11 tons/ hr Feed, 2.23 tons/hr Char, 1979[1]
EP14	Boiler, 8.369 MMBtu/hr, Propane/LPG, 2008[2]

EMISSION UNITS WITHOUT SPECIFIC LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Emission Unit	Description of Emission Source
EP04	Shaker, 25 tons/hr, prior to 1979
EP05	Conveyer, 25 tons/hr, prior to 1979
EP06	Conveyer, 25 tons/hr, prior to 1979
EP07	Conveyer, 25 tons/hr, prior to 1979
EP08	Sawdust Hopper Loading, 11 tons/hr, 1979
EP09	Conveyer, 11 tons/hr, prior to 1979
EP10	Charcoal Loadout, 2.23 tons/hr, 1979
EP11	Sawdust Hopper Loading, 25 tons/hr, 2006
EP12	Hopper Loadout, 25 tons/hr, 2006
EP13	Conveyer, 25 tons/hr, 2006
EP15	Haul Road East, 0.1 Miles
EP16	Charcoal Storage Pile, 1.5 acres
EP17A	Haul Road, Sawdust
EP17B	Haul Road, Charcoal
SP01	Long Term Storage Pile, 5.0 acres, 1979
SP02	Short Term Storage Pile, 7.9 acres, 1979

[1] The Charcoal Furnace is equipped with propane burners (5.6 MMBtu/hr combined) which were previously operated for a pilot project to control hearth temperatures. The burners are disconnected from the propane source and there are no plans to utilize the burners as of the issuance date of this permit. A construction permit applicability analysis is required prior to re-activating the propane burners.

[2] The Boiler was installed in November 2008 for a research and development project. The boiler is not currently being operated but remains onsite

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The plant wide conditions apply to all emission units at this installation. All emission units are listed in Section I under Emission Units with Limitations and Emission Units without Specific Limitations.

None.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

PERMIT CONDITION 001 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants		
Emission Unit	**Description**	**Construction Date**
EP01	Charcoal Furnace, 11 tons/ hr Feed, 2.23 tons/hr Char	1979

Emission Limitation:

1) The permittee shall not cause or permit to be discharged into the atmosphere from these emission units any visible emissions with an opacity greater than 20 percent for any continuous six-minute period. [10 CSR 10-6.220(3)(A)1]
2) Exception: The permittee may discharge into the atmosphere from any emission unit visible emissions with an opacity up to 60 percent for one continuous six-minute period in any sixty (60) minutes. [10 CSR 10-6.220(3)(A)2]
3) Failure to demonstrate compliance with 10 CSR 10-6.220(3)(A) solely because of the presence of uncombined water shall not be a violation. [10 CSR 10-6.220(3)(B)]

Monitoring:

1) Monitoring schedule:
   a) The permittee shall conduct weekly observations for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then:
      i) The permittee shall conduct observations once every two weeks for a period of eight weeks. If a violation is noted, the permittee shall revert to weekly monitoring. Should no violation of this regulation be observed during this period then:
         (1) The permittee shall conduct observations once per month. If a violation is noted, the permittee shall revert to weekly monitoring.
2) If the permittee reverts to weekly monitoring at any time, the monitoring schedule shall progress in an identical manner from the initial monitoring schedule.
3) Observations are only required when the emission units are operating and when the weather conditions allow.
4) Issuance of a new, amended, or modified operating permit does not restart the monitoring schedule.
5) The permittee shall conduct visible emissions observation on these emission units using the procedures contained in U.S. EPA Test Method 22. Each Method 22 observation shall be conducted for a minimum of six-minutes. If no visible emissions are observed from the emission unit using Method 22, then no Method 9 is required for the emission unit.
6) For emission units with visible emissions, the permittee shall have a certified Method 9 observer conduct a U.S. EPA Test Method 9 opacity observation. The permittee may choose to forego Method 22 observations and instead begin with a Method 9 opacity observation. The certified Method 9 observer shall conduct each Method 9 opacity observation according to best professional practices.

Recordkeeping:

1) The permittee shall maintain records of all observation results for each emission unit using Attachment B and Attachment C, or equivalents, to demonstrate compliance.
2) The permittee 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.

Reporting:

1) The permittee shall report any exceedance of the limitations no later than ten (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.
2) The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.
3) All reports and certifications shall be submitted to the Air Pollution Control Program's Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov.

PERMIT CONDITION 002 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants[3]		
Emission Unit	**Description**	**Construction Date**
EP14	Boiler, 8.369 MMBtu/hr, Propane/LPG	2008

Emission Limitation:

1) The permittee shall not cause or permit to be discharged into the atmosphere from these emission units any visible emissions with an opacity greater than 20 percent for any continuous six-minute period. [10 CSR 10-6.220(3)(A)1]
2) Exception: The permittee may discharge into the atmosphere from any emission unit visible emissions with an opacity up to 60 percent for one continuous six-minute period in any sixty (60) minutes. [10 CSR 10-6.220(3)(A)2]
3) Failure to demonstrate compliance with 10 CSR 10-6.220(3)(A) solely because of the presence of uncombined water shall not be a violation. [10 CSR 10-6.220(3)(B)]

Monitoring:

1) Monitoring schedule:
   a) The permittee shall conduct weekly observations for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then:
      i) The permittee shall conduct observations once every two weeks for a period of eight weeks. If a violation is noted, the permittee shall revert to weekly monitoring. Should no violation of this regulation be observed during this period then:
         (1) The permittee shall conduct observations once per month. If a violation is noted, the permittee shall revert to weekly monitoring.
2) If the permittee reverts to weekly monitoring at any time, the monitoring schedule shall progress in an identical manner from the initial monitoring schedule.
3) Observations are only required when the emission units are operating and when the weather conditions allow.
4) Issuance of a new, amended, or modified operating permit does not restart the monitoring schedule.
5) The permittee shall conduct visible emissions observation on these emission units using the procedures contained in U.S. EPA Test Method 22. Each Method 22 observation shall be conducted for a minimum of six-minutes. If no visible emissions are observed from the emission unit using Method 22, then no Method 9 is required for the emission unit.
6) For emission units with visible emissions, the permittee shall have a certified Method 9 observer conduct a U.S. EPA Test Method 9 opacity observation. The permittee may choose to forego Method 22 observations and instead begin with a Method 9 opacity observation. The certified Method 9 observer shall conduct each Method 9 opacity observation according to best professional practices.

[3] Permit Condition 002 contains federal requirements from 10 CSR 10-6.220 as reflected in Missouri's State Implementation Plan (SIP) for natural gas combustion units. These units are exempt from this regulation in the Missouri Code of State Regulations (CSR) due to revisions in the CSR that have not been incorporated into the SIP. Once the revised version of this regulation is incorporated into the SIP, Permit Condition 002 shall no longer apply. An operating permit modification is not required for this change.

Recordkeeping:

1) The permittee shall maintain records of all observation results for each emission unit using Attachment B and Attachment C, or equivalents to demonstrate compliance.
2) The permittee 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.

Reporting:

1) The permittee shall report any exceedance of the limitations no later than ten (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.
2) The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.
3) All reports and certifications shall be submitted to the Air Pollution Control Program's Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov.

PERMIT CONDITION 003 10 CSR 10-6.261 Control of Sulfur Dioxide Emissions[4]		
Emission Unit	**Description**	**Construction Date**
EP14	Boiler, 8.369 MMBtu/hr, Propane/LPG	2008

Operational Limitation:
The permittee shall combust liquefied petroleum gas as defined by American Society for Testing and Materials (ASTM) International. No other fuel shall be combusted in this emission unit. [6.261(1)(A)]

Monitoring/Recordkeeping:
1) The permittee shall determine compliance using fuel delivery records. [6.261(3)(E)3.]
2) The permittee must maintain a record of fuel deliveries. [6.261(4)(A)3.]
3) The permittee must maintain the fuel supplier information to certify all fuel deliveries. Bills of lading and/or other fuel delivery documentation containing the following information for all fuel purchases or deliveries are deemed acceptable to comply with the requirements of this rule: [6.261(4)(C)]
   a) The name, address, and contact information of the fuel supplier; [6.261(4)(C)(1)]
   b) The type of fuel; [6.261(4)(C)(2)]
   c) The sulfur content or maximum sulfur content expressed in percent sulfur by weight or in ppm sulfur; and [6.261(4)(C)(4)]
   d) The heating value of the fuel. [6.261(4)(C)(5)]
4) The permittee must furnish the Director all data necessary to determine compliance status. [6.261(4)(G)]
5) The permittee 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.

Reporting:
1) The permittee shall report any exceedance of the limitations no later than ten (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.
2) The permittee shall report any deviations from the monitoring, recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring and annual compliance certification reports required by Section V of this permit.
3) All reports and certifications shall be submitted to the Air Pollution Control Program's Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.

[4] This permit condition contains the applicable requirements from 10 CSR 10-6.261 as reflected in Missouri's Code of State Regulations (CSR). This permit condition is a state requirement until this regulation is incorporated into the SIP. Once the SIP is updated, this permit condition will be both a state and federal requirement. A permit modification is not required for this change.

PERMIT CONDITION 004 10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes		
Emission Unit	**Description**	**Construction Date**
EP01	Charcoal Furnace, 11 tons/ hr Feed, 2.23 tons/hr Char	1979

Emission Limitation:
The permittee shall not emit particulate matter from EP01, Charcoal Furnace, in excess of 20.44 lbs./hr.

Compliance/Monitoring/Recordkeeping:
None. See Statement of Basis.

Reporting:
1) The permittee shall report any exceedance of the limitations no later than ten (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.
2) The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.
3) All reports and certifications shall be submitted to the Air Pollution Control Program's Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov.

PERMIT CONDITION 005 10 CSR 10-6.065 Voluntary Limitation(s)		
Emission Unit	**Description**	**Construction Date**
EP01	Charcoal Furnace, 11 tons/ hr Feed, 2.23 tons/hr Char	1979

Operational Limitation:

1) The permittee shall exclusively pyrolyze sawdust, wood dust, wood chips, and/or hog fuel in the Charcoal Furnace (EP01). Sawdust, wood dust, hog fuel, and wood chips are defined as follows:
   a) *Sawdust* and/or *wood dust* – a byproduct of cutting, grinding, drilling, sanding, or otherwise pulverizing wood with a saw or other tool; consisting of fine particles of wood.
   b) *Hog fuel* – wood residue consisting of pieces ranging in size from two to five inches.
   c) *Wood chips* – medium-sized solid material made by cutting or chopping larger pieces of wood.
2) The permittee shall not exclusively pyrolyze bark in Charcoal Furnace (EP01). Where bark is defined as: the outermost layer of trees. The permittee is limited from pyrolyzing material containing greater than 10 percent bark. See Statement of Basis.

Monitoring/Recordkeeping:

None.

Reporting:

1) The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.
2) All reports and certifications shall be submitted to the Air Pollution Control Program's Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov.

IV. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the Code of Federal Regulations (CFR), the Code of State Regulations (CSR), and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The following are only excerpts from the regulation or code, and are provided for summary purposes only.

10 CSR 10-6.045 Open Burning Requirements

1) General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.
2) Certain types of materials may be open burned provided an open burning permit is obtained from the director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the owner or operator fails to comply with the conditions or any provisions of the permit.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information:
   a) Name and location of installation;
   b) Name and telephone number of person responsible for the installation;
   c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
   d) Identity of the equipment causing the excess emissions;
   e) Time and duration of the period of excess emissions;
   f) Cause of the excess emissions;
   g) Air pollutants involved;
   h) Estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
   i) Measures taken to mitigate the extent and duration of the excess emissions; and
   j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
2) The permittee shall submit the paragraph 1 information to the director in writing at least ten days prior to any maintenance, start-up or shutdown activity which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, notice shall be given as soon as practicable prior to the activity.
3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.

4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required
The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits
The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. The permittee shall retain the most current operating permit issued to this installation on-site. The permittee shall make such permit available within a reasonable period of time to any Missouri Department of Natural Resources personnel upon request.

10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and
40 CFR Part 61 Subpart M National Emission Standard for Asbestos
The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.

10 CSR 10-6.110 Reporting of Emission Data, Emission Fees and Process Information
1) The permittee shall submit a Full Emissions Report either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on Emission Inventory Questionnaire (EIQ) paper forms on the frequency specified in this rule and in accordance with the requirements outlined in this rule. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the director.
2) Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
3) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential
This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention
The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.165 Restriction of Emission of Odors
This is a State Only permit requirement.
No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at a location outside of the installation's property boundary.

10 CSR 10-6.170
Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin
Emission Limitation:
1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director.
2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
   a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
   b) Paving or frequent cleaning of roads, driveways and parking lots;
   c) Application of dust-free surfaces;
   d) Application of water; and
   e) Planting and maintenance of vegetative ground cover.

Monitoring:
The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. If the permittee discovers a violation, the permittee shall undertake corrective action to eliminate the violation.
The permittee shall maintain the following monitoring schedule:
1) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
2) Should no violation of this regulation be observed during this period then-
   a) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
   b) If a violation is noted, monitoring reverts to weekly.
   c) Should no violation of this regulation be observed during this period then-
      i) The permittee may observe once per month.
      ii) If a violation is noted, monitoring reverts to weekly.
3) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

Recordkeeping:
The permittee shall document all readings on Attachment A, or its equivalent, noting the following:
1) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
2) Whether equipment malfunctions contributed to an exceedance.
3) Any violations and any corrective actions undertaken to correct the violation.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants
1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-6.250 Asbestos Abatement Projects
Certification, Accreditation, and Business Exemption Requirements
This is a State Only permit requirement.
The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees.

10 CSR 10-6.280 Compliance Monitoring Usage
1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
   a) Monitoring methods outlined in 40 CFR Part 64;
   b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
   c) Any other monitoring methods approved by the director.
2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at an installation:
   a) Monitoring methods outlined in 40 CFR Part 64;
   b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
   c) Compliance test methods specified in the rule cited as the authority for the emission limitations.

3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
   a) Applicable monitoring or testing methods, cited in:
      i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
      ii) 10 CSR 10-6.040, "Reference Methods";
      iii) 10 CSR 10-6.070, "New Source Performance Standards";
      iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
   b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

40 CFR Part 82 Protection of Stratospheric Ozone (Title VI)

1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
   a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to 40 CFR §82.106.
   b) The placement of the required warning statement must comply with the requirements of 40 CFR §82.108.
   c) The form of the label bearing the required warning statement must comply with the requirements of 40 CFR §82.110.
   d) No person may modify, remove, or interfere with the required warning statement except as described in 40 CFR §82.112.
2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B of 40 CFR Part 82:
   a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices described in 40 CFR §82.156.
   b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment described in 40 CFR §82.158.
   c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR §82.161.
   d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with the record keeping requirements of 40 CFR §82.166. ("MVAC-like" appliance as defined at 40 CFR §82.152).
   e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR §82.156.
   f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR §82.166.
3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements contained in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been

completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

5) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR Part 82.*

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

Permit Duration
10 CSR 10-6.065(5)(C)1.B, 10 CSR 10-6.065(5)(E)3.C
This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed. If a timely and complete application for a permit renewal is submitted, but the Air Pollution Control Program fails to take final action to issue or deny the renewal permit before the end of the term of this permit, this permit shall not expire until the renewal permit is issued or denied.

General Record Keeping and Reporting Requirements
10 CSR 10-6.065(5)(C)1.C

1) Record Keeping
   a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
   b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made available within a reasonable period of time to any Missouri Department of Natural Resources' personnel upon request.
2) Reporting
   a) All reports shall be submitted to the Air Pollution Control Program, Compliance and Enforcement Section, P. O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov.
   b) The permittee shall submit a report of all required monitoring by:
      i) October 1st for monitoring which covers the January through June time period, and
      ii) April 1st for monitoring which covers the July through December time period.
   c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
   d) Submit supplemental reports as required or as needed. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
      i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (5)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice

must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.

ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.

iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit.

e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.

f) The permittee may request confidential treatment of information submitted in any report of deviation.

Risk Management Plan Under Section 112(r)
10 CSR 10-6.065(5)(C)1.D

If the installation is required to develop and register a risk management plan pursuant to Section 112(R) of the Act, the permittee will verify that it has complied with the requirement to register the plan.

Severability Clause
10 CSR 10-6.065(5)(C)1.F

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

General Requirements
10 CSR 10-6.065(5)(C)1.G

1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(5)(C)1.

Incentive Programs Not Requiring Permit Revisions
10 CSR 10-6.065(5)(C)1.H
No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

Reasonably Anticipated Operating Scenarios
10 CSR 10-6.065(5)(C)1.I
There are no reasonably anticipated operating scenarios.

Compliance Requirements
10 CSR 10-6.065(5)(C)3

1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
   a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
   b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
   d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
   a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
   b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to the Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7, 11201 Renner Blvd., Lenexa, KS 66219, as well as the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
   a) The identification of each term or condition of the permit that is the basis of the certification;

b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
c) Whether compliance was continuous or intermittent;
d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

Permit Shield
10 CSR 10-6.065(5)(C)6

1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
   a) The applicable requirements are included and specifically identified in this permit, or
   b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
   a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
   b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
   c) The applicable requirements of the acid rain program,
   d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
   e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

Emergency Provisions
10 CSR 10-6.065(5)(C)7

1) An emergency or upset as defined in 10 CSR 10-6.065(5)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
   a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
   b) That the installation was being operated properly,
   c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
   d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

Operational Flexibility
10 CSR 10-6.065(5)(C)8

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, or AirComplianceReporting@dnr.mo.gov as well as to the Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7, 11201 Renner Blvd., Lenexa, KS 66219, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
   a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, or AirComplianceReporting@dnr.mo.gov as well as to the Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7, 11201 Renner Blvd., Lenexa, KS 66219, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the APCP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the APCP as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the APCP as soon as possible after learning of the need to make the change.
   b) The permit shield shall not apply to these changes.

Off-Permit Changes
10 CSR 10-6.065(5)(C)9

1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the permit, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
   a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
   b) The permittee must provide contemporaneous written notice of the change to the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO

65102, or AirComplianceReporting@dnr.mo.gov as well as to the Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7, 11201 Renner Blvd., Lenexa, KS 66219. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(5)(B)3 of this rule. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.

c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
d) The permit shield shall not apply to these changes.

Responsible Official
10 CSR 10-6.020(2)(R)34
The application utilized in the preparation of this permit was signed by Mark Garnett, President. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

Reopening-Permit for Cause
10 CSR 10-6.065(5)(E)6
This permit shall be reopened for cause if:

1) The Missouri Department of Natural Resources (MoDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
2) MoDNR or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
   a) The permit has a remaining term of less than three years;
   b) The effective date of the requirement is later than the date on which the permit is due to expire; or
   c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or

5) MoDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

Statement of Basis
10 CSR 10-6.065(5)(E)1.C
This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attachments follow.

Attachment A

Fugitive Emission Observations

Date	Time	Visible Emissions Beyond Boundary		If There Are Visible Emissions Beyond the Property Boundary		Initial
		No	Yes	Cause	Corrective Action	

Attachment B

Method 22 Visible Emissions Observations	
Installation Name	Observer Name
Location	Date
Sky Conditions	Wind Direction
Precipitation	Wind Speed
Time	Emission unit
Sketch emission unit: indicate observer position relative to emission unit; indicate potential emission points and/or actual emission points.	

Minute	Seconds				Comments
	0	15	30	45	
	Visible Emissions Yes (Y) or No (N)				
0					
1					
2					
3					
4					
5					
6					

If visible emissions are observed, the installation is not required to complete the entire six-minute observation. The installation shall note when the visible emissions were observed and shall conduct a Method 9 opacity observation.

Attachment C

Method 9 Opacity Observations		
Installation Name:	Sketch of the observer's position relative to the emission unit	
Emission Point:		
Emission Unit:		
Observer Name and Affiliation:		
Observer Certification Date:		
Method 9 Observation Date:		
Height of Emission Point:		
Time:	Start of observations	End of observations
Distance of Observer from Emission Point:		
Observer Direction from Emission Point:		
Approximate Wind Direction:		
Estimated Wind Speed:		
Ambient Temperature:		
Description of Sky Conditions (Presence and color of clouds):		
Plume Color:		
Approximate Distance Plume is Visible from Emission Point:		

Attachment C (continued) Method 9 Opacity Observations

Minute	Seconds				1-minute Avg. % Opacity[5]	6-minute Avg. % Opacity[6]	Steam Plume (check if applicable)		Comments
	0	15	30	45					
	Opacity Readings (% Opacity)[7]						Attached	Detached	
0						N/A			
1						N/A			
2						N/A			
3						N/A			
4						N/A			
5									
6									
7									
8									
9									
10									
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28									
29									
30									

The emission unit is in compliance if each six-minute average opacity is less than or equal to 20%. Exception: The emission unit is in compliance if one six-minute average opacity is greater than 20 %, but less than 60 %.

Was the emission unit in compliance at the time of evaluation (yes or no)?

_____
Signature of Observer

[5] 1-minute avg. % opacity is the average of the four 15 second opacity readings during the minute.
[6] 6-minute avg. % opacity is the average of the six most recent 1-minute avg. % opacities.
[7] Each 15 second opacity reading shall be recorded to the nearest 5% opacity as stated within Method 9.

STATEMENT OF BASIS

Installation Description

The installation produces wood char from raw materials consisting primarily of sawdust, but also includes hog fuel and wood chips. Trucks deliver the raw material and store it onsite in storage piles until needed. Conveyors transport the raw material to a pyrolysis furnace. The furnace produces charcoal that is stored onsite in storage piles prior to shipping. The installation is a major source of Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Particulate Matter less than 10 Microns (PM_{10}), Particulate Matter less than 2.5 Microns ($PM_{2.5}$), and Volatile Organic Compounds (VOC).

The shaker (EP04), conveyors (EP05, EP06, EP07, EP09, and EP13), sawdust hopper loading (EP08 and EP11), and hopper loadout (EP12) transfer sawdust, hog fuel, and wood chips from storage piles (SP01 and SP02) to the Charcoal Furnace (EP01). There are two sawdust storage piles; the long-term storage pile (SP01) and the short-term storage pile (SP02), which are 5 acres and 7.9 acres in size, respectively. The sawdust handling process includes loading/dumping, shaking, and conveying emission units. These processes occur outdoors and classify as fugitive sources because emissions cannot reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Coverings on the conveyers help reduce fugitive dust emissions and maintain a sawdust moisture content of at least 1.5%. These coverings and moisture content are not required as conditions of this permit.

The Charcoal Furnace (EP01) is a continuous, multi-hearth Herreshoff-style furnace. Conveyors transport the raw materials (sawdust, hog fuel, or wood chips) into the top of the furnace. The furnace initially heats the materials to remove moisture from the raw materials. The materials move through multiple layers of hearths via mechanical rakes and reach the bottom layer as charcoal product. Once the furnace produces charcoal, the loadout equipment (EP10) loads charcoal product into trucks to haul the charcoal product offsite or to the charcoal storage pile (EP16), which is 1.5 acres in size.

The installation owns a small boiler (EP14) due to a research and development project conducted from 2008 until 2009. The boiler is not currently being operated but remains onsite.

The installation is on the List of Named Installations found at 10 CSR 10-6.020(3)(B) Table 2. The installation classifies as item number 25, charcoal production facilities; therefore, fugitive emissions count towards major source applicability.

Table 1 – *Updated Potential to Emit for the Installation and Reported Air Pollutant Emissions, tons per year*

Pollutants	Potential Emissions[1]	Reported Emissions				
		2019	2018	2017	2016	2015
Particulate Matter ≤ Ten Microns (PM_{10})	> 100.00	132.88	80.66	83.88	60.26	66.72
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)	> 100.00	126.62	75.46	73.89	53.77	59.11
Sulfur Oxides (SO_x)	0.26	0.00	0.00	0.00	0.00	0.00
Nitrogen Oxides (NO_x)	> 100.00	89.99	80.69	91.82	66.88	73.80
Volatile Organic Compounds (VOC)	> 100.00	588.68	527.84	600.63	437.49	482.77
Carbon Monoxide (CO)	> 100.00	1,520.81	1,363.63	1,551.67	1,130.21	1,247.19
Hazardous Air Pollutants (HAPs)	4.82	3.20	2.87	0.00	0.00	0.00

Permit Reference Documents
These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

1) Part 70 Operating Permit Application, received March 22, 2019;
2) 2019 Emissions Inventory Questionnaire, received May 1, 2020; and
3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition.
4) Construction Permit # 0979-001;
5) No Construction Permit Required, Project # 2009-11-021;
6) No Construction Permit Required, Project # 2015-07-030; and
7) Operating Permit # OP2014-028.

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits
In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

None.

Other Air Regulations Determined Not to Apply to the Operating Permit
The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

10 CSR 10-6.100, *Alternate Emission Limits*
This rule is not applicable because the installation is in an ozone attainment area.

10 CSR 10-6.260 *Restriction of Emission of Sulfur Compounds*
This regulation applies to any installation that is an emission source of sulfur compounds. The Boiler (EP14) is exempt from this regulation per 6.260(1)(A)2. because it is fueled exclusively by liquefied petroleum gas as defined by American Society for Testing and Materials (ASTM). Therefore, this regulation does not apply to the installation and is not included in this operating permit.

10 CSR 10-6.330 *Restriction of Emissions From Batch-Type Charcoal Kilns*
This regulation applies to all batch-type charcoal kilns throughout the entire state of Missouri. Batch-type charcoal kilns are defined in 6.330(2)(A) as charcoal kilns that manufacture charcoal with a batch process rather than a continuous process. The batch-type charcoal kiln process typically includes loading wood, sealing the kiln, igniting the wood, and controlled burning of the wood to produce charcoal which is unloaded. The charcoal furnace (EP01) is not subject to this rule because it operates as a continuous process and does not meet the definition of a batch-type charcoal kiln.

10 CSR 10-6.405 *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used For Indirect Heating*
This rule restricts the emission of particulate matter from fuel burning equipment used for indirect heating. The boiler (EP14) is fueled using propane/LPG. Therefore, the boiler (EP14) is exempt per 6.405(1)(E).

Construction Permit History
The following construction permits were issued to this installation:

1) Construction Permit # 0979-001, Issued September 1, 1979:
   This construction permit addressed the installation of the Charcoal Furnace, EP01. This permit required representative samples of the material being pyrolyzed and the char being produced be tested for ash content within 90 days of startup of EP01. This testing was completed in 1979 and is therefore not included in this permit.

2) No Construction Permit Required Project # 2009-11-021:
   This no construction permit required determination was to address the use of old pallets as raw material for making wood char, activated carbon and torrefied wood in the existing furnace. The pallets have been painted on one side. The volatile organic compounds (VOC) in the paint will have evaporated and the solids in the paint will either be carbonized in the furnace or emitted as products of combustion, which have already been permitted. According the Material Safety Data Sheet provided by the installation, the paint does not contain any metals that could be emitted if combusted. Since the emissions from the pallets is the same as emissions from wood already permitted, burning the pallets does not cause an increase in the furnaces potential to emit and is therefore not a modification, and no construction permit is required.

3) No Construction Permit Required Project # 2015-07-030:
   This no construction permit required determination was to address if the pallet mill is required to operate an Air Curtain Incinerator under Missouri's Open Burning regulation and if the charcoal plant and pallet mill may be treated as separate businesses. The Missouri Department of Natural Resource (MDNR) agrees with the permittee that the installation generates less than 80 cubic yards of untreated wood waste per week, which may be open burned in accordance with 10 CSR 10-6.045. Therefore, no Air Curtain Incinerator is required. The MDNR agrees with the permittee that the pallet mill and charcoal plant may continue to operate as separate businesses.

New Source Performance Standards (NSPS) Applicability
40 CFR Part 60, Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*
This subpart is not applicable to the installation and has not been applied within this permit. §60.40c(a) states that this regulation applies to boilers greater than or equal to 10 MMBtu/hr. EP14 Boiler is rated at 8.369 MMBtu/hr.

40 CFR 60 Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engine*
This subpart applies to stationary compression ignition (CI) internal combustion engines (ICE). This subpart does not apply to the installation as there are no stationary CI ICE or emergency CI ICE at the installation.

40 CFR 60 Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*
This subpart applies to stationary spark ignition (SI) internal combustion engines (ICE). This subpart does not apply to the installation as there are no stationary SI ICE or emergency SI ICE at the installation.

Maximum Achievable Control Technology (MACT) Applicability
40 CFR 63 Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*
This subpart applies to stationary reciprocating internal combustion engines (RICE). This subpart does not apply to the installation as there are no stationary RICE or emergency RICE at the installation.

40 CFR Part 63 Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial for Institutional, Commercial, and Industrial Boilers and Process Heaters*
This subpart applies to industrial, commercial, and institutional boilers and process heaters at major sources of hazardous air pollutants (HAPs). The installation is not a major source of HAPs, and therefore the boiler (EP14) is not subject to this rule.

40 CFR Part 63, Subpart JJJJJJ – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*
This subpart applies to industrial, commercial, and institutional boilers at area sources of hazardous air pollutants (HAPs). The boiler (EP14) was installed for a research and development project and has been out of service since 2009. Boilers used specifically for research and development are exempt from this subpart per §63.11195(d). This subpart does not apply to the installation.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability
40 CFR Part 61, Subpart M – *National Emission Standards for Asbestos*
This subpart is applicable to the installation and appears in the Core Permit Requirements.

Compliance Assurance Monitoring (CAM) Applicability
40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*
The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.

40 CFR Part 64 is not applicable because none of the pollutant-specific emission units uses a control device to achieve compliance with a relevant standard.

Greenhouse Gas Emissions
Note that this source may be subject to the Greenhouse Gas Reporting Rule. However, the preamble of the GHG Reporting Rule clarifies that Part 98 requirements do not have to be incorporated in Part 70 permits operating permits at this time. In addition, Missouri regulations do not require the installation to report CO_2 emissions in their Missouri Emissions Inventory Questionnaire; therefore, the installation's CO_2 emissions were not included within this permit. The applicant is required to report the data directly to EPA. The public may obtain CO_2 emissions data for this installation by visiting http://epa.gov/ghgreporting/ghgdata/reportingdatasets.html.

Other Regulatory Determinations
10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants*
This rule applies to all sources of visible emissions throughout the state of Missouri. There are two versions of this regulation that are in effect: the Missouri's State Implementation Plan (SIP) version and the Code of State Regulations (CSR) version. The differences are due to revisions to the CSR that have not been incorporated into the SIP.

As it applies to this installation, the CSR version of 6.220 has two exemptions that the SIP version does not include. One exemption is for emission units that are fugitive emission sources and regulated under 10 CSR 10-6.170. However, fugitive emissions at the installation cannot be reasonably monitored by the SIP version of 6.220 and are already regulated by 10 CSR 10-6.170. Therefore, this regulation has not been applied to these sources. The other exemption is for emission units burning only natural gas, landfill gas, propane, liquefied petroleum gas, digester gas, or refinery gas.

This permit contains two permit conditions to reflect the two versions of this regulation. Permit Condition 001 contains the Charcoal Furnace (EP01), which is not affected by the exemption. The Charcoal Furnace (EP01) is shown in Table 2 as subject to both the CSR and SIP versions of 6.220. Permit Condition 002 contains the Boiler (EP14), which is subject to the SIP version only. When the CSR version is incorporated into the SIP, Permit Condition 002 will no longer apply. The emission units at the installation that are potential sources of visible emissions are included in Table 2 below.

Table 2 – *Applicability Determination for 10 CSR 10-6.220*

Emission Unit	Description	10 CSR 10-6.220		10 CSR 10-6.170
		CSR	SIP	
EP01	Charcoal Furnace	X	X	
EP04	Shaker[1]			X
EP05	Conveyer[1]			X
EP06	Conveyer[1]			X

Emission Unit	Description	10 CSR 10-6.220		10 CSR 10-6.170
		CSR	SIP	
EP07	Conveyer[1]			X
EP08	Sawdust Hopper Loading[1]			X
EP09	Conveyer[1]			X
EP10	Charcoal Loadout[1]			X
EP11	Sawdust Hopper Loading[1]			X
EP12	Hopper Loadout[1]			X
EP13	Conveyer[1]			X
EP14	Boiler[2]		X	
SP01	Long Term Storage Pile[1]			X
SP02	Short Term Storage Pile[1]			X
EP15	Haul Road East[1]			X
EP16	Charcoal Storage Pile[1]			X
EP17A	Haul Road, Sawdust[1]			X
EP17B	Haul Road, Charcoal[1]			X

"X" indicates the emission unit is subject to the provisions of the specified regulation.
[1] These emission units are fugitive emission sources that are regulated under 6.170 and exempt from the CSR version of 6.220 per (1)(K). The emissions from these emission units classify as fugitive because the emissions cannot reasonably pass through a stack, chimney, vent, or other functionally equivalent opening, and the emissions units are not located within a building where emissions could be released through a building vent. For the SIP version of this regulation, these fugitive emissions cannot be reasonably monitored under this regulation and are regulated under 10 CSR 10-6.170; therefore, this rule is not applied to these emission units in this permit.
[2] The Boiler (EP14) is exempt from the CSR version of 6.220 per (1)(L).

10 CSR 10-6.261 *Control of Sulfur Dioxide Emissions*
This rule applies to any source that emits sulfur dioxide (SO_2). An exception applies to individual units fueled exclusively with liquefied petroleum gas as defined by American Society for Testing and Materials (ASTM) International. This exception is determined by complying with the record keeping requirements of this rule. The boiler (EP14) is fueled by propane/LPG. Therefore, the boiler (EP14) receives an exception and is subject to this rule.

10 CSR 10-6.400 *Restriction of Emission of Particulate Matter From Industrial Processes*
This rule applies to any operation, process, or activity that emits particulate matter. The emission units at the installation that are potential sources of particulate matter emissions are included in Table 3. The Charcoal Furnace (EP01) is the only emission unit subject to the provisions of this regulation. The installation has chosen to comply with the emission limit in 6.400(3)(A)1. No monitoring or recordkeeping is required because the potential particulate matter emissions are less than the emission limit imposed by 6.400(3)(A)1. Table 4 provides the calculations for the particulate matter emissions and limit for 6.400(3)(A)1.

Table 3 – *Applicability Determination for 10 CSR 10-6.400*

Emission Unit	Description	Applicability
EP01	Charcoal Furnace	X
EP04	Shaker[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP05	Conveyer[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP06	Conveyer[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP07	Conveyer[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP08	Sawdust Hopper Loading[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP09	Conveyer[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions

Emission Unit	Description	Applicability
EP10	Charcoal Loadout[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP11	Sawdust Hopper Loading[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP12	Hopper Loadout[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP13	Conveyer[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP14	Boiler	N/A – gaseous/liquid fuels do not meet definition of process weight.
SP01	Long Term Storage Pile[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
SP02	Short Term Storage Pile[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP15	Haul Road East[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP16	Charcoal Storage Pile[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP17A	Haul Road, Sawdust[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions
EP17B	Haul Road, Charcoal[1]	Exempt per 6.400(1)(B)7. – Fugitive Emissions

"X" indicates the emission unit is subject to the provisions of the specified regulation.
[1] The emissions from these emission units is considered fugitive because the emissions cannot reasonably pass through a stack, chimney, vent, or other functionally equivalent opening, and these emissions units are not located within a building where emissions could be released through a building vent.

Table 4 – *Particulate Matter Emissions and Limit Calculations*

Emission Unit	Process Weight	MHDR	PM Emission Factor	Emission Limitation[8], lb/hr	Uncontrolled Potential Emissions[9], lb/hr
EP01	11 tons/hr	11 tons/hr	1.78 lb/ton	20.44	19.58

1) For Charcoal Furnace (EP01), Uncontrolled Potential Emissions < Emission Limitation. Therefore, the Charcoal Furnace is in compliance with 6.400(3)(A)1 and requires no monitoring, recordkeeping, or reporting.
2) The emission factor is based upon testing conducted on a similar Herreshoff Furnace producing wood char at Royal Oak Enterprises, LLC in Monterey, TN which achieved a PM emission rate of 15.7 lb/hr and has a limited MHDR of 11 tph sawdust. In order to account for variances in the number of hearths between the two furnaces and differences in stack parameters, a 25 percent safety factor was included. The installation is limited to exclusively pyrolyzing the feed materials listed in Permit Condition 005; therefore, no additional safety factor was deemed necessary for feed constituent variances

Permit Condition 005 - *Voluntary Permit Condition*
This voluntary condition has been included in the permit to ensure the validity of using the Royal Oak Enterprises, LLC Monterey, TN particulate performance test data. If the installation chooses to conduct their own stack testing using other materials, this condition may be revised. The installation is prohibited from exclusively pyrolyzing bark as the TN facility does not pyrolyze bark and AP-42 Section 1.6 indicates bark results in higher particulate emissions than other forms of wood. The Air Pollution Control Program is aware that sawdust, wood dust, hog fuel, and wood chips may contain a small quantity of bark (less than six percent); therefore, Operational Limitation 2 should be interpreted as limiting the installation from pyrolyzing material containing greater than 10 percent bark.

[8] For process weight rates of 60,000 lbs/hr or less:
$E = 4.10\ P^{0.67}$
Where;
E = rate of emission in lb/hr; and
P = process weight rate in tons/hr.
[9] [Potential Emissions, lb/hr] = [MHDR] x [PM Emission Factor]

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis
Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).